

**BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS**

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**DIRECT TESTIMONY OF**

**ROBERT B. HEVERT**

**ON BEHALF OF  
KANSAS CITY POWER & LIGHT COMPANY**

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**IN THE MATTER OF THE APPLICATION OF  
KANSAS CITY POWER & LIGHT COMPANY  
TO MAKE CERTAIN CHANGES IN  
ITS CHARGES FOR ELECTRIC SERVICE**

**DOCKET NO. 18-KCPE-\_\_\_\_-RTS**

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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 Greater Missouri Operations Company). Proxy companies are sometimes referred to as “Comparable Companies.”

<b>TERM</b>	<b>DESCRIPTION</b>
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.

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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 direct testimony (“Direct Testimony”) before the Kansas  
7           Corporation Commission (“Commission”) on behalf of Kansas City Power & Light  
8           Company (“KCP&L” or the “Company”).

9   **Q:     Please describe your educational background.**

10  A:     I hold a Bachelor’s degree in Business and Economics from the University of Delaware,  
11           and an MBA with a concentration in Finance from the University of Massachusetts. I  
12           also hold the Chartered Financial Analyst designation.

1 **Q: Please describe your experience in the energy and utility industries.**

2 A: I have worked in regulated industries for over thirty years, having served as an executive  
3 and manager with consulting firms, a financial officer of a publicly-traded natural gas  
4 utility (at the time, Bay State Gas Company), and an analyst at a telecommunications  
5 utility. In my role as a consultant, I have advised numerous energy and utility clients on  
6 a wide range of financial and economic issues, including corporate and asset-based  
7 transactions, asset and enterprise valuation, transaction due diligence, and strategic  
8 matters. As an expert witness, I have provided testimony in more than 230 proceedings  
9 regarding various financial and regulatory matters before numerous state utility  
10 regulatory agencies, the Federal Energy Regulatory Commission, and the Alberta  
11 Utilities Commission. A summary of my professional and educational background,  
12 including a list of my testimony in prior proceedings, is included in **Attachment A** to my  
13 Direct Testimony.

14 **II. PURPOSE AND OVERVIEW OF TESTIMONY**

15 **Q: What is the purpose of your Direct Testimony?**

16 A: On behalf of KCP&L, my Direct Testimony presents evidence and provides a  
17 recommendation regarding the Company's Return on Equity ("ROE")<sup>1</sup> and assesses the  
18 reasonableness of the Company's capital structure and Cost of Debt. My analyses and  
19 conclusions are supported by the data presented in Exhibits RBH-1 through RBH-11,  
20 which have been prepared by me or under my direction.

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<sup>1</sup> Throughout my Direct Testimony, I interchangeably use the terms "ROE" and "Cost of Equity."

1 **Q: What are your conclusions regarding the appropriate Cost of Capital for the**  
2 **Company?**

3 A: The Company's 4.96 percent Cost of Debt reflects the prevailing level of interest rates at  
4 the times of issuance. As such, I conclude that the Company's proposed Cost of Debt is  
5 reasonable and appropriate.

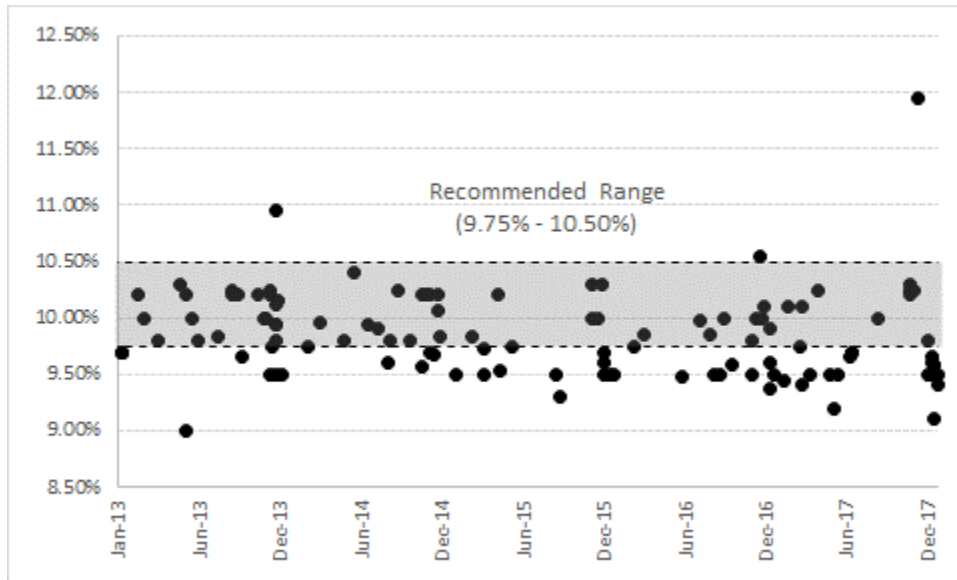
6 As to the Company's requested capital structure, which includes 50.25 percent  
7 common equity and 49.75 percent long-term debt, I conclude that it is consistent with  
8 those in place at similarly-situated utilities, whose capital structures include common  
9 equity ratios in the range of 46.06 percent to 59.52 percent.

10 As to the Company's Cost of Equity, my analyses indicate that an ROE in the  
11 range of 9.75 percent to 10.50 percent represents the range of equity investors' required  
12 return for investment in vertically integrated electric utilities similar to the Company in  
13 today's capital markets.<sup>2</sup> I note that the Cost of Equity, which is the return required by  
14 equity investors to assume the risks of ownership, is a market-based concept. As  
15 discussed further in my testimony, as opposed to the earned return on common equity,  
16 which is an accounting construct that can be observed in historical data, the Cost of  
17 Equity is unobservable and must be estimated based on observable capital market data.  
18 As a consequence, there may be differences of opinion among analysts as to the data,  
19 assumptions and models used in the estimation process. Although analysts may rely on  
20 different data, assumptions and models, the determination of the Cost of Equity must be  
21 based on considerations such as the reasonableness of those factors, capital market  
22 conditions, and the relative risk of the subject company.

1 **Q: How does your recommendation compare to recently authorized returns?**

2 A: As shown in Chart 1, below, my recommendation is highly consistent with recently  
3 authorized ROEs for vertically integrated electric utilities. Chart 1 also shows that there  
4 have been a range of authorized returns and that there has not been a discernible trend in  
5 those returns.

6 **Chart 1: Authorized Returns<sup>3</sup>**



7  
8 **Q: Please provide a brief overview of the analyses that led to your ROE  
9 recommendation.**

10 A: Because all financial models are subject to various assumptions and constraints, equity  
11 analysts and investors tend to use multiple methods to develop their return requirements.  
12 I therefore relied on three widely-accepted approaches to develop my ROE  
13 recommendation: (1) the Discounted Cash Flow (“DCF”) model, including the Constant  
14 Growth, and Multi-Stage forms; (2) the Capital Asset Pricing Model (“CAPM”); and (3)

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<sup>2</sup> As noted in the direct testimony of Mr. Darrin R. Ives, the Company has entered into a settlement agreement in Docket No. 18-KCPE-095-MER in which the Company agreed to recommend an ROE of 9.30 percent in this proceeding following the approval of the settlement agreement and closing of the merger.



1 the Bond Yield Plus Risk Premium approach. As discussed in Sections V, VI and VII, I  
2 considered the results of those methods in the context of both Company-specific, and  
3 general capital market factors. Based on those analyses, I concluded that a range of 9.75  
4 percent to 10.50 percent represents reasonable estimates of the Company's Cost of  
5 Equity.

6 **Q: How is the remainder of your Direct Testimony organized?**

7 A: The remainder of my Direct Testimony is organized as follows:

8 Section III – Provides a summary of issues regarding Cost of Equity estimation in  
9 regulatory proceedings and discusses the regulatory guidelines pertinent to the  
10 development of the cost of capital;

11 Section IV – Explains my selection of the proxy group used to develop my  
12 analytical results;

13 Section V – Explains my analyses and the analytical bases for my ROE  
14 recommendation;

15 Section VI – Provides a discussion of specific business risks and other  
16 considerations that have a direct bearing on the Company's Cost of Equity;

17 Section VII – Highlights the current capital market conditions and their effect on  
18 the Company's Cost of Equity;

19 Section VIII – Analyzes the Company's embedded Cost of Debt;

20 Section IX – Provides my analyses of the Company's capital structure and  
21 presents the overall rate of return;

22 Section X – Summarizes my conclusions and recommendations.

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<sup>3</sup> Source: S&P Global Market Intelligence as of March 20, 2018.

### III. SUMMARY OF ISSUES SURROUNDING COST OF EQUITY ESTIMATION IN REGULATORY PROCEEDINGS

1 **Q: Before addressing the specific aspects of this proceeding, please provide an overview**  
2 **of the issues surrounding the Cost of Equity in regulatory proceedings, generally.**

3 A: In very general terms, the Cost of Equity is the return that investors require to make an  
4 equity investment in a firm. That is, investors will only provide funds to a firm if the  
5 return that they *expect* is equal to, or greater than, the return that they *require* to accept  
6 the risk of providing funds to the firm. From the firm's perspective, that required return,  
7 whether it is provided to debt or equity investors, has a cost. Individually, we speak of  
8 the "Cost of Debt" and the "Cost of Equity." Together, they are referred to as the "Cost  
9 of Capital."

10 The Cost of Capital (including the costs of both debt and equity) is based on the  
11 economic principle of "opportunity costs." Investing in any asset, whether debt or equity  
12 securities, implies a forgone opportunity to invest in alternative assets. For any  
13 investment to be sensible, its expected return must be at least equal to the return expected  
14 on alternative, comparable investment opportunities. Because investments with like risks  
15 should offer similar returns, the opportunity cost of an investment should equal the return  
16 available on an investment of comparable risk.

17 Although both debt and equity have required costs, they differ in certain  
18 fundamental ways. Most noticeably, the Cost of Debt is contractually defined and can be  
19 directly observed as the interest rate or yield on debt securities.<sup>4</sup> The Cost of Equity, on  
20 the other hand, is neither directly observable nor a contractual obligation. Rather, equity  
21 investors have a claim on cash flows only after debt holders are paid; the uncertainty (or

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<sup>4</sup> The observed interest rate may be adjusted to reflect issuance or other directly observable costs.

1 risk) associated with those residual cash flows determines the Cost of Equity. Because  
2 equity investors bear the “residual risk,” they take greater risks and require higher returns  
3 than debt holders. In that basic sense, equity and debt investors differ: They invest in  
4 different securities, face different risks, and require different returns.

5 Whereas the Cost of Debt can be directly observed, the Cost of Equity must be  
6 estimated or inferred based on market data and various financial models. As discussed  
7 throughout my Direct Testimony, each of those models is subject to certain assumptions,  
8 which may be more or less applicable under differing market conditions. In addition,  
9 because the Cost of Equity is premised on opportunity costs, the models typically are  
10 applied to a group of “comparable” or “proxy” companies. The choice of models  
11 (including their inputs), the selection of proxy companies, and the interpretation of the  
12 model results all require the application of reasoned judgment. That judgment should  
13 consider data and information that is not necessarily included in the models themselves.  
14 In the end, the estimated Cost of Equity should reflect the return that investors require in  
15 light of the subject company’s risks, and the returns available on comparable investments.

16 In the end, the estimated Cost of Equity should reflect the return that investors  
17 require in light of the subject company’s risks, and the returns available on comparable  
18 investments. A given utility stock may require a higher return based on the risks to  
19 which it is exposed relative to other utilities. That is, simply because utilities are viewed  
20 as a “sector,” that does not mean that all utilities require the same return. The assessment  
21 of relative risk, and its effect on the Cost of Equity necessarily requires the application of  
22 reasoned, experienced judgment applied to a variety of data, much of which is qualitative  
23 in nature.

1 **Q: Please now provide a brief summary of the regulatory guidelines established for the**  
2 **purpose of determining the ROE.**

3 A: The United States Supreme Court (the “Court”) established the guiding principles for  
4 establishing a fair return for capital in two cases: (1) *Bluefield Water Works and*  
5 *Improvement Co. v. Public Service Comm’n of West Virginia*, 262 U.S. 679 (1923)  
6 (“*Bluefield*”); and (2) *Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591  
7 (1944) (“*Hope*”). In those cases, the Court recognized that the fair rate of return on  
8 equity should be: (1) comparable to returns investors expect to earn on other investments  
9 of similar risk; (2) sufficient to assure confidence in the company’s financial integrity;  
10 and (3) adequate to maintain and support the company’s credit and to attract capital.

11 **Q: Does Kansas precedent provide similar guidance?**

12 A: Yes. In a prior order, the Commission cited the *Hope* and *Bluefield* decisions and  
13 acknowledged its authority and responsibility to set “a fair rate of return”, stating that:

14 In determining the appropriate ROE, the Commission is guided by  
15 *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S.  
16 591 (1944) and *Bluefield Waterworks & Improvement Company v.*  
17 *Public Service Commission of West Virginia*, 262 U.S. 679 (1923)  
18 which find returns granted to regulated public utilities should be: (1)  
19 commensurate with returns on investment of similar risk; (2) sufficient  
20 to ensure the utility's financial integrity under proper management; and  
21 (3) adjusted to reflect changes in the money market and business  
22 conditions. *Hope* and *Bluefield* have been adopted by the Kansas  
23 Supreme Court and recognized by the Commission in Docket No. 10-  
24 KCPE-415-RTS (10-415 Docket), KCP&L’s most recent rate case  
25 before the Commission. While the Commission has substantial  
26 discretion in setting a fair rate of return, it must not be so unreasonably  
27 high or low as to be unlawful.<sup>5</sup>

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<sup>5</sup> *In the Matter of the Application of Kansas City Power & Light Company to Make Certain Changes in Its Charges for Electric Service*, Docket No. 15-KCPE-116-RTS, Order on KCP&L’s Application for Rate Change at p. 13-14 (Sep. 9, 2015).

1 Based on those standards, the authorized ROE should provide the Company with the  
2 opportunity to earn a fair and reasonable return, and should enable efficient access to  
3 external capital under a variety of market conditions.

4 **Q: Why is it important for a utility to be allowed the opportunity to earn a return**  
5 **adequate to attract equity capital at reasonable terms?**

6 A: A return that is adequate to attract capital at reasonable terms enables the utility to  
7 provide service while maintaining its financial integrity. As discussed above, and in  
8 keeping with the *Hope* and *Bluefield* standards, that return should be commensurate with  
9 the returns expected elsewhere in the market for investments of equivalent risk. The  
10 consequence of the Commission's order in this case, therefore, should be to provide  
11 KCP&L with the opportunity to earn a return on equity that is: (1) adequate to attract  
12 capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3)  
13 commensurate with returns on investments in enterprises having corresponding risks. To  
14 the extent KCP&L is provided a reasonable opportunity to earn its market-based Cost of  
15 Equity, neither customers nor shareholders should be disadvantaged. In fact, a return that  
16 is adequate to attract capital at reasonable terms enables the Company to provide safe,  
17 reliable electric utility service while maintaining its financial integrity.

18 **Q: How is the Cost of Equity estimated in regulatory proceedings?**

19 A: The Cost of Equity is estimated by the use of various financial models. By their very  
20 nature, those models produce a range of results from which the ROE is estimated. Both  
21 practitioners and academics, however, recognize that financial models simply are tools to  
22 be used in the ROE estimation process, and that strict adherence to any single approach  
23 or to the specific results of any single approach can lead to flawed or misleading

1 conclusions. That position is consistent with the *Hope* and *Bluefield* principle that it is  
2 the analytical result, as opposed to the methodology, that is controlling in arriving at ROE  
3 determinations. Thus, a reasonable ROE estimate appropriately considers alternative  
4 methodologies and the reasonableness of their individual and collective results in the  
5 context of observable, relevant market information.

#### IV. PROXY GROUP SELECTION

6 **Q: As a preliminary matter, why is it necessary to select a group of proxy companies to  
7 determine the Cost of Equity for the Company?**

8 A: Since the ROE is a market-based concept, and KCP&L is not a publicly traded entity, it is  
9 necessary to establish a group of comparable, publicly traded companies to serve as its  
10 “proxy.” Even if the Company were a publicly traded entity, short-term events could bias  
11 its market value during a given period of time. A significant benefit of using a proxy  
12 group is that it moderates the effects of anomalous, temporary events associated with any  
13 one company.

14 **Q: Does the selection of a proxy group suggest that analytical results will be tightly  
15 clustered around average (*i.e.*, mean) results?**

16 A: No. For example, the Constant Growth DCF approach defines the Cost of Equity as the  
17 sum of the expected dividend yield and projected long-term growth. Despite the care  
18 taken to ensure risk comparability, market expectations with respect to future risks and  
19 growth opportunities will vary from company to company. Therefore, even within a  
20 group of similarly-situated companies, it is common for analytical results to reflect a  
21 seemingly wide range. Consequently, at issue is how to estimate the Cost of Equity from

1 within that range. Such a determination necessarily must consider a wide range of both  
2 quantitative and qualitative information.

3 **Q: Please provide a summary profile of KCP&L.**

4 A: KCP&L, a wholly owned subsidiary of Great Plains Energy Incorporated (“GPE”),  
5 provides electric service to approximately 542,500 retail customers in Missouri and  
6 Kansas.<sup>6</sup> KCP&L’s current long-term issuer credit rating from Standard & Poor’s  
7 (“S&P”) is BBB+ (outlook: Positive) and Baa1 (outlook: Stable) from Moody’s Investors  
8 Service (“Moody’s”).<sup>7</sup>

9 **Q: How did you select the companies included in your proxy group?**

10 A: I began with the universe of companies that Value Line classifies as Electric Utilities, and  
11 applied the following screening criteria:

- 12 ▪ I excluded companies that do not consistently pay quarterly cash dividends;
- 13 ▪ I excluded companies that were not covered by at least two utility industry equity  
14 analysts;
- 15 ▪ I excluded companies that do not have investment grade senior unsecured bond  
16 and/or corporate credit ratings from S&P;
- 17 ▪ I excluded companies that were not vertically-integrated, *i.e.* utilities that own and  
18 operate regulated generation, transmission and distribution assets;
- 19 ▪ I excluded any companies whose regulated operating income over the three most  
20 recently reported fiscal years comprised less than 60.00 percent of the respective  
21 totals for that company;

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<sup>6</sup> See Great Plains Energy Inc., SEC Form 10-K for year-end December 31, 2017, at 10.

<sup>7</sup> Source: S&P Global Market Intelligence as of March 20, 2018.

- 1           ▪       I excluded any companies whose regulated electric operating income over the  
2                   three most recently reported fiscal years represented less than 60.00 percent of  
3                   total regulated operating income;<sup>8</sup> and
- 4           ▪       I eliminated companies that are currently known to be party to a merger, or other  
5                   significant transaction.

6   **Q:     Did you include GPE in your proxy group?**

7   A:     No. To avoid the circular logic that would otherwise occur, it has been my consistent  
8           practice to exclude the subject company (or its parent) from the proxy group. In any  
9           event, GPE would be excluded from my proxy group based on its announced merger with  
10          Westar Energy, Inc.<sup>9</sup>

11   **Q:     What companies met those screening criteria?**

12   A:     The criteria discussed above resulted in a proxy group of the following 20 companies:

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<sup>8</sup> In the KCP&L's most recent case (Docket No. 15-KCPE-116-RTS), I excluded companies whose regulated electric operating income over the three most recently reported fiscal years represented less than 90.00 percent of total regulated operating income. However, due to recent consolidation in the industry, that threshold would produce a relatively small group of proxy companies. As such, in this proceeding, I have lowered the threshold to 60.00 percent.

<sup>9</sup> SEC Form 8-K, Great Plains Energy Incorporated (July 9, 2017).



1

**Table 1: Proxy Group Screening Results**

<b>Company</b>	<b>Ticker</b>
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Black Hills Corporation	BKH
CMS Energy Corporation	CMS
DTE Energy Company	DTE
Duke Energy Corporation	DUK
El Paso Electric Company	EE
Hawaiian Electric Industries, Inc.	HE
IDACORP, Inc.	IDA
NorthWestern Corporation	NWE
OGE Energy Corp.	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
Southern Company	SO
WEC Energy Group, Inc.	WEC
Xcel Energy Inc.	XEL

## V. COST OF EQUITY ESTIMATION

2 **Q: Please briefly discuss the ROE in the context of the regulated rate of return.**

3 A: Regulated utilities primarily use common stock and long-term debt to finance their  
4 capital investments. The Weighted Average Cost of Capital weights the costs of the  
5 individual sources of capital by their respective book values. While the Cost of Debt can  
6 be directly observed, the Cost of Equity is market-based and, therefore, must be estimated  
7 based on observable market information.

1 **Q: How is the required ROE determined?**

2 A: I estimated the ROE using analyses based on market data to quantify a range of investor  
3 expectations of required equity returns. By their very nature, quantitative models  
4 produce a range of results from which the market required ROE must be estimated. As  
5 discussed throughout my Direct Testimony, that estimation must be based on a  
6 comprehensive review of relevant data and information, and does not necessarily lend  
7 itself to a strict mathematical solution. Consequently, the key consideration in  
8 determining the ROE is to ensure that the overall analysis reasonably reflects investors'  
9 view of the financial markets in general, and the subject company (in the context of the  
10 proxy companies) in particular.

11 Because the Cost of Equity is not directly observable, it must be estimated based  
12 on both quantitative and qualitative information. Although a number of empirical models  
13 have been developed for that purpose, all are subject to limiting assumptions or other  
14 constraints. Consequently, many finance texts recommend using multiple approaches to  
15 estimate the Cost of Equity.<sup>10</sup> When faced with the task of estimating the Cost of Equity,  
16 analysts and investors are inclined to gather and evaluate as much relevant data as  
17 reasonably can be analyzed and, therefore, rely on multiple analytical approaches.

18 I also note that as a practical matter, no individual model is more reliable than all  
19 others under all market conditions. Therefore, it is both prudent and appropriate to use  
20 multiple methodologies in order to mitigate the effects of assumptions and inputs  
21 associated with any single approach. As such, I have considered the results of the

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<sup>10</sup> See, e.g., Eugene Brigham, Louis Gapenski, *Financial Management: Theory and Practice*, 7th Ed., 1994, at 341, and Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3rd ed., 2000, at 214.

1 Constant Growth and Multi-Stage forms of the DCF model; the Capital Asset Pricing  
2 Model; and the Bond Yield Plus Risk Premium approach.

3 **A. Constant Growth Discounted Cash Flow Model**

4 **Q: Please more fully describe the Constant Growth DCF approach.**

5 A: The Constant Growth DCF approach is based on the theory that a stock's current price  
6 represents the present value of all expected future cash flows. In its simplest form, the  
7 Constant Growth DCF model expresses the Cost of Equity as the discount rate that sets  
8 the current price equal to expected cash flows:

9 
$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad \text{Equation [1]}$$

10 where  $P$  represents the current stock price,  $D_1 \dots D_\infty$  represent expected future dividends,  
11 and  $k$  is the discount rate, or required ROE. Equation [1] is a standard present value  
12 calculation that can be simplified and rearranged into the familiar form:

13 
$$k = \frac{D_0 (1+g)}{P} + g \quad \text{Equation [2]}$$

14 Equation [2] often is referred to as the "Constant Growth DCF" model, in which  
15 the first term is the expected dividend yield and the second term is the expected long-  
16 term annual growth rate.

17 **Q: What assumptions are inherent in the Constant Growth DCF model?**

18 A: The Constant Growth DCF model assumes: (1) a constant average annual growth rate for  
19 earnings and dividends; (2) a stable dividend payout ratio; (3) a constant Price to  
20 Earnings multiple; and (4) a discount rate greater than the expected growth rate.

1 **Q: What market data did you use to calculate the dividend yield in your Constant**  
2 **Growth DCF model?**

3 A: The dividend yield is based on the proxy companies' current annualized dividend, and  
4 average closing stock prices over the 30, 90, and 180-trading day periods as of March 16,  
5 2018.

6 **Q: Why did you use three averaging periods to calculate an average stock price?**

7 A: I did so to ensure that the model's results are not skewed by anomalous events that may  
8 affect stock prices on any given trading day. At the same time, the averaging period  
9 should be reasonably representative of expected capital market conditions over the long  
10 term. In my view, using 30-, 90-, and 180-day averaging periods reasonably balances  
11 those concerns.

12 **Q: Did you make any adjustments to the dividend yield to account for periodic growth**  
13 **in dividends?**

14 A: Yes, I did. Since utility companies tend to increase their quarterly dividends at different  
15 times throughout the year, it is reasonable to assume that dividend increases will be  
16 evenly distributed over calendar quarters. Given that assumption, it is appropriate to  
17 calculate the expected dividend yield by applying one-half of the long-term growth rate  
18 to the current dividend yield. That adjustment ensures that the expected dividend yield is,  
19 on average, representative of the coming twelve-month period, and does not overstate the  
20 dividends to be paid during that time.

1 **Q: Is it important to select appropriate measures of long-term growth in applying the**  
2 **DCF model?**

3 A: Yes. In its Constant Growth form, the DCF model (*i.e.*, as presented in Equation [2]  
4 above) assumes a single growth estimate in perpetuity. Accordingly, in order to reduce  
5 the long-term growth rate to a single measure, one must assume a fixed payout ratio, and  
6 the same constant growth rate for earnings per share (“EPS”), dividends per share, and  
7 book value per share. Since dividend growth can only be sustained by earnings growth,  
8 the model should incorporate a variety of measures of long-term earnings growth. That  
9 can be accomplished by averaging those measures of long-term growth that tend to be  
10 least influenced by capital allocation decisions that companies may make in response to  
11 near-term changes in the business environment. Because such decisions may directly  
12 affect near-term dividend payout ratios, estimates of earnings growth are more indicative  
13 of long-term investor expectations than are dividend growth estimates. For the purposes  
14 of the Constant Growth DCF model, therefore, growth in EPS represents the appropriate  
15 measure of long-term growth.

16 **Q: Please summarize the findings of academic research on the appropriate measure for**  
17 **estimating equity returns using the DCF model.**

18 A: The relationship between various growth rates and stock valuation metrics has been the  
19 subject of much academic research.<sup>11</sup> As noted over 40 years ago by Charles Phillips in

20 The Economics of Regulation:

21 For many years, it was thought that investors bought utility stocks  
22 largely on the basis of dividends. More recently, however, studies  
23 indicate that the market is valuing utility stocks with reference to total

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<sup>11</sup> See Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management* (Spring 1986).

1 per share earnings, so that the earnings-price ratio has assumed  
2 increased emphasis in rate cases.<sup>12</sup>

3 Philips' conclusion continues to hold true. Subsequent academic research has  
4 clearly and consistently indicated that measures of earnings and cash flow are strongly  
5 related to returns, and that analysts' forecasts of growth are superior to other measures of  
6 growth in predicting stock prices.<sup>13</sup> For example, Vander Weide and Carleton state that,  
7 "[our] results ... are consistent with the hypothesis that investors use analysts' forecasts,  
8 rather than historically oriented growth calculations, in making stock buy-and-sell  
9 decisions."<sup>14</sup> Other research specifically notes the importance of analysts' growth  
10 estimates in determining the Cost of Equity, and in the valuation of equity securities. Dr.  
11 Robert Harris noted that "a growing body of knowledge shows that analysts' earnings  
12 forecast are indeed reflected in stock prices." Citing Cragg and Malkiel, Dr. Harris notes  
13 that those authors "found that the evaluations of companies that analysts make are the  
14 sorts of ones on which market valuation is based."<sup>15</sup> Similarly, Brigham, Shome and  
15 Vinson noted that "evidence in the current literature indicates that (i) analysts' forecasts  
16 are superior to forecasts based solely on time series data; and (ii) investors do rely on  
17 analysts' forecasts."<sup>16</sup>

18 To that point, the research of Carleton and Vander Weide demonstrates that  
19 earnings growth projections have a statistically significant relationship to stock valuation

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<sup>12</sup> Charles F. Phillips, Jr., The Economics of Regulation, at 285 (Rev. ed. 1969).

<sup>13</sup> See, e.g., 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).

<sup>14</sup> Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

<sup>15</sup> Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

1 levels, while dividend growth rates do not.<sup>17</sup> Those findings suggest that investors form  
2 their investment decisions based on expectations of growth in earnings, not dividends.  
3 Consequently, earnings growth, not dividend growth, is the appropriate estimate for the  
4 purpose of the Constant Growth DCF model.

5 **Q: Please summarize your inputs to the Constant Growth DCF model.**

6 A: I applied the DCF model to the proxy group of integrated electric utility companies using  
7 the following inputs for the price and dividend terms:

- 8       ▪ The average daily closing prices for the 30-trading days, 90-trading days,  
9             and 180-trading days ended March 16, 2018, for the term  $P_0$ ; and
- 10       ▪ The annualized dividend per share as of March 16, 2018, for the term  $D_0$ .

11 I then calculated my DCF results using each of the following growth terms:

- 12       ▪ The Zacks consensus long-term earnings growth estimates;
- 13       ▪ The First Call consensus long-term earnings growth estimates; and
- 14       ▪ The Value Line long-term earnings growth estimates.<sup>18</sup>

15 **Q: How did you calculate the DCF results?**

16 A: For each proxy company, I calculated the mean, mean high, and mean low results. For  
17 the mean result, I combined the average of the EPS growth rate estimates reported by  
18 Value Line, Zacks, and First Call with the subject company's dividend yield for each  
19 proxy company and then calculated the average result for those estimates. I calculated  
20 the high DCF result by combining the maximum EPS growth rate estimate as reported by  
21 Value Line, Zacks, and First Call with the subject company's dividend yield. The mean

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<sup>16</sup> 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).

<sup>17</sup> See Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

1 high result simply is the average of those estimates. I used the same approach to  
2 calculate the low DCF result, using instead the minimum of the Value Line, Zacks, and  
3 First Call estimate for each proxy company, and calculating the average result for those  
4 estimates.

5 **Q: Do you have any concerns with the Constant Growth DCF model under current**  
6 **market conditions?**

7 A: Yes. The Constant Growth DCF model is predicated on a number of assumptions, one of  
8 which is that the Price to Earnings (“P/E”) ratio will remain constant, in perpetuity.  
9 Because the utility sector P/E ratios have expanded to the point that they recently have  
10 exceeded both their long-term average and the market P/E ratio, the Constant Growth  
11 DCF model’s results should be viewed with caution. As such, it is appropriate to  
12 consider additional methods, such as the Multi-Stage DCF model, CAPM approach, and  
13 the Bond Yield Plus Risk Premium model.

14 **Q: What are the results of your Constant Growth DCF analysis?**

15 A: My Constant Growth DCF results are summarized in Table 2, below (see also Exhibit  
16 RBH-1).

17 **Table 2: Constant Growth DCF Results<sup>19</sup>**

	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
30-Day Average	7.92%	8.95%	10.02%
90-Day Average	7.66%	8.70%	9.76%
180-Day Average	7.60%	8.64%	9.70%

---

<sup>18</sup> See Exhibit RBH-1.

<sup>19</sup> See Exhibit RBH-1.



1           As noted earlier, the Constant Growth DCF model is subject to a number of  
2 assumptions that likely are not consistent with current market conditions. As also  
3 discussed later in my Direct Testimony, other methods more directly reflect the risk  
4 premium required by investors in response to such risks. On balance, it is my view that  
5 the Constant Growth DCF method should be given less weight than other methods in  
6 establishing the Company's ROE.

7 **Q: With those points in mind, how did you reflect the Constant Growth DCF results in**  
8 **your ROE range and recommendation?**

9 A: I first recognized that the model's mean, and mean low results are well below a  
10 reasonable estimate of the Company's Cost of Equity. For example, of the 1,389  
11 vertically integrated electric utility rate cases surveyed by Regulatory Research  
12 Associates that disclosed the awarded ROE since 1980, only one included an authorized  
13 ROE of 9.00 percent or lower.<sup>20</sup> On that basis alone, the mean and mean low results are  
14 highly improbable.

15           I also recognize that whereas the Constant Growth DCF model essentially  
16 assumes that existing capital market conditions will remain constant, Risk Premium-  
17 based methods (discussed later in this Section) directly reflect the changing capital  
18 market environment (*see* Section VII). Because it is important to reflect the results of  
19 different models, and the mean and mean low Constant Growth DCF results are far-  
20 removed from recently authorized returns, I concluded that they should be given less  
21 weight than other methods in determining the Company's ROE.

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<sup>20</sup> The lowest return authorized for a vertically integrated electric utility was 9.00 percent given to Maui Electric Company and included a 50 basis point reduction due to the company's "inability to address certain apparent system inefficiencies" (see Decision and Order No. 31288, Public Utilities Commission of the State of Hawaii, Docket No. 2011-0092, at 107).

1 **B. Multi-Stage DCF Model**

2 **Q: What other forms of the DCF model have you used?**

3 A: To address certain limiting assumptions underlying the Constant Growth form of the  
4 DCF model, I also considered the Multi-Stage (three-stage) DCF Model. The Multi-  
5 Stage model, which is an extension of the Constant Growth form, enables the analyst to  
6 specify growth rates over three distinct stages. As with the Constant Growth form of the  
7 DCF model, the Multi-Stage form defines the Cost of Equity as the discount rate that sets  
8 the current price equal to the discounted value of future cash flows. Unlike the Constant  
9 Growth form, however, the Multi-Stage model must be solved in an iterative fashion.

10 **Q: Please generally describe the structure of your Multi-Stage DCF model.**

11 A: The Multi-Stage DCF model sets the subject company's stock price equal to the present  
12 value of future cash flows received over three "stages" (e.g., Years 1 to 5; Years 5 to  
13 10; Year 11 and beyond). In the first two stages, "cash flows" are defined as projected  
14 dividends. In the third stage, "cash flows" equal both dividends and the expected price at  
15 which the stock will be sold at the end of the period (i.e., the "terminal price"). I  
16 calculated the terminal price based on the Gordon model,<sup>21</sup> which defines the price as the  
17 expected dividend divided by the difference between the Cost of Equity (i.e., the discount  
18 rate) and the long-term expected growth rate. In essence, the terminal price is defined by  
19 the present value of the remaining "cash flows" in perpetuity. In each of the three stages,  
20 the dividend is the product of the projected earnings per share and the expected dividend  
21 payout ratio. A summary description of the model is provided in Table 3 (below).

---

<sup>21</sup> See Morningstar, Inc., *2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook*, at 48-52.

1

**Table 3: Multi-Stage DCF Structure**

<b>Stage</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Cash Flow Component	Initial Stock Price	Expected Dividend	Expected Dividend	Expected Dividend + Terminal Value
Inputs	Stock Price Earnings Per Share (EPS); Dividends Per Share (DPS)	Expected EPS; Expected DPS	Expected EPS; Expected DPS	Expected EPS; Expected DPS; Terminal Value
Assumptions	30-, 90-, and 180-day average stock price	EPS Growth Rate; Payout Ratio	Growth Rate Change; Payout Ratio Change	Long-term Growth Rate; Long-term Payout Ratio

2 **Q: What are the analytical benefits of your three-stage DCF model?**

3 A: The principal benefits relate to the flexibility provided by the model’s formulation. Since  
4 the model provides the ability to specify near, intermediate and long-term growth rates,  
5 for example, it avoids the sometimes limiting assumption that the subject company will  
6 grow at the same, constant rate in perpetuity. In addition, by calculating the dividend as  
7 the product of earnings per share and the dividend payout ratio, the model enables  
8 analysts to reflect assumptions regarding the timing and extent of changes in the payout  
9 ratio to reflect, for example, increases or decreases in expected capital spending, or  
10 transition from current payout levels to long-term expected levels. In that regard,  
11 because the model relies on multiple sources of earnings growth rate assumptions, it is

1 not limited to a single source, such as Value Line, for all inputs, and mitigates the  
2 potential bias associated with relying on a single source of growth estimates.<sup>22</sup>

3 The model also enables the analyst to assess the reasonableness of the inputs and  
4 results by reference to certain market-based metrics. For example, the stock price  
5 estimate can be divided by the expected earnings per share in the final year to calculate  
6 an average Price to Earnings (“P/E”) ratio. Similarly, the terminal P/E ratio can be  
7 divided by the terminal growth rate to develop a Price to Earnings Growth (“PEG”) ratio.  
8 To the extent that either the projected P/E or PEG ratios are inconsistent with either  
9 historical or expected levels, it may indicate incorrect or inconsistent assumptions within  
10 the balance of the model.

11 **Q: Please summarize your inputs to the Multi-Stage DCF model.**

12 A: I applied the Multi-Stage model to the proxy group described earlier in my Direct  
13 Testimony. My assumptions with respect to the various model inputs are described in  
14 Table 4 (below).

---

<sup>22</sup> See Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts*, Financial Management 21 (Summer 1992).

1

**Table 4: Multi-Stage DCF Model Assumptions**

<b>Stage</b>	<b>Initial</b>	<b>First</b>	<b>Transition</b>	<b>Terminal</b>
Stock Price	30-, 90-, and 180-day average stock price as of March 16, 2018			
Earnings Growth	2016 actual EPS escalated by Period 1 growth rate	EPS growth as average of (1) Value Line; (2) Zacks; and (3) First Call	Transition to Long-term GDP growth	Long-term GDP growth
Payout Ratio	Value Line company-specific	Value Line company-specific	Transition to long-term industry payout ratio	Long-term expected payout ratio
Terminal Value				Expected dividend in final year divided by solved Cost of Equity less long-term growth rate

2 **Q: How did you calculate the long-term GDP growth rate?**

3 A: The long-term growth rate of 5.45 percent is based on the real GDP growth rate of 3.21  
 4 percent from 1929 through 2017, and an inflation rate of 2.16 percent. The GDP growth  
 5 rate is calculated as the compound growth rate in the chain-weighted GDP for the period  
 6 from 1929 through 2017.<sup>23</sup> The rate of inflation of 2.16 percent is an average of two  
 7 components: (1) the compound annual forward rate starting in ten years (*i.e.*, 2028, which  
 8 is the beginning of the terminal period) based on the 30-day average spread between

1 yields on long-term nominal Treasury Securities and long-term Treasury Inflation  
2 Protected Securities, known as the “TIPS spread” of 2.13 percent;<sup>24</sup> and (2) and the  
3 projected Blue Chip Financial Forecast of CPI for 2024 – 2028 of 2.20 percent.<sup>25</sup>

4 I averaged these two measures of inflation because nominal Treasury yields are  
5 related to inflation, which includes the effect of commodities such as oil, which may  
6 cause the current TIPS spread to somewhat understate long-term expected inflation. To  
7 account for that effect, I also considered the 2.20 percent long-term projected rate of  
8 inflation as provided by Blue Chip Financial Forecast.<sup>26</sup> My long-term inflation rate,  
9 therefore, is the average of those two estimates, or 2.16 percent.

10 **Q: Have you compared your long-term growth rate to historical measures?**

11 A: Yes, I have. From 1929 through 2017, the long-term geometric average growth in  
12 nominal GDP was 6.11 percent. The arithmetic average annual growth rate over that  
13 time was 6.34 percent. Considered in that context, my 5.45 percent assumption is  
14 approximately 65 to 90 basis points below the long-term average. I also calculated the  
15 average five-year average annual growth rates over the 1929 to 2017 period. I then  
16 arranged that data in histograms to provide a perspective of how frequently various levels  
17 of growth have occurred.

18 As Chart 2 demonstrates, average annual growth of 5.45 percent and above has  
19 been observed frequently. When measured over five-year periods, average annual growth  
20 exceeded 5.45 percent in 58 of 84 periods. That is, my result falls in approximately the

---

<sup>23</sup> See Bureau of Economic Analysis, “Current-Dollar and ‘Real’ Gross Domestic Product,” February 28, 2018 update.

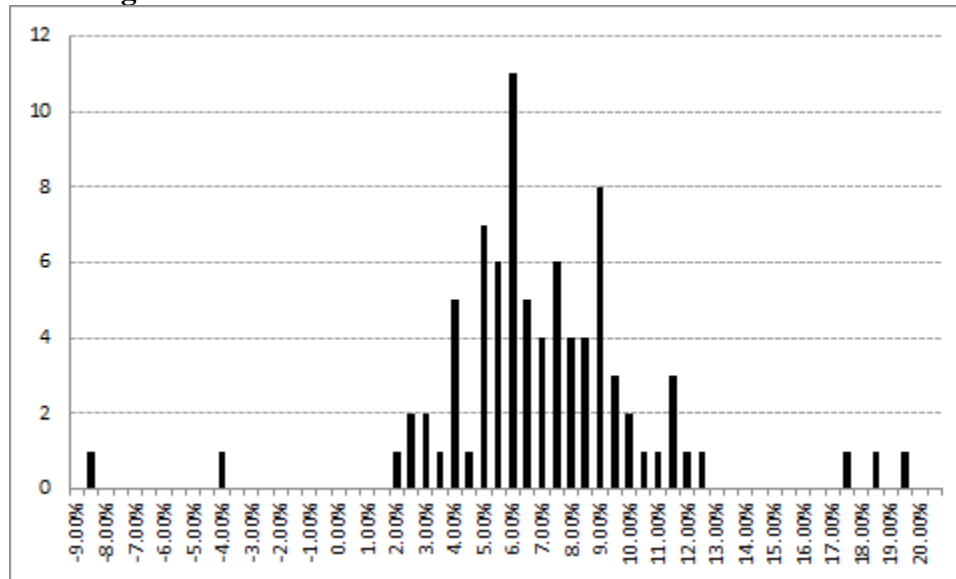
<sup>24</sup> See Board of Governors of the Federal Reserve System, “Table H.15 Selected Interest Rates.”

<sup>25</sup> *Blue Chip Financial Forecasts* at 14 (December 1, 2017).

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

1 32<sup>nd</sup> percentile of observed growth rates in GDP. As such, I believe my long-term  
2 growth estimate is reasonable, if not conservative.

3 **Chart 2:**  
4 **Average Annual GDP Growth Measured over Five-Year Periods<sup>27</sup>**



5  
6 **Q: Have you compared your long-term growth rate to analyst growth rates?**

7 A: Yes, I have. As shown on Exhibit RBH-1, my long-term growth rate of 5.45 percent is  
8 similar to the analyst growth rates for my proxy group, which range from an average of  
9 4.99 percent to 5.38 percent. That is,

10 **Q: What were your specific assumptions with respect to the payout ratio?**

11 A: As noted in Table 4, for the first two periods, I relied on the first year and long-term  
12 projected payout ratios reported by Value Line<sup>28</sup> for each of the proxy companies. I then  
13 assumed that by the end of the second period (*i.e.*, the end of year 10), the payout ratio  
14 will converge to the historical industry average ratio of 65.91 percent.<sup>29</sup>

<sup>27</sup> Source: Bureau of Economic Analysis.

<sup>28</sup> As reported in the Value Line Investment Survey company reports as “All Div’ds to Net Prof.”

<sup>29</sup> Source: Bloomberg Professional

1 **Q: What are the results of your Multi-Stage DCF analysis?**

2 A: Although I performed a series of analyses in which the terminal value is calculated based  
3 on the assumed long-term nominal GDP growth rate,<sup>30</sup> I also performed a series of  
4 analyses in which the terminal value is based on the current P/E ratio.<sup>31</sup> The results of  
5 those analyses are shown in Table 5, below. For the reasons discussed below, I believe  
6 that assumption is reasonable and produces reliable results.

7 **Table 5: Multi-Stage DCF Model Results<sup>32</sup>**

	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
30-Day Average	9.86%	10.59%	11.34%
90-Day Average	9.18%	9.91%	10.65%
180-Day Average	9.03%	9.75%	10.50%

8 **Q: Did you undertake any additional analyses to support your recommendation?**

9 A: Yes. As noted earlier, I also applied the CAPM and Risk Premium approaches.

10 **C. Capital Asset Pricing Model**

11 **Q: Please briefly describe the general form of the CAPM.**

12 A: The CAPM is a risk premium method that estimates the Cost of Equity for a given  
13 security as a function of a risk-free return plus a risk premium (to compensate investors  
14 for the non-diversifiable or “systematic” risk of that security). As shown in Equation [3],  
15 the CAPM is defined by four components, each of which theoretically must be a forward-  
16 looking estimate:

17 
$$k = r_f + \beta(r_m - r_f) \quad \text{Equation [3]}$$

18 where:

---

<sup>30</sup> See Exhibit RBH-2.

<sup>31</sup> Defined as the 30-day average of the proxy group P/E ratio, calculated as an Index.



1  $k$  = the required market ROE for a security;  
2  $\beta$  = the Beta coefficient of that security;  
3  $r_f$  = the risk-free rate of return; and  
4  $r_m$  = the required return on the market as a whole.

5 In Equation [3], the term  $(r_m - r_f)$  represents the Market Risk Premium.<sup>33</sup>  
6 According to the theory underlying the CAPM, since unsystematic risk can be diversified  
7 away by adding securities to investment portfolios, investors should be concerned only  
8 with systematic or non-diversifiable risk. Non-diversifiable risk is measured by the Beta  
9 coefficient, which is defined as:

10 
$$\beta_j = \frac{\sigma_j}{\sigma_m} \times \rho_{j,m}$$
 Equation [4]

11 Where  $\sigma_j$  is the standard deviation of returns for company “j,”  $\sigma_m$  is the standard  
12 deviation of returns for the broad market (as measured, for example, by the S&P 500  
13 Index), and  $\rho_{j,m}$  is the correlation of returns in between company  $j$  and the broad market.  
14 The Beta coefficient therefore represents both relative volatility (*i.e.*, the standard  
15 deviation) of returns, and the correlation in returns between the subject company and the  
16 overall market.

17 Intuitively, higher Beta coefficients indicate that the subject company’s returns  
18 have been relatively volatile, and have moved in tandem with the overall market.  
19 Consequently, if a company has a Beta coefficient of 1.00, it is as risky as the market and  
20 does not provide any diversification benefit.

---

<sup>32</sup> See Exhibit RBH-2.

<sup>33</sup> The Market Risk Premium is defined as the incremental return of the market portfolio over the risk-free rate.

1 **Q: What assumptions did you include in your CAPM analysis?**

2 A: Since utility equity is a long duration investment, I used two different measures of the  
3 risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds (*i.e.*, 3.13  
4 percent); and (2) the projected 30-year Treasury yield (*i.e.*, 3.42 percent).

5 **Q: Why have you relied upon the 30-year Treasury yield for your CAPM analysis?**

6 A: In determining the security most relevant to the application of the CAPM, it is important  
7 to select the term (or maturity) that best matches the life of the underlying investment.  
8 Electric utilities typically are long-duration investments and, as such, the 30-year  
9 Treasury yield is more suitable for the purpose of calculating the Cost of Equity.

10 **Q: Please describe your *ex-ante* approach to estimating the Market Risk Premium**  
11 **(“MRP”).**

12 A: The approach is based on the market required return, less the current 30-year Treasury  
13 yield. To estimate the market required return, I calculated the market capitalization  
14 weighted average ROE based on the Constant Growth DCF model. To do so, I relied on  
15 data from two sources: (1) Bloomberg; and (2) Value Line.<sup>34</sup> With respect to  
16 Bloomberg-derived growth estimates, I calculated the expected dividend yield (using the  
17 same one-half growth rate assumption described earlier), and combined that amount with  
18 the projected earnings growth rate to arrive at the market capitalization weighted average  
19 DCF result. I performed that calculation for each of the S&P 500 companies for which  
20 Bloomberg provided consensus growth rates. I then subtracted the current 30-year  
21 Treasury yield from that amount to arrive at the market DCF-derived *ex-ante* market risk  
22 premium estimate. In the case of Value Line, I performed the same calculation, again

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<sup>34</sup> See Exhibit RBH-4.

1 using all companies for which five-year earnings growth rates were available. The results  
2 of those calculations are provided in Exhibit RBH-3.

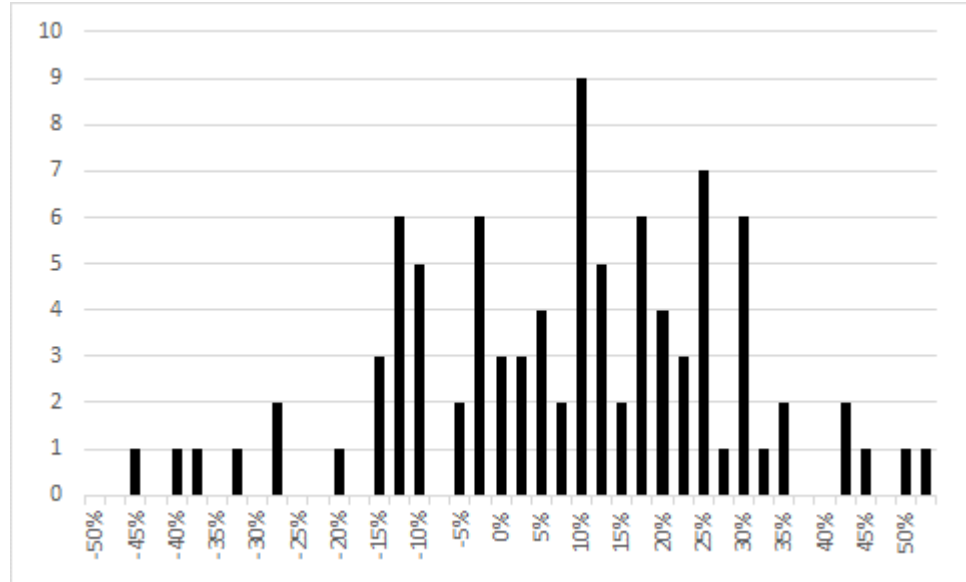
3 As discussed above each input to the CAPM should be forward-looking. While it  
4 may be instructive to review historical MRPs to inform the reasonableness of an *ex-ante*  
5 estimate (as I have done below), they do not include investors' expectations, and  
6 therefore are not appropriate for use in the CAPM. As such, I believe my *ex-ante*  
7 approach is reasonable.

8 **Q: Have you undertaken any analyses to determine the reasonableness of the *ex-ante***  
9 **MRP calculation?**

10 A: Yes, I have considered how often various ranges of MRPs have been observed over the  
11 1926 to 2017 period. To perform that analysis, I gathered the annual Market Risk Premia  
12 reported by Duff & Phelps and produced a histogram of those observations. The results  
13 of that analysis, which are presented in Chart 3, demonstrate that MRPs in the range of  
14 approximately 12.02 percent (the average of my MRP estimates) and higher occurred  
15 quite often. In fact, there is approximately a 58.00 percent probability that an MRP of at  
16 least 12.02 percent will occur in any given year.

1

**Chart 3: Frequency Distribution of MRP, 1926 - 2017<sup>35</sup>**



2

3 **Q: How did you apply your expected Market Risk Premium and risk-free rate**  
4 **estimates?**

5 A: I relied on the *ex-ante* Market Risk Premia discussed above, together with the current and  
6 near-term projected 30-year Treasury yields as inputs to my CAPM analyses.

7 **Q: What Beta coefficient did you use in your CAPM model?**

8 A: As shown in Exhibit RBH-4, I considered the Beta coefficients reported by two sources:  
9 Bloomberg and Value Line. While both of those services adjust their calculated (or  
10 “raw”) Beta coefficients to reflect the tendency of the Beta coefficient to regress to the  
11 market mean of 1.00, Value Line calculates the Beta coefficient over a five-year period,  
12 while Bloomberg’s calculation is based on two years of data.

13 **Q: What are the results of your CAPM analysis?**

14 A: As shown in Table 6 the CAPM analyses suggest an ROE range of 9.90 percent to 12.30  
15 percent (*see also* Exhibit RBH-5).

<sup>35</sup> Duff & Phelps, 2018 Stocks, Bonds, Bills and Inflation Yearbook, Table A-1 and A-7.

1

**Table 6: Summary of CAPM Results<sup>36</sup>**

	<i>Bloomberg Derived Market Risk Premium</i>	<i>Value Line Derived Market Risk Premium</i>
<i>Average Bloomberg Beta Coefficient</i>		
Current 30-Year Treasury (3.13%)	9.90%	10.53%
Near Term Projected 30-Year Treasury (3.42%)	10.19%	10.82%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (3.13%)	11.26%	12.01%
Near Term Projected 30-Year Treasury (3.42%)	11.55%	12.30%

2 **D. Bond Yield Plus Risk Premium Approach**

3 **Q: Please generally describe the Bond Yield Plus Risk Premium approach.**

4 A: This approach is based on the basic financial tenet that equity investors bear the residual  
5 risk associated with ownership and therefore require a premium over the return they  
6 would have earned as a bondholder. That is, since returns to equity holders are more  
7 risky than returns to bondholders, equity investors must be compensated for bearing that  
8 additional risk. Risk premium approaches, therefore, estimate the Cost of Equity as the  
9 sum of the equity risk premium and the yield on a particular class of bonds. As noted in  
10 my discussion of the CAPM, since the equity risk premium is not directly observable, it  
11 typically is estimated using a variety of approaches, some of which incorporate *ex-ante*,  
12 or forward-looking estimates of the Cost of Equity, and others that consider historical, or  
13 *ex-post*, estimates. An alternative approach is to use actual authorized returns for electric  
14 utilities to estimate the Equity Risk Premium.

<sup>36</sup> See Exhibit RBH-5.

1 **Q: Please explain how you performed your Bond Yield Plus Risk Premium analysis.**

2 A: As suggested above, I first defined the Risk Premium as the difference between the  
3 authorized ROE and the then-prevailing level of long-term (*i.e.*, 30-year) Treasury yield.  
4 I then gathered data for 1,547 electric utility rate proceedings between January 1980 and  
5 March 16, 2018. In addition to the authorized ROE, I also calculated the average period  
6 between the filing of the case and the date of the final order (the “lag period”). In order  
7 to reflect the prevailing level of interest rates during the pendency of the proceedings, I  
8 calculated the average 30-year Treasury yield over the average lag period (approximately  
9 200 days).

10 Because the data cover a number of economic cycles, the analysis also may be  
11 used to assess the stability of the Equity Risk Premium. Prior research, for example, has  
12 shown that the Equity Risk Premium is inversely related to the level of interest rates.  
13 That analysis is particularly relevant given the relatively low, but increasing level of  
14 current Treasury yields.

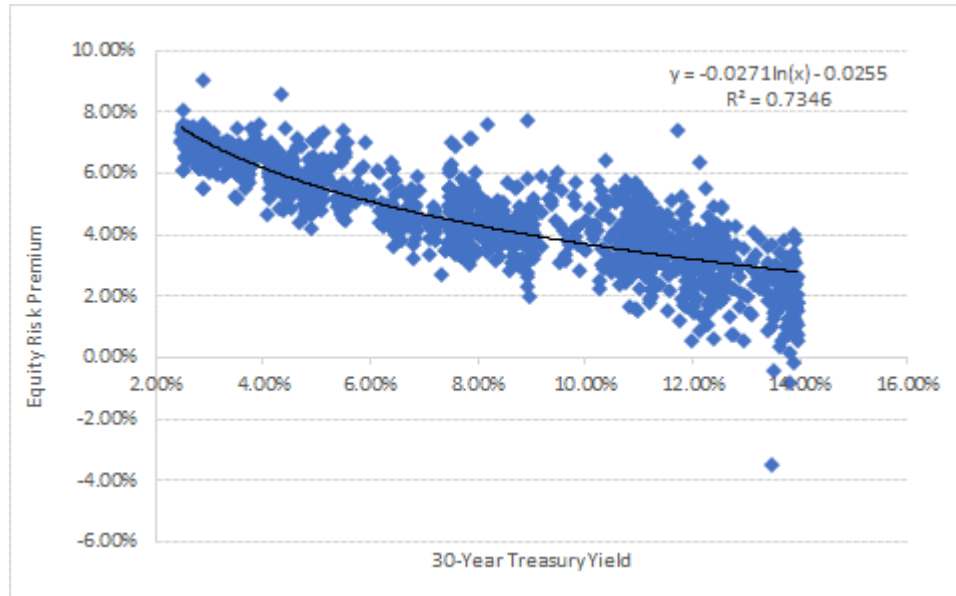
15 **Q: How did you analyze the relationship between interest rates and the Equity Risk**  
16 **Premium?**

17 A: The basic method used was regression analysis, in which the observed Equity Risk  
18 Premium is the dependent variable, and the average 30-year Treasury yield is the  
19 independent variable. Relative to the long-term historical average, the analytical period  
20 includes interest rates and authorized ROEs that are quite high during one period (*i.e.*, the  
21 1980s) and that are quite low during another (*i.e.*, the post-Lehman bankruptcy period).  
22 To account for that variability, I used the semi-log regression, in which the Equity Risk  
23 Premium is expressed as a function of the natural log of the 30-year Treasury yield:

1 
$$RP = \alpha + \beta(\ln(T_{30}))$$
 Equation [5]

2 As shown on Chart 4 (below), the semi-log form is useful when measuring an  
3 absolute change in the dependent variable (in this case, the Risk Premium) relative to a  
4 proportional change in the independent variable (the 30-year Treasury yield).

5 **Chart 4: Equity Risk Premium<sup>37</sup>**



6 As Chart 4 illustrates, over time there has been a statistically significant, negative  
7 relationship between the 30-year Treasury yield and the Equity Risk Premium.  
8 Consequently, simply applying the long-term average Equity Risk Premium of 4.62  
9 percent would significantly understate the Cost of Equity and produce results well below  
10 any reasonable estimate. Based on the regression coefficients in Chart 4, however, the  
11 implied ROE is between 9.97 percent and 10.25 percent (see Table 7 and Exhibit RBH-  
12 6).  
13

---

<sup>37</sup> See Exhibit RBH-6.

1 **Table 7: Summary of Bond Yield Plus Risk Premium Results<sup>38</sup>**

	<i>Return on Equity</i>
Current 30-Year Treasury (3.13%)	9.97%
Near Term Projected 30-Year Treasury (3.42%)	10.02%
Long Term Projected 30-Year Treasury (4.20%)	10.25%

2 **Q: Have you provided an alternative Bond Yield Plus Risk Premium analysis to**  
3 **account for how market conditions may affect the inverse relationship between**  
4 **interest rates and the Equity Risk Premium?**

5 A: To address the prospect that the market conditions affect the relationship between interest  
6 rates and the Equity Risk Premium, I first calculated the “credit spread”, or the difference  
7 between the Moody’s A-Utility Bond yield and the 30-Year Treasury yield. To reflect  
8 the risk of equity investments, I calculated the market volatility as measured by the  
9 CBOE Volatility Index (the “VIX”) since 1990, the first year for which data was  
10 available. I then performed a regression analysis in which the Equity Risk Premium is  
11 the dependent variable, and Treasury yields, credit spreads, and the VIX were the  
12 explanatory variables. There were three principal findings from those analyses (*see*  
13 Exhibit RBH-7):

- 14 1. Credit spreads and the VIX do not negate the statistically significant inverse  
15 relationship between Treasury yields and the Equity Risk Premium.
- 16 2. There is a high degree of correlation between credit spreads and the VIX,  
17 indicating that the two move closely together. That is, the “relative risk” of the  
18 two is not a meaningful factor.

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<sup>38</sup> See Exhibit RBH-6.



1           3.       Based on the current, and projected Treasury yields, the expected ROE falls in the  
2                   range of 9.83 percent to 9.94 percent. Those results overlap with my  
3                   recommended range, and are only slightly below the results of my Bond Yield  
4                   Plus Risk Premium analysis (*see* Exhibit RBH-6).

5           Lastly, please note that neither the VIX nor credit spreads added significantly to the  
6                   explanatory value of the regression equations.

## VI.    BUSINESS RISKS AND OTHER CONSIDERATIONS

7    **Q:    Do the mean DCF results for the proxy group provide an appropriate estimate of**  
8           **the Cost of Equity for KCP&L?**

9    A:    No, the mean DCF results do not necessarily provide an appropriate estimate of the  
10           Company's Cost of Equity. In my view, there are additional factors that must be taken  
11           into consideration when determining where the Company's Cost of Equity falls within  
12           the range of results. Those factors include: (1) the regulatory environment in which the  
13           Company operates; (2) the Company's generation portfolio; and (3) the Company's  
14           capital expenditure plans. Those risk factors, which are discussed below, should be  
15           considered with respect to their overall effect on the KCP&L's risk profile and therefore  
16           its Cost of Equity.

17    A.    Regulatory Environment

18    **Q:    How does the regulatory environment in which a utility operates affect its access to**  
19           **and cost of capital?**

20    A:    The regulatory environment can significantly affect both the access to and the cost of  
21           capital in several ways. First, the proportion and cost of debt capital available to utility  
22           companies are influenced by rating agencies' assessment of the regulatory environment.

1 In addition, it is important to recognize that regulatory decisions regarding the authorized  
2 ROE and capital structure have direct consequences for the subject utility’s internal cash  
3 flow generation (sometimes referred to as “Funds from Operations” or “FFO”). Since  
4 credit ratings are intended to reflect the ability to meet financial obligations as they come  
5 due, the ability to generate the cash flows required to meet those obligations (and to  
6 provide an additional amount for unexpected events) is of critical importance to debt  
7 investors. Two of the most important metrics used to assess that ability are the ratios of  
8 FFO to debt, and FFO to interest expense, both of which are directly affected by  
9 regulatory decisions regarding the appropriate rate of return and capital structure.

10 Investors recognize that a reasonable allowed ROE that is subject to earnings  
11 attrition due to unfavorable regulatory or economic factors does not provide any  
12 assurance that the utility will actually recover its costs or earn a reasonable return. The  
13 authorized ROE affects not only the cash flow-related metrics that measure financial  
14 strength, but also provides an indication of the degree of regulatory support, as well as  
15 risk associated with a given utility and jurisdiction. It is, therefore, an important measure  
16 of regulatory support and financial integrity from several perspectives.

17 **Q: Have you compared KCP&L’s regulatory risks to electric utilities in other**  
18 **jurisdictions?**

19 **A:** Regulatory Research Associates (“RRA”) rates the Commission as having a “Below  
20 Average / 1” regulatory environment from an investor viewpoint.<sup>39</sup> In fact, fewer than

---

<sup>39</sup> RRA Regulatory Focus: Kansas Regulatory Review, at 1 (Sep. 19, 2017). RRA notes that “Kansas regulation is relatively restrictive from an investor perspective,” and that a recent authorized return was “significantly below prevailing industry averages.” RRA also noted that the use of historical test periods can lead to regulatory lag and make it “challenging for the utility to earn its authorized return.”

1 10.00 percent of regulatory bodies have lower ratings from RRA.<sup>40</sup> Any further decrease  
2 in the perception of regulatory supportiveness may cause investors' assessment of  
3 KCP&L's regulatory risk (and therefore its business risk and S&P Business Risk rating)  
4 to become more negative, further increasing KCP&L's overall cost of capital.

5 **B. Generation Portfolio**

6 **Q: Please provide an overview of the Company's generation portfolio.**

7 A: KCP&L's operations are heavily dependent on coal-fired generation, which represented  
8 over 76.00 percent of the Company's electric utility 2016 net generation.<sup>41</sup>

9 **Q: Please briefly describe the risks associated with KCP&L's generation portfolio.**

10 A: In general, highly capital-intensive generation assets are subject to certain risks including  
11 the recovery of the investors' capital in the event of a change in market structure or a  
12 plant failure, and recovery of replacement power and repair costs in the event of extended  
13 or unplanned outage. In addition, federal environmental and safety regulations present a  
14 substantial risk of requiring investors to commit new capital to comply with new  
15 regulations or operation restrictions or possibly closure.

16 In a September 2014 report, S&P noted that power generators have addressed  
17 carbon-reduction policies that target coal-fired generating plants by implementing three  
18 strategies: adding "scrubbers" to coal-fired plants; switching to burning natural gas; or  
19 retiring coal-fired plants outright.<sup>42</sup> To the extent these strategies increase costs for  
20 utilities, their credit profiles may come under pressure. As noted by S&P:

21 Higher costs could become a key credit issue for regulated utilities given  
22 the importance of managing customer rate increases, which has

---

<sup>40</sup> Regulatory Research Associates, calculated as of March 14, 2018.

<sup>41</sup> Source: S&P Global Market Intelligence, KCP&L electric utility net generation.

<sup>42</sup> S&P Research, *The Clean Power Plan Will Spur Further Coal Plant Closings, But How Will U.S. Utilities Recover The Costs?* (September 2, 2014).

1 implications for relations with regulators, as well as economic and  
2 political ramifications that could heighten business risk. Any rating  
3 actions would likely not occur until there is further clarity from a utility  
4 about early plant retirements and related cost recovery. For utilities that  
5 have significant coal-fired generation, recovery mechanisms will be  
6 extremely important to continue to support operating cash flow and  
7 maintain robust financial measures.<sup>43</sup>

8 **Q: What are your conclusions regarding the Company's generating portfolio?**

9 A: The Company's generating portfolio consists of a high percentage of coal power plants  
10 that face certain inherent risks associated with capital intensive assets such as the risk of  
11 an extended forced outage and changing market dynamics. In particular, the Company  
12 and its investors are faced with the risk that new and impending federal environmental  
13 and safety regulations will require it to expend additional capital or face closure or  
14 curtailment of generating capacity. Because investors consider these risks in establishing  
15 their return requirements, the Commission likewise should consider the effect of the  
16 additional risk associated with the Company's generating portfolio in determining  
17 KCP&L's authorized ROE.

18 **C. Planned Capital Expenditures**

19 **Q: Please briefly summarize the Company's capital investment plans.**

20 A: GPE's five-year capital expenditures budget for its utility operations over the 2018-2022  
21 timeframe totals approximately \$2.76 billion, which includes substantial investments for  
22 KCP&L.<sup>44</sup> Because the Company will continue to make substantial investments in its  
23 utility operations, it will require efficient access to capital markets during the period that  
24 rates established in this proceeding will be in effect.

---

<sup>43</sup> *Ibid.*

<sup>44</sup> Great Plains Energy Inc., SEC Form 10-K for year-end December 31, 2017, at 49.

1 **Q: Do credit rating agencies recognize risk associated with increased capital**  
2 **expenditures?**

3 A: Yes, they do. From a credit perspective, the additional pressure on cash flows associated  
4 with high levels of capital expenditures exerts corresponding pressure on credit metrics  
5 and, therefore, credit ratings. S&P has noted that:

6 The real challenge for the industry is the combination of slow growth and  
7 huge investment needs. We believe that for the remainder of 2012 and  
8 beyond, state regulation will continue to be the single most influential  
9 factor for the sector's credit quality. Cost increases, construction projects,  
10 environmental compliance, and other public policy directives, together  
11 with lackluster growth, will necessitate continued reliance on rate relief  
12 requests.<sup>45</sup>

13 The rating agency views noted above also are consistent with certain observations  
14 discussed earlier in my Direct Testimony: (1) the benefits of maintaining a strong  
15 financial profile are significant when capital access is required, and become particularly  
16 acute during periods of market instability; and (2) the Commission's decision in this  
17 proceeding will have a direct bearing on the Company's credit profile, and its ability to  
18 access the capital needed to fund its investments.

19 **Q: What are your conclusions regarding the effect of the Company's capital spending**  
20 **plans on its risk profile?**

21 A: It is clear that the Company's capital expenditure program is significant. The financial  
22 community recognizes the additional risks associated with substantial capital  
23 expenditures and the financing, regulatory and operating risks associated with those  
24 plans. The Company must have access to the capital markets on a timely basis and at  
25 reasonable cost rates to fund those investments. In my view, the Company's capital

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<sup>45</sup> S&P Ratings Direct, *Industry Economic and Ratings Outlook: U.S. Regulated Utilities Will Likely Stay On A Stable Trajectory For The Rest Of 2012 And Into 2013*, at 6 (July 17, 2012).

1 investment plan remains an important consideration in establishing its ROE and overall  
2 rate of return.

3 **Q: What are your conclusions regarding the Company's overall business risk profile?**

4 A: The regulatory environment is one of the most important issues considered by both debt  
5 and equity investors in assessing the risks and prospects of utility companies. From the  
6 perspective of debt investors, the authorized return should enable the Company to  
7 generate the cash flow needed to meet its near-term financial obligations, make the  
8 capital investments needed to maintain and expand its system, and maintain sufficient  
9 levels of liquidity to fund unexpected events. That financial liquidity must be derived not  
10 only from internally generated funds, but also by efficient access to capital markets.  
11 Because investors have many investment alternatives, even within a given market sector,  
12 the Company's financial profile must be adequate on a relative basis to ensure its ability  
13 to attract capital under a variety of economic and financial market conditions.

14 From the perspective of GPE, the authorized return must be sufficient to fund  
15 incremental capital investments in KCP&L's operations. From the perspective of equity  
16 investors, the authorized return must be adequate to provide a risk-comparable return on  
17 the equity portion of the Company's capital investments. Since (as discussed earlier)  
18 equity investors are the residual claimants on the Company's cash, they are particularly  
19 concerned with regulatory uncertainty and its effect on future cash flows.

20 In light of those risks, I believe that an ROE in the range of 9.75 percent to 10.50  
21 percent is reasonable, if not conservative. An ROE in that range would permit the  
22 Company to compete for a capital at a time when it requires additional funds to finance

1 large projects as it confronts multiple new and emerging safety and environmental  
2 regulations.

## VII. CAPITAL MARKET ENVIRONMENT

3 **Q: Do economic conditions influence the required cost of capital and required return**  
4 **on common equity?**

5 A: Yes. As discussed in Section V, the models used to estimate the Cost of Equity are  
6 meant to reflect, and therefore are influenced by, current and expected capital market  
7 conditions. As such, it is important to assess the reasonableness of any financial model's  
8 results in the context of observable market data. To the extent certain ROE estimates are  
9 incompatible with such data or inconsistent with basic financial principles, it is  
10 appropriate to consider whether alternative estimation techniques are likely to provide  
11 more meaningful and reliable results.

12 **Q: Do you have any general observations regarding the relationship between Federal**  
13 **Reserve monetary policy, capital market conditions, and the Company's Cost of**  
14 **Equity?**

15 A: Yes, I do. Much has been reported about the Federal Reserve's Quantitative Easing  
16 policy and its effect on interest rates. Although the Federal Reserve completed its  
17 Quantitative Easing initiative in October 2014, it was not until December 2015 that it  
18 raised the Federal Funds rate, and began the process of rate normalization.<sup>46</sup> Therefore, a  
19 significant issue is how investors will react as that process continues, and eventually is  
20 completed. A viable outcome is that investors will perceive greater prospects of  
21 macroeconomic growth, which will increase the growth rates included in the Constant  
22 Growth DCF model. At the same time, higher growth and the absence of Federal market

1 intervention could provide the opportunity for interest rates to increase, thereby  
2 increasing the dividend yield portion of the DCF model. In that case, both terms of the  
3 Constant Growth DCF model would increase, producing increased ROE estimates.

4 More recently, interest rates have risen and become increasingly volatile. In the  
5 equity markets, sectors that historically have included dividend-paying companies lost  
6 value, as increasing interest rates provided investors with other sources of current  
7 income. Because those dynamics affect different models in different ways, it would be  
8 inappropriate to rely on a single method to estimate the Company's Cost of Equity. A  
9 more reasoned approach is to understand the relationships among Federal monetary  
10 policy, interest rates, and measures of market risk, and to consider how those factors may  
11 affect different models and their results. As discussed throughout my Direct Testimony,  
12 it remains important to consider a broad range of data and models when determining the  
13 Company's Cost of Equity.

14 **Q: Please summarize the effect of recent Federal Reserve policies on interest rates and**  
15 **the cost of capital.**

16 A: Beginning in 2008, the Federal Reserve proceeded on a steady path of initiatives intended  
17 to lower long-term Treasury yields.<sup>47</sup> The Federal Reserve's policy actions "were  
18 designed to put downward pressure on longer-term interest rates by having the Federal  
19 Reserve take onto its balance sheet some of the duration and prepayment risks that would  
20 otherwise have been borne by private investors."<sup>48</sup> Under that policy, "Securities held  
21 outright" on the Federal Reserve's balance sheet increased from approximately \$489

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<sup>46</sup> See Federal Reserve Press Release (December 16, 2015).

<sup>47</sup> See Federal Reserve Press Release, dated June 19, 2013.

<sup>48</sup> Federal Reserve Bank of New York, *Domestic Open Market Operations During 2012*, April 2013, at 29.



1 billion at the beginning of October 2008 to \$4.19 trillion by March 2018.<sup>49</sup> To put that  
2 increase in context, the securities held by the Federal Reserve represented approximately  
3 3.29 percent of Gross Domestic Product (“GDP”) at the end of September 2008, and had  
4 risen to approximately 21.20 percent of GDP in March 2018.<sup>50</sup> As such, the Federal  
5 Reserve provided a significant source of liquidity, and had a substantial effect on capital  
6 markets.

7 **Q: Does your recommendation consider the interest rate environment?**

8 A: Yes, it does. From an analytical perspective, it is important that the inputs and  
9 assumptions used to arrive at an ROE recommendation, including assessments of capital  
10 market conditions, are consistent with the recommendation itself. Although all analyses  
11 require an element of judgment, the application of that judgment must be made in the  
12 context of the quantitative and qualitative information available to the analyst, and the  
13 capital market environment in which the analyses were undertaken. Because the Cost of  
14 Equity is forward-looking, the salient issue is whether investors see the likelihood of  
15 increased interest rates during the period in which the rates set in this proceeding will be  
16 in effect.

17 The low interest rate environment associated with central bank intervention may  
18 lead some analysts to conclude that current capital costs, including the Cost of Equity, are  
19 low and will remain as such. However, that conclusion only holds true under the  
20 hypothesis of Perfectly Competitive Capital Markets (“PCCM”) and the classical  
21 valuation framework which, under normal economic and capital market conditions,  
22 underpin the traditional Cost of Equity models. Perfectly Competitive Capital Markets

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<sup>49</sup> Source: Federal Reserve Board Schedule H.4.1. “Securities held outright” include U.S. Treasury securities, Federal agency debt securities, and mortgage-backed securities

1 are those in which no single trader, or “market-mover”, would have the power to change  
2 the prices of goods or services, including bond and common stock securities. In other  
3 words, under the PCCM hypothesis, no single trader would have a significant effect on  
4 market prices.

5 Classic valuation theory assumes investors trade securities rationally, with prices  
6 reflecting their perceptions of value. Although central banks may set benchmark interest  
7 rates, they have maintained below-normal rates to stimulate economic expansion and  
8 capital market recovery. It therefore is reasonable to conclude that the Federal Reserve  
9 and other central banks have been acting as market-movers, thereby having a significant  
10 effect on the market prices of both bonds and stocks. The presence of market-movers,  
11 such as the Federal Reserve, runs counter to the PCCM hypothesis, which underlies  
12 traditional Cost of Equity models. Consequently, the results of those models should be  
13 considered in the context of both quantitative and qualitative information.

14 Although the Federal Reserve’s market intervention policies have kept interest  
15 rates historically low, since July 8, 2016 (when the 30-year Treasury yield hit an all-time  
16 low of 2.11 percent), rates have risen. As the Federal Reserve increased the Federal  
17 Funds target rate by 25 basis points five times from December 2016 (from 0.25 percent -  
18 0.50 percent to 0.50 percent - 0.75 percent) to March 2018 (to 1.50 percent – 1.75  
19 percent), short-term and long-term interest rates increased by a corresponding amount  
20 (*see* Chart 5 below).<sup>51</sup>

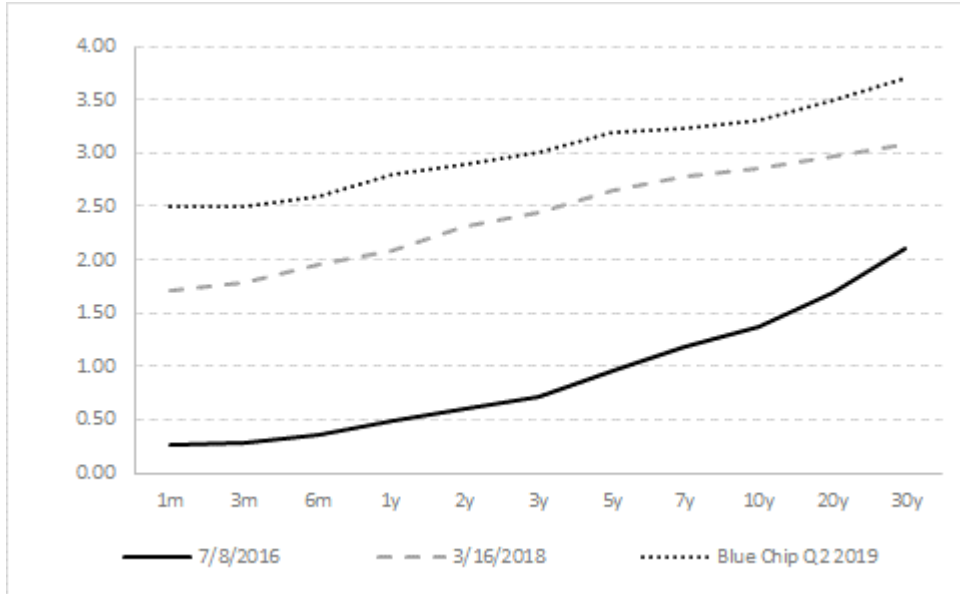
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<sup>50</sup> Source: Federal Reserve Board Schedule H.4.1; Bureau of Economic Analysis.

<sup>51</sup> Federal Reserve Board Schedule H.15. 6-month and 1-year Treasury yields increased by 160 basis points from July 8, 2016 to March 16, 2018. The ten-year and 30-year Treasury yields increasing by 148 basis points and 97 basis points, respectively, by March 16, 2018.

1

**Chart 5: Treasury Yield Curve: 7/8/2016, 3/16/2018 and Projected Q2 2019<sup>52</sup>**



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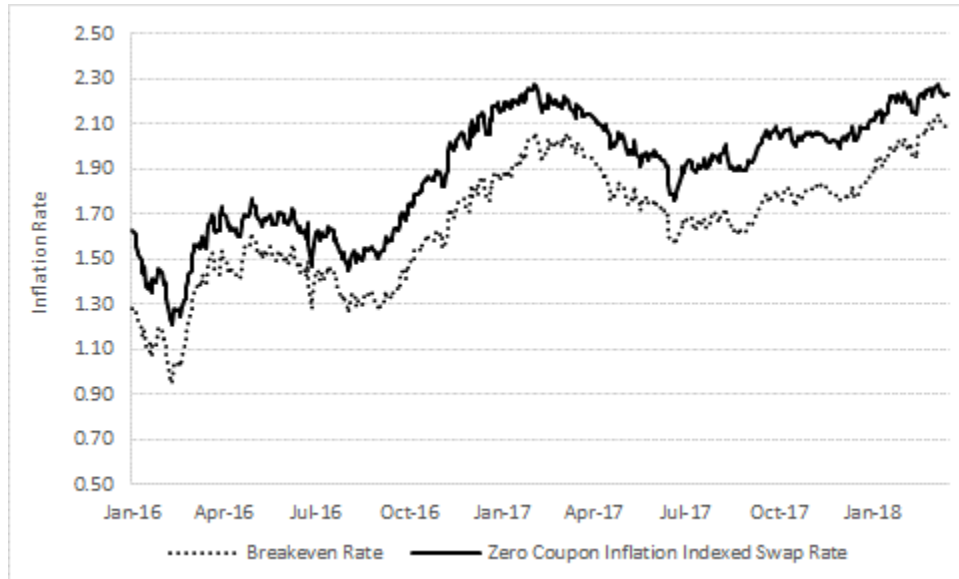
10

The significant increase in the 10- and 30-year yields from July 2016 to February 2018 is highly related to increasing inflation. To that point, leading up to and following the November 2016 Presidential election, expected inflation, as measured by the breakeven forward inflation rate and the zero-coupon inflation index swaps also increased. Although those measures of forward inflation fell somewhat between February and June 2017, they have increased since that period, such that they are similar to the Federal Reserve’s 2.00 percent inflation target (*see* Chart 6, below).

<sup>52</sup> Sources: Federal Reserve Board Schedule H.15.; Blue Chip Financial Forecasts, Vol. 37, No. 3, March 1, 2018, at 2. 3-year, 7-year and 20-year projected Treasury yields interpolated.

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**Chart 6: Five-Year Forward Inflation<sup>53</sup>**



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Lastly, on September 20, 2017, the Federal Reserve announced that it will “initiate the balance sheet normalization program described in the June 2017 Addendum to the Committee’s Policy Normalization Principles and Plans.”<sup>54</sup> Those “Principles and Plans” call for reducing the reinvestment of principal payments received from its holdings of Treasury securities by up to \$30 billion per month, and mortgage-backed securities by up to \$20 billion per month.<sup>55</sup> At the same time, the Federal Reserve will continue considering increases to the Federal Funds target rate; as noted below, current market data indicate an approximately 97.50 percent likelihood of further rate increases by December 2018.

<sup>53</sup> Source: Bloomberg Professional Services

<sup>54</sup> Federal Reserve Press Release, (Sept. 20, 2017).

<sup>55</sup> Federal Reserve *Addendum to the Policy Normalization Principles and Plans*, as adopted effective June 13, 2017.

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

3 A: Yes. Forward Treasury yields implied by the slope of the yield curve and published  
4 projections by sources such as *Blue Chip Financial Forecasts* (which provides consensus  
5 estimates from approximately 50 professional economists) indicate investors expect long-  
6 term interest rates to increase.

7 Looking to short-term interest rates, data compiled by CME Groups indicates that  
8 investors see a high likelihood of further Federal Funds rate increases, even after the five  
9 increases between December 14, 2016 and March 21, 2018. As shown in Table 8,  
10 (below) the market is now anticipating at least one additional rate hike (97.50 percent  
11 probability) and possibly two or more (78.40 percent) by December 2018.

12 **Table 8: Probability of Federal Funds Rate Increases<sup>56</sup>**

Target Rate (bps)	Federal Reserve Meeting Date					
	5/2/18	6/13/18	8/1/18	9/26/18	11/8/18	12/19/18
150-175	95.9%	16.8%	14.9%	5.3%	4.5%	2.5%
175-200	4.1%	79.8%	72.9%	35.3%	31.0%	19.1%
200-225		3.4%	11.8%	51.4%	49.1%	41.0%
225-250			0.4%	7.8%	14.0%	29.7%
250-275				0.2%	1.3%	7.0%
275-300						0.6%

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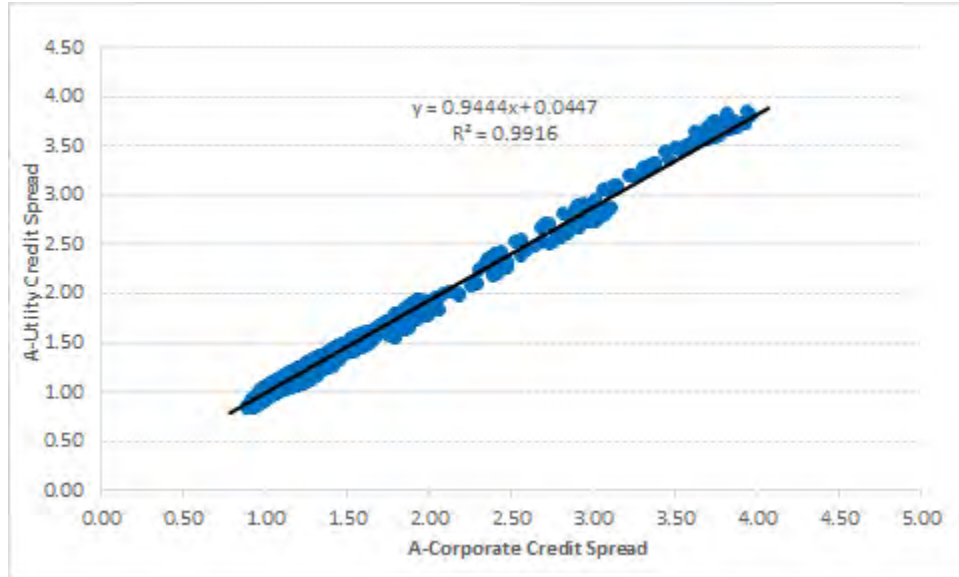
<sup>56</sup> Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed March 21, 2018.

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

3 A: Yes, I have. Given the historical volatility in the spread between corporate and utility A-  
4 rated debt, there is no reason to conclude that utility yields are different than those of  
5 their corporate counterparts. That conclusion is consistent with the finding that over  
6 time, there has been a nearly one-to-one relationship between credit spreads on A-rated  
7 corporate and utility bonds. In fact, a regression analysis in which corporate credit  
8 spreads are the explanatory variable and utility credit spreads are the dependent variable  
9 shows that slope is approximately 1.00 and highly significant (*see* Chart 7, below).  
10 Because the intercept term is nearly zero, we can conclude that there has been no material  
11 difference between the two, and there certainly is no meaningful difference in the current  
12 market.

1

**Chart 7: Corporate and Utility Credit Spreads (A-Rated)<sup>57</sup>**



2

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

5 A: Yes. For example, between July and December 2016, the S&P Electric Utility Index lost  
6 approximately 9.00 percent of its value. At the same time, the S&P 500 increased by  
7 approximately 7.00 percent, indicating that the utility sector under-performed the market  
8 by about 16.00 percent. Also during that time, the 30-year Treasury yield increased by  
9 approximately 95 basis points (an increase of nearly 45.00 percent). The point simply is  
10 that as interest rates increased, utility valuations fell. Because (as noted above) investors  
11 see the strong likelihood of further interest rate increases, there is a continuing risk of  
12 losses in the utility sector.

<sup>57</sup> Source: Bloomberg Professional Services

1 **Q: What conclusions do you draw from your analyses of the current capital market**  
2 **environment, and how do those conclusions affect your ROE recommendation?**

3 A: In my view, we cannot conclude that the recent levels of utility valuations are due to a  
4 fundamental change in the risk perceptions of utility investors. There is no measurable  
5 difference between credit spreads of A-rated utility debt, and A-rated corporate debt.  
6 That is, based on analyses of credit spreads, there is no reason to conclude that investors  
7 see utilities as less risky relative to either historical levels or to their corporate  
8 counterparts.

9 From an analytical perspective, it is important that the inputs and assumptions  
10 used to arrive at an ROE determination, including assessments of capital market  
11 conditions, are consistent with the conclusion itself. Although all analyses require an  
12 element of judgment, the application of that judgment must be made in the context of the  
13 quantitative and qualitative information available to the analyst and the capital market  
14 environment in which the analyses were undertaken. Because the application of financial  
15 models and interpretation of their results often is the subject of differences among  
16 analysts in regulatory proceedings, I believe that it is important to review and consider a  
17 variety of data points; doing so enables us to put in context both quantitative analyses and  
18 the associated recommendations.

19 Because not all models used to estimate the Cost of Equity adequately reflect  
20 those changing market dynamics, it is important to give appropriate weight to the  
21 methods and to their results. Moreover, because those models produce a range of results,  
22 it is important to consider the type of data discussed above in determining where the  
23 Companies' ROE falls within that range. As described in Section VII, on balance, I

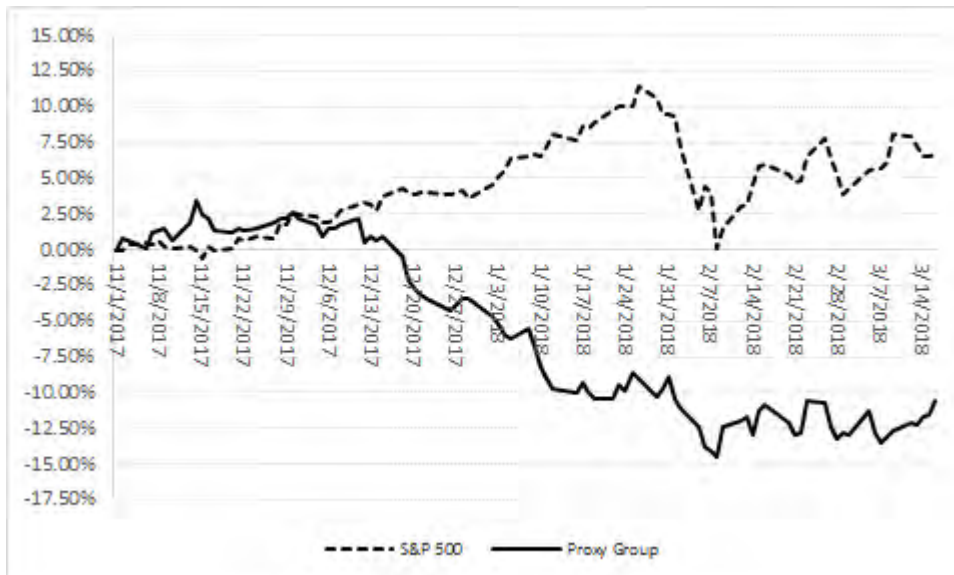


1 believe that the DCF-based results should be viewed very carefully, and that somewhat  
2 more weight should be afforded the Risk Premium-based methods. I believe that doing  
3 so supports my recommended range of 9.75 percent to 10.50 percent.

4 **Q: Have you also considered the effect of the recently enacted Tax Cut and Jobs Act**  
5 **(“TCJA”)?**

6 **A:** Yes, I have. On December 22, 2017, the President of the United States signed the TCJA  
7 into law. Since shortly before the TCJA was signed, electric utilities (as measured by my  
8 proxy group) have significantly underperformed the overall market. As Chart 8 (below)  
9 demonstrates, from November 1, 2017 through March 16, 2018 the S&P 500 gained  
10 approximately 6.70 percent in value. In stark contrast, my proxy group lost  
11 approximately 10.60 percent, underperforming the overall market by nearly 17.30  
12 percentage points.

13 **Chart 8: Relative Performance Since November 2017<sup>58</sup>**



14  
<sup>58</sup> Source: S&P Global Market Intelligence. Proxy group calculated as an index.

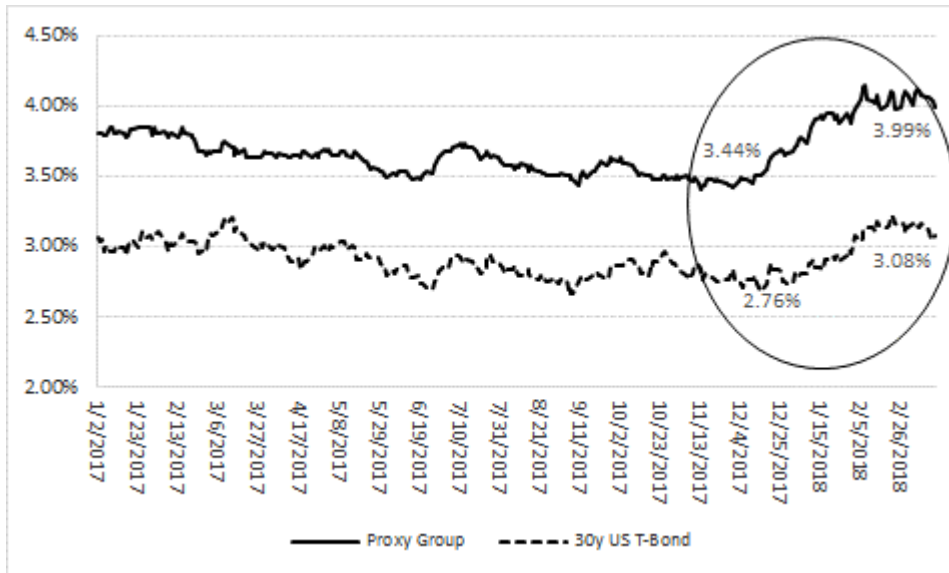
1 A reasonable inference to be drawn from that data is that investors have been re-  
2 evaluating electric utilities relative to other market sectors. To the extent investors now  
3 view utilities as less attractive relative to alternative investments, the proxy companies'  
4 prices will fall, and the dividend yields will increase. As explained below, because rating  
5 agencies have begun to discuss the consequences of the TCJA for utilities' cash flow, a  
6 reasonable conclusion is that equity investors also have begun to recognize those  
7 consequences, and to allocate their capital to other market sectors.

8 **Q: Have the proxy companies' dividend yields increased coincident with the TCJA?**

9 A: Yes, since the beginning of December 2017 the dividend yield for my proxy group  
10 increased by 55 basis points, while the 30-year Treasury yield increased by 32 basis  
11 points (*see* Chart 9, below). Again, that data suggests the fall in price among utility  
12 stocks may be a matter of relative value stemming from concerns regarding the TCJA's  
13 effect on utilities' cash flow. As discussed below, Moody's Investors Service  
14 ("Moody's"), Standard & Poor's, and Fitch Ratings all recently have evaluated the utility  
15 sector in the context of the TCJA, with Moody's noting negative ratings implications for  
16 many of the utilities it covers.

1  
2

**Chart 9: Proxy Group Dividend Yield vs. 30-Year Treasury Yield<sup>59</sup>**



3

4 **Q: Are there reasons to expect the TCJA may affect the models used to estimate the**  
5 **Cost of Equity?**

6 **A:** Yes, there are. As discussed earlier in my Direct Testimony, the Constant Growth DCF  
7 model is based on several assumptions that together assume current market conditions  
8 essentially will remain in place, unchanged, in perpetuity. Because we have seen a  
9 significant change in utility valuations, we should recognize the mean DCF results likely  
10 are not reliable indicators of the Company's Cost of Equity. As also discussed in my  
11 Direct Testimony, the Cost of Equity is affected by the degree of financial leverage, or  
12 debt, in the capital structure. Because there is a "tax shield" associated with debt, lower  
13 marginal tax rates will increase the risk-effect of leverage. That effect would manifest  
14 itself in increased Beta coefficients of the CAPM, for example. The point simply is that  
15 the reduction in utility valuations coincident with the TCJA is consistent with financial  
16 theory.

<sup>59</sup> Source: S&P Global Market Intelligence. My proxy group calculated as an index.

1 **Q: What concerns have rating agencies raised as they consider the implications of the**  
2 **TCJA for utilities' cash flow?**

3 A: The rating agencies have observed that a reduction in utilities' revenue associated with  
4 lower income taxes and the potential return of excess accumulated deferred income taxes  
5 also may reduce utilities' cash flow.<sup>60</sup> As FitchRatings pointed out “[a]bsent mitigating  
6 strategies on the regulatory front, this is expected to lead to weaker credit metrics and  
7 negative rating actions for issuers with limited headroom to absorb the leverage creep.”<sup>61</sup>  
8 In a similar vein, Standard & Poor's observed that the TCJA is “...negative for credit  
9 quality because the combination of a lower tax rate and the loss of stimulus provisions  
10 related to bonus depreciation or full expensing of capital spending will create headwinds  
11 in operating cash-flow generation capabilities as customer rates are lowered in response  
12 to the new tax code.”<sup>62</sup> Moody's stated the following:

13 Tax reform is credit negative for US regulated utilities because the  
14 lower 21% statutory tax rate reduces cash collected from customers,  
15 while the loss of bonus depreciation reduces tax deferrals, all else  
16 being equal. Moody's calculates that the recent changes in tax laws  
17 will dilute a utility's ratio of cash flow before changes in working  
18 capital to debt by approximately 150 - 250 basis points on average,  
19 depending to some degree on the size of the company's capital  
20 expenditure programs. From a leverage perspective, Moody's estimates  
21 that debt to total capitalization ratios will increase, based on the lower  
22 value of deferred tax liabilities.<sup>63</sup>

23 All three rating agencies, therefore, have observed the negative effects of the  
24 TCJA on utilities' cash flow, and the potential consequences for their credit profiles.

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<sup>60</sup> See S&P Global Market Intelligence, *Rating agencies warn tax reform could drag US utility sector credit quality*, January 25, 2018.

<sup>61</sup> FitchRatings Special Report, *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector*, January 24, 2018.

<sup>62</sup> S&P Global Ratings, *U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound*, January 24, 2018.

<sup>63</sup> Moody's Investors' Service, *Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform*, January 19, 2018.

1 **Q: Have the rating agencies also discussed possible regulatory reactions to the cash**  
2 **flow implications of the TCJA?**

3 A: Yes. Moody's, for example, identified approaches to help preserve credit profiles,  
4 including "...accelerated cost recovery of certain regulatory assets or future investment;  
5 changes to the equity layer or allowed ROEs in rates, and other actions." Moody's also  
6 suggested that "[c]hanges to corporate financial policies could include changes to  
7 capitalization, the financing of future investments, dividend growth, or others."<sup>64</sup>

8 FitchRatings observed the following:

9 A majority of states have opened dockets or requested all utilities in  
10 the state to submit an analysis on the implications of the tax reform.  
11 While regulators will be keen to provide some sort of rate relief for  
12 customers, such actions could take many forms and vary in time  
13 frame. Some jurisdictions may be open to a negotiated outcome that  
14 focuses more on benefits of rate stability and creditworthy utilities  
15 rather than immediate rate reductions. In the former, many tools could  
16 be employed, including the following:

- 17 ▪ Deferral of lower tax expense to use as an offset to expected  
18 future rate increases either from the recovery of regulatory  
19 deferrals or rate base growth
- 20 ▪ Return of excess unprotected ADIT over a longer-term horizon
- 21 ▪ Increase in authorized equity ratio and/or return on equity
- 22 ▪ Accelerated depreciation on some assets
- 23 ▪ Lower capex<sup>65</sup>

24 As both rating agencies discussed, regulatory responses may vary by company  
25 and jurisdiction, but may include a variety of potential approaches.

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<sup>64</sup> Moody's Investors' Service, *Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform*, January 19, 2018.

<sup>65</sup> FitchRatings Special Report, *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector*, January 24, 2018.

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

2 A: There is little question that the TCJA has increased cash flow-related risks for utilities.  
3 Those risks are manifested in the sector's significant underperformance relative to the  
4 broad market, and in the comments of financial participants such as Moody's, Standard &  
5 Poor's, and FitchRatings.

6 **Q: Are you recommending a higher ROE in this proceeding in connection with the**  
7 **TCJA?**

8 A: No, I am not. Rather, I recommend that the Commission consider the capital market  
9 implications of the TCJA as part of its review. Based on the data and information  
10 discussed above, it is my view that the TCJA, and its implications for utilities' cash flows  
11 and credit profiles, provide further support for my ROE range and recommendation.

#### **VIII. COST OF DEBT**

12 **Q: What is the Company's Cost of Debt?**

13 A: As shown in Exhibit RBH-9, the Company's Cost of Debt is 4.96 percent.

14 **Q: How does the projected cost of debt as of June 30, 2018 compare to the actual cost of**  
15 **debt as of December 31, 2017 and the cost of debt used in KCP&L last rate case**  
16 **(Docket No. 15-KCPE-116-RTS)?**

17 A: The projected Cost of Debt of 4.96 percent (as of June 30, 2018) is somewhat below the  
18 Company's actual Cost of Debt (5.35 percent as of December 31, 2017), and below the  
19 5.55 percent Cost of Debt approved in KCP&L's last rate case.<sup>66</sup>

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<sup>66</sup> Docket No. 15-KCPE-116-RTS, which was approved by the Commission in its Order dated September 9, 2015, was based on a partial settlement.

1 **Q: Have you assessed the Company's Cost of Debt?**

2 A: Yes, I reviewed the prevailing Bloomberg Fair Value Curves for A-rated and BBB-rated  
3 utility debt concurrent with the date of issuance of the Company's debt instruments. As  
4 shown Exhibit RBH-10, the Company's weighted average coupon rate is consistent with  
5 the prevailing yields at the times of issuance. As such, I believe the Company's 4.96  
6 percent Cost of Debt is reasonable.

**IX. CAPITAL STRUCTURE AND OVERALL RATE OF RETURN**

7 **Q: Please summarize the Company's requested capital structure and overall rate of**  
8 **return.**

9 A: The requested capital structure components and resulting overall rate of return are  
10 presented in Table 9 below:

11 **Table 9: Summary of Overall Rate of Return<sup>67</sup>**

<b>Capital Components</b>	<b>Ratio</b>	<b>Cost</b>	<b>Weighted Cost</b>
Long-Term Debt	50.25%	4.96%	2.49%
Common Equity	49.75%	9.85%	4.90%
<b>Total</b>	<b>100.00%</b>		<b>7.39%</b>

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

14 A: The requested capital structure, as well as the cost of debt, are based on KCP&L's  
15 projected capital structure at June 30, 2018. The data supporting the requested capital  
16 structure is presented in Exhibit RBH-9, with the June 30, 2018 summary shown on page  
17 1 of that exhibit.

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<sup>67</sup> See Exhibit RBH-9.

1 **Q: What are the principal differences between KCP&L’s actual capital structure as of**  
2 **December 31, 2017 and the requested projected capital structure as of June 30,**  
3 **2018?**

4 A: The actual KCP&L capital structure as of December 31, 2017, is shown on page 6 of  
5 Exhibit RBH-9. The key differences between the actual capital structure and the  
6 requested capital structure, projected as of June 30, 2018, are as follows:

- 7       ▪ Long-Term Debt is projected to decrease by \$50.00 million in connection  
8       with a March 1, 2018 long-term debt maturity and subsequent refinancing.
- 9       ▪ Equity is projected to increase by \$10.80 million due to earnings and  
10       increases in accumulated other comprehensive income, which are partially  
11       offset by the payout of common dividends.

12 **Q: How does the capital structure affect the Cost of Equity?**

13 A: In practice, the capital structure should enable the Company to maintain or enhance its  
14 financial integrity, thereby enabling access to capital at competitive rates under a variety  
15 of economic and financial market conditions. The capital structure relates to financial  
16 risk, which is a function of the percentage of debt relative to equity (that relationship is  
17 often referred to as “financial leverage”). As the percentage of debt in the capital  
18 structure increases, so do the fixed obligations for the repayment of that debt and,  
19 therefore, the risk that cash flows may not be sufficient to meet those obligations on a  
20 timely basis. Consequently, as the degree of financial leverage increases, the risk of  
21 financial distress (*i.e.*, financial risk) also increases. Since the capital structure can affect  
22 the subject company’s overall level of risk, it is an important consideration in establishing



1 a just and reasonable rate of return. Therefore, it is important to consider the capital  
2 structure in light of industry practice and investor requirements.

3 **Q: Please describe your analysis of the Company's capital structure relative to industry  
4 practice.**

5 A: As a measure of industry practice, I calculated the average capital structure for each of  
6 the utility operating companies held by the proxy companies over the last eight fiscal  
7 quarters. As shown in Exhibit RBH-11, the proxy group average capital structure over  
8 that period includes 52.47 percent common equity and 47.53 percent long-term debt; the  
9 average common equity ratios (on a company-specific basis) range from 46.06 percent to  
10 59.52 percent. Based on that review, it is apparent that KCP&L's capital structure is  
11 consistent with those in place at the proxy companies.

12 **Q: What is the basis for using average capital components rather than a point-in-time  
13 measurement?**

14 A: Measuring the capital components at a particular point in time can skew the capital  
15 structure by the specific circumstances of a particular period. Therefore, it is more  
16 appropriate to normalize the relative relationship between the capital components over a  
17 period of time.

18 **Q: What is your conclusion regarding an appropriate capital structure for KCP&L?**

19 A: Considering the range of proxy company average equity ratios from 46.06 percent to  
20 59.52 percent, I believe that KCP&L's 50.25 percent common equity ratio is appropriate.

## **X. CONCLUSIONS AND RECOMMENDATION**

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

2 A: As discussed in Section V (and as shown in Exhibits RBH-1 through RBH-6), I have  
3 performed several analyses to estimate KCP&L's Cost of Equity. In light of those  
4 results, and taking into consideration other relevant and observable market data, I believe  
5 that an ROE in the range of 9.75 percent to 10.50 percent represents the range of returns  
6 required by equity investors under current and expected market conditions.<sup>68</sup> As  
7 discussed earlier in my testimony, my recommendation reflects analytical results based  
8 on a proxy group of electric utilities, and takes into consideration the Company's risk  
9 profile, including the regulatory environment in which KCP&L operates, its generation  
10 portfolio, and its planned capital expenditures.

11 I also conclude that the Company's 4.96 percent Cost of Debt reflects prevailing  
12 market conditions at the times of issuance, and therefore is reasonable and appropriate.  
13 Lastly, I conclude that the Company's capital structure, which consists of 50.25 percent  
14 common equity, 49.75 percent long-term debt is reasonable relative to its peers. The  
15 Company's proposed capital structure is consistent with industry practice and supports  
16 KCP&L's financial integrity.

17 **Q: Does this conclude your Direct Testimony?**

18 A: Yes, it does.

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<sup>68</sup> As noted in the direct testimony of Mr. Darrin R. Ives, the Company has entered into a settlement agreement in Docket No. 18-KCPE-095-MER in which the Company agreed to recommend an ROE of 9.30 percent in this proceeding following the approval of the settlement agreement and closing of the merger.



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	\$68.80	3.26%	3.34%	6.10%	5.00%	4.50%	5.20%	7.83%	8.54%	9.46%
Alliant Energy Corporation	LNT	\$1.34	\$38.71	3.46%	3.56%	5.30%	5.45%	6.50%	5.75%	8.85%	9.31%	10.07%
Ameren Corporation	AEE	\$1.83	\$54.60	3.35%	3.47%	6.90%	6.40%	7.50%	6.93%	9.86%	10.40%	10.98%
American Electric Power Company, Inc.	AEP	\$2.48	\$65.89	3.76%	3.86%	5.40%	5.63%	4.50%	5.18%	8.35%	9.04%	9.50%
Black Hills Corporation	BKH	\$1.90	\$51.93	3.66%	3.75%	4.60%	3.50%	7.50%	5.20%	7.22%	8.95%	11.30%
CMS Energy Corporation	CMS	\$1.43	\$43.01	3.32%	3.45%	6.30%	7.04%	8.50%	7.28%	9.73%	10.73%	11.97%
DTE Energy Company	DTE	\$3.53	\$101.62	3.47%	3.58%	6.00%	5.58%	6.50%	6.03%	9.15%	9.61%	10.09%
Duke Energy Corporation	DUK	\$3.56	\$76.11	4.68%	4.77%	3.70%	4.24%	4.50%	4.15%	8.46%	8.92%	9.28%
El Paso Electric Company	EE	\$1.34	\$49.61	2.70%	2.77%	5.10%	5.20%	5.00%	5.10%	7.77%	7.87%	7.97%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.15	3.74%	3.84%	6.70%	8.50%	1.50%	5.57%	5.27%	9.41%	12.40%
IDACORP, Inc.	IDA	\$2.36	\$82.97	2.84%	2.90%	4.10%	3.10%	3.50%	3.57%	5.99%	6.46%	7.00%
NorthWestern Corporation	NWE	\$2.20	\$51.42	4.28%	4.35%	2.40%	3.12%	4.50%	3.34%	6.73%	7.69%	8.87%
OGE Energy Corp.	OGE	\$1.33	\$31.25	4.26%	4.36%	6.00%	5.80%	2.50%	4.77%	6.81%	9.12%	10.38%
Otter Tail Corporation	OTTR	\$1.34	\$41.20	3.25%	3.38%	NA	9.00%	7.00%	8.00%	10.37%	11.38%	12.40%
Pinnacle West Capital Corporation	PNW	\$2.78	\$76.92	3.61%	3.69%	3.00%	3.63%	5.50%	4.04%	6.67%	7.73%	9.21%
PNM Resources, Inc.	PNM	\$1.06	\$35.57	2.98%	3.08%	5.80%	5.80%	7.50%	6.37%	8.87%	9.44%	10.59%
Portland General Electric Company	POR	\$1.36	\$40.07	3.39%	3.46%	2.90%	3.50%	6.00%	4.13%	6.34%	7.60%	9.50%
Southern Company	SO	\$2.32	\$43.84	5.29%	5.39%	4.50%	2.70%	4.00%	3.73%	8.06%	9.12%	9.91%
WEC Energy Group, Inc.	WEC	\$2.21	\$60.76	3.64%	3.73%	4.20%	4.34%	6.00%	4.85%	7.91%	8.57%	9.75%
Xcel Energy Inc.	XEL	\$1.52	\$43.57	3.49%	3.58%	5.80%	6.15%	4.50%	5.48%	8.07%	9.07%	9.75%
Proxy Group Mean				3.62%	3.72%	4.99%	5.18%	5.38%	5.23%	7.92%	8.95%	10.02%
Proxy Group Median				3.48%	3.58%	5.30%	5.33%	5.25%	5.19%	7.99%	9.05%	9.83%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of March 16, 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

		[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	\$73.39	3.05%	3.13%	6.10%	5.00%	4.50%	5.20%	7.62%	8.33%	9.25%
Alliant Energy Corporation	LNT	\$1.34	\$41.32	3.24%	3.34%	5.30%	5.45%	6.50%	5.75%	8.63%	9.09%	9.85%
Ameren Corporation	AEE	\$1.83	\$58.17	3.15%	3.26%	6.90%	6.40%	7.50%	6.93%	9.65%	10.19%	10.76%
American Electric Power Company, Inc.	AEP	\$2.48	\$70.89	3.50%	3.59%	5.40%	5.63%	4.50%	5.18%	8.08%	8.77%	9.23%
Black Hills Corporation	BKH	\$1.90	\$55.75	3.41%	3.50%	4.60%	3.50%	7.50%	5.20%	6.97%	8.70%	11.04%
CMS Energy Corporation	CMS	\$1.43	\$46.01	3.11%	3.22%	6.30%	7.04%	8.50%	7.28%	9.51%	10.50%	11.74%
DTE Energy Company	DTE	\$3.53	\$107.17	3.29%	3.39%	6.00%	5.58%	6.50%	6.03%	8.97%	9.42%	9.90%
Duke Energy Corporation	DUK	\$3.56	\$81.78	4.35%	4.44%	3.70%	4.24%	4.50%	4.15%	8.13%	8.59%	8.95%
El Paso Electric Company	EE	\$1.34	\$53.98	2.48%	2.55%	5.10%	5.20%	5.00%	5.10%	7.54%	7.65%	7.75%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$35.12	3.53%	3.63%	6.70%	8.50%	1.50%	5.57%	5.06%	9.20%	12.18%
IDACORP, Inc.	IDA	\$2.36	\$88.81	2.66%	2.70%	4.10%	3.10%	3.50%	3.57%	5.80%	6.27%	6.81%
NorthWestern Corporation	NWE	\$2.20	\$56.57	3.89%	3.95%	2.40%	3.12%	4.50%	3.34%	6.34%	7.29%	8.48%
OGE Energy Corp.	OGE	\$1.33	\$32.77	4.06%	4.15%	6.00%	5.80%	2.50%	4.77%	6.61%	8.92%	10.18%
Otter Tail Corporation	OTTR	\$1.34	\$43.47	3.08%	3.21%	NA	9.00%	7.00%	8.00%	10.19%	11.21%	12.22%
Pinnacle West Capital Corporation	PNW	\$2.78	\$82.88	3.35%	3.42%	3.00%	3.63%	5.50%	4.04%	6.40%	7.47%	8.95%
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Proxy Group Mean				3.38%	3.46%	4.99%	5.18%	5.38%	5.23%	7.66%	8.70%	9.76%
Proxy Group Median				3.27%	3.36%	5.30%	5.33%	5.25%	5.19%	7.69%	8.76%	9.53%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of March 16, 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	\$74.59	3.00%	3.08%	6.10%	5.00%	4.50%	5.20%	7.57%	8.28%	9.19%
Alliant Energy Corporation	LNT	\$1.34	\$41.63	3.22%	3.31%	5.30%	5.45%	6.50%	5.75%	8.60%	9.06%	9.82%
Ameren Corporation	AEE	\$1.83	\$58.34	3.14%	3.25%	6.90%	6.40%	7.50%	6.93%	9.64%	10.18%	10.75%
American Electric Power Company, Inc.	AEP	\$2.48	\$71.29	3.48%	3.57%	5.40%	5.63%	4.50%	5.18%	8.06%	8.75%	9.21%
Black Hills Corporation	BKH	\$1.90	\$62.19	3.05%	3.13%	4.60%	3.50%	7.50%	5.20%	6.61%	8.33%	10.67%
CMS Energy Corporation	CMS	\$1.43	\$46.64	3.07%	3.18%	6.30%	7.04%	8.50%	7.28%	9.46%	10.46%	11.70%
DTE Energy Company	DTE	\$3.53	\$108.14	3.26%	3.36%	6.00%	5.58%	6.50%	6.03%	8.94%	9.39%	9.87%
Duke Energy Corporation	DUK	\$3.56	\$83.84	4.25%	4.33%	3.70%	4.24%	4.50%	4.15%	8.02%	8.48%	8.84%
EI Paso Electric Company	EE	\$1.34	\$54.30	2.47%	2.53%	5.10%	5.20%	5.00%	5.10%	7.53%	7.63%	7.73%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$34.36	3.61%	3.71%	6.70%	8.50%	1.50%	5.57%	5.14%	9.28%	12.26%
IDACORP, Inc.	IDA	\$2.36	\$88.56	2.66%	2.71%	4.10%	3.10%	3.50%	3.57%	5.81%	6.28%	6.82%
NorthWestern Corporation	NWE	\$2.20	\$57.95	3.80%	3.86%	2.40%	3.12%	4.50%	3.34%	6.24%	7.20%	8.38%
OGE Energy Corp.	OGE	\$1.33	\$34.33	3.87%	3.97%	6.00%	5.80%	2.50%	4.77%	6.42%	8.73%	9.99%
Otter Tail Corporation	OTTR	\$1.34	\$42.98	3.12%	3.24%	NA	9.00%	7.00%	8.00%	10.23%	11.24%	12.26%
Pinnacle West Capital Corporation	PNW	\$2.78	\$85.18	3.26%	3.33%	3.00%	3.63%	5.50%	4.04%	6.31%	7.37%	8.85%
PNM Resources, Inc.	PNM	\$1.06	\$40.22	2.64%	2.72%	5.80%	5.80%	7.50%	6.37%	8.51%	9.09%	10.23%
Portland General Electric Company	POR	\$1.36	\$45.11	3.01%	3.08%	2.90%	3.50%	6.00%	4.13%	5.96%	7.21%	9.11%
Southern Company	SO	\$2.32	\$48.18	4.82%	4.91%	4.50%	2.70%	4.00%	3.73%	7.58%	8.64%	9.42%
WEC Energy Group, Inc.	WEC	\$2.21	\$64.44	3.43%	3.51%	4.20%	4.34%	6.00%	4.85%	7.70%	8.36%	9.53%
Xcel Energy Inc.	XEL	\$1.52	\$47.55	3.20%	3.28%	5.80%	6.15%	4.50%	5.48%	7.77%	8.77%	9.45%
Proxy Group Mean				3.32%	3.40%	4.99%	5.18%	5.38%	5.23%	7.60%	8.64%	9.70%
Proxy Group Median				3.21%	3.30%	5.30%	5.33%	5.25%	5.19%	7.64%	8.69%	9.49%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of March 16, 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					
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.89%	20.17	3.70				
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.79%	20.79	3.82				
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.59%	16.75	3.08				
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	10.29%	14.33	2.63				
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.14%	18.83	3.46				
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	(\$0.00)	9.45%	17.37	3.19				
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	9.22%	18.41	3.38				
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.98%	19.66	3.61				
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.97%	19.73	3.62				
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	\$0.00	10.97%	12.59	2.31				
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.56%	22.29	4.09				
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.77%	16.08	2.95				
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	(\$0.00)	9.51%	17.10	3.14				
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	(\$0.00)	9.06%	19.25	3.53				
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.98%	19.64	3.61				
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.74%	21.07	3.87				
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	9.11%	18.97	3.48				
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	10.01%	15.23	2.80				
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	(\$0.00)	9.05%	19.29	3.54				
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.37%	17.69	3.25				
											Mean	9.32%	18.26					
											Max	10.97%						
											Min	8.56%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$145.07
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$82.10
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$118.14
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$138.58
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$113.44
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$93.04
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$217.61
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$153.33
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$107.11
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$67.99
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$176.13
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$107.27
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$63.91
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$88.19
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$161.78
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$77.39
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$86.05
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$87.61
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$127.07
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$91.63



Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$149.81
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$84.71
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$122.79
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$144.95
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$117.41
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$96.57
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$225.40
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$158.47
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$110.69
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$71.55
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$181.34
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$111.67
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$66.37
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$91.21
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$167.21
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$79.81
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$89.04
Southern Company	SO	(\$43.84)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$91.40
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$131.41
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$95.04

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 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	2021	2028	Proof	IRR						
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	9.13%	18.87	3.47				
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.98%	19.66	3.61				
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.77%	16.09	2.95				
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	10.46%	13.87	2.55				
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.80%	15.98	2.93				
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.81%	15.93	2.93				
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.35%	17.78	3.27				
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.08%	19.13	3.51				
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.99%	19.58	3.60				
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	12.23%	10.25	1.88				
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.69%	21.41	3.93				
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	10.16%	14.76	2.71				
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.90%	15.60	2.87				
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.32%	17.92	3.29				
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	9.39%	17.63	3.24				
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	9.03%	19.41	3.57				
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	9.64%	16.55	3.04				
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	10.28%	14.38	2.64				
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.37%	17.71	3.25				
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.57%	16.85	3.09				
											Mean	9.65%						
											Max	12.23%						
											Min	8.69%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$145.89
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$82.49
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$118.69
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$139.11
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$115.67
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$93.97
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$218.36
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$153.58
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$107.19
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$69.92
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$176.69
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$108.24
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$64.40
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$88.82
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$163.36
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$78.03
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$87.32
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$88.05
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$128.00
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$92.04

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$150.99
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$85.25
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$123.55
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$145.72
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$120.44
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$97.85
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$226.45
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$158.87
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$110.80
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$74.42
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$182.13
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$113.07
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$67.12
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$92.08
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$169.47
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$80.68
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$90.80
Southern Company	SO	(\$43.84)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$92.08
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$132.77
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$95.64

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]				
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	2021	2028	Proof	IRR						
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.71%	21.26	3.90				
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.68%	21.50	3.95				
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.44%	17.41	3.20				
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	10.06%	15.06	2.76				
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.70%	21.36	3.92				
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.17%	18.65	3.42				
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	9.10%	19.02	3.49				
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.86%	20.35	3.74				
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.94%	19.88	3.65				
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	9.51%	17.09	3.14				
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.45%	23.10	4.24				
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.47%	17.26	3.17				
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	8.86%	20.35	3.74				
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.80%	20.70	3.80				
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.71%	21.27	3.91				
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.61%	21.97	4.03				
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	8.79%	20.81	3.82				
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.66%	16.48	3.03				
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.88%	20.25	3.72				
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.10%	19.04	3.50				
											Mean	9.03%						
											Max	10.06%						
											Min	8.45%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$144.47
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$81.89
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$117.64
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$137.82
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$112.06
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$92.37
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$216.93
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$153.04
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$107.04
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$66.14
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$175.67
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$106.57
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$63.17
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$87.62
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$160.78
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$77.10
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$85.32
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$87.09
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$126.59
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$91.06

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$148.95
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$84.40
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$122.10
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$143.85
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$115.51
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$95.64
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$224.45
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$157.99
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$110.59
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$68.69
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$180.68
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$110.64
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$65.22
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$90.41
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$165.77
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$79.41
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$88.02
Southern Company	SO	(\$43.84)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$90.57
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$130.71
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$94.21

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				
		Price	Zacks	First Call	Line	Average	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	PEG				
Company	Ticker																	
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.67%	21.54	3.95				
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.58%	22.20	4.08				
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.34%	17.83	3.27				
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	9.95%	15.44	2.83				
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.89%	20.20	3.71				
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.19%	18.57	3.41				
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	9.03%	19.41	3.56				
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.72%	21.20	3.89				
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.69%	21.45	3.94				
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	\$0.00	10.65%	13.36	2.45				
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.36%	23.87	4.38				
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.37%	17.72	3.25				
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.31%	17.97	3.30				
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.87%	20.31	3.73				
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.73%	21.19	3.89				
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.42%	23.39	4.29				
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	8.78%	20.87	3.83				
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.67%	16.45	3.02				
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.83%	20.52	3.77				
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.09%	19.10	3.51				
											Mean	9.06%						
											Max	10.65%						
											Min	8.36%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18



Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$154.87
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$87.67
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$125.77
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$149.25
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$121.64
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$99.47
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$229.49
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$165.37
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$116.45
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$72.17
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$188.62
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$118.25
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$67.15
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$93.05
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$174.51
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$85.89
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$94.67
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$94.61
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$135.17
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$98.88

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
		Initial																
Company	Ticker	Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$159.61
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$90.28
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$130.42
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$155.62
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$125.61
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$103.00
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$237.28
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$170.51
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$120.02
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$75.73
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$193.82
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$122.64
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$69.61
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$96.07
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$179.94
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$88.31
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$97.66
Southern Company	SO	(\$47.14)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$98.40
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$139.52
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$102.29

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	2021	2028	Proof	IRR						
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.90%	20.14	3.70				
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.76%	20.99	3.85				
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.50%	17.12	3.14				
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	10.10%	14.94	2.74				
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.51%	17.11	3.14				
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.53%	17.02	3.13				
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.15%	18.75	3.44				
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.81%	20.63	3.79				
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.71%	21.29	3.91				
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	11.84%	10.87	2.00				
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.48%	22.92	4.21				
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.72%	16.25	2.98				
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.69%	16.39	3.01				
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.12%	18.90	3.47				
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	9.10%	19.00	3.49				
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.67%	21.53	3.95				
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	9.27%	18.19	3.34				
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.92%	15.52	2.85				
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.14%	18.83	3.46				
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.27%	18.18	3.34				
											Mean	9.36%						
											Max	11.84%						
											Min	8.48%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$155.70
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$88.06
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$126.32
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$149.79
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$123.90
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$100.40
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$230.24
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$165.61
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$116.52
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$74.12
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$189.18
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$119.22
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$67.65
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$93.68
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$176.10
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$86.54
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$95.96
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$95.05
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$136.12
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$99.30

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$160.80
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$90.83
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$131.19
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$156.40
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$128.67
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$104.29
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$238.33
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$170.90
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$120.13
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$78.61
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$194.62
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$124.06
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$70.37
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$96.95
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$182.21
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$89.19
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$99.43
Southern Company	SO	(\$47.14)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$99.08
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$140.88
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$102.90

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					
		Price	Zacks	First Call	Value	Low	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	PEG					
Company	Ticker				Line	Growth	Growth												
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.51%	22.71	4.17					
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.47%	22.96	4.22					
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.20%	18.53	3.40					
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	9.73%	16.22	2.98					
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.48%	22.93	4.21					
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	8.93%	19.94	3.66					
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.91%	20.06	3.68					
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.61%	21.95	4.03					
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.66%	21.61	3.97					
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	9.27%	18.16	3.34					
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.25%	24.74	4.54					
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.10%	19.03	3.50					
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	8.69%	21.40	3.93					
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.63%	21.85	4.01					
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.47%	22.95	4.21					
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.29%	24.39	4.48					
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	8.48%	22.91	4.21					
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.35%	17.80	3.27					
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.67%	21.55	3.96					
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	8.83%	20.56	3.77					
											Mean	8.78%							
											Max	9.73%							
											Min	8.25%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15	
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24	
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95	
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41	
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87	
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60	
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18	
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10	
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56	
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51	
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25	
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$154.27
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$87.46
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$125.27
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$148.49
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$120.25
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$98.79
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$228.81
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$165.07
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$116.37
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$70.31
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$188.15
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$117.54
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$66.41
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$92.48
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$173.51
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$85.60
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$93.93
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$94.09
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$134.69
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$98.31

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$158.75
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$89.97
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$129.73
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$154.52
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$123.70
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$102.06
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$236.32
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$170.03
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$119.92
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$72.87
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$193.16
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$121.61
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$68.46
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$95.27
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$178.49
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$87.91
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$96.63
Southern Company	SO	(\$47.14)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$97.57
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$138.81
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$101.46



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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal					
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.62%	21.89	4.02				
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.55%	22.37	4.11				
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.33%	17.89	3.28				
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	9.92%	15.52	2.85				
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.54%	22.49	4.13				
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.14%	18.82	3.46				
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.99%	19.59	3.60				
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.64%	21.76	4.00				
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.67%	21.57	3.96				
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	10.77%	13.06	2.40				
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.36%	23.81	4.37				
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.27%	18.17	3.34				
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.13%	18.86	3.46				
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.91%	20.08	3.69				
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.64%	21.79	4.00				
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.37%	23.78	4.37				
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	8.70%	21.34	3.92				
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.58%	16.83	3.09				
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.84%	20.48	3.76				
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.04%	19.33	3.55				
											Mean	9.00%						
											Max	10.77%						
											Min	8.36%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$157.43
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$88.34
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$126.14
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$150.11
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$135.44
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$100.82
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$231.57
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$169.75
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$117.13
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$70.56
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$188.09
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$121.21
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$70.47
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$92.01
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$179.42
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$87.34
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$96.83
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$96.81
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$134.91
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$100.10

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$162.17
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$90.95
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$130.79
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$156.48
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$139.41
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$104.35
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$239.36
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$174.89
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$120.71
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$74.12
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$193.30
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$125.61
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$72.93
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$95.03
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$184.84
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$89.76
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$99.82
Southern Company	SO	(\$48.18)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$100.60
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$139.25
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$103.51

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal				
					Value	High								PEG				
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	Ratio				
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.84%	20.47	3.76				
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.73%	21.15	3.88				
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.49%	17.17	3.15				
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	10.07%	15.02	2.76				
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.10%	19.02	3.49				
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.47%	17.25	3.17				
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.12%	18.92	3.47				
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.73%	21.18	3.89				
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.69%	21.41	3.93				
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	11.98%	10.63	1.95				
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.49%	22.86	4.20				
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.62%	16.66	3.06				
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.49%	17.19	3.16				
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.16%	18.69	3.43				
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	9.00%	19.53	3.59				
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.62%	21.89	4.02				
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	9.18%	18.60	3.42				
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.82%	15.88	2.92				
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.14%	18.79	3.45				
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.22%	18.40	3.38				
											Mean	9.30%						
											Max	11.98%						
											Min	8.49%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$158.27
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$88.73
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$126.70
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$150.65
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$137.73
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$101.75
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$232.32
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$170.00
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$117.21
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$72.50
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$188.65
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$122.19
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$70.96
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$92.64
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$181.02
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$87.99
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$98.12
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$97.25
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$135.85
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$100.52

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$163.36
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$91.49
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$131.56
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$157.26
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$142.50
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$105.64
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$240.41
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$175.29
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$120.81
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$77.00
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$194.09
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$127.02
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$73.68
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$95.90
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$187.12
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$90.64
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$101.60
Southern Company	SO	(\$48.18)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$101.28
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$140.62
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$104.12

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	2021	2028	Proof	IRR	P/E Ratio	Ratio				
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.46%	23.08	4.24				
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	(\$0.00)	8.45%	23.13	4.25				
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	9.18%	18.59	3.41				
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	9.70%	16.32	3.00				
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.17%	25.55	4.69				
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	8.88%	20.21	3.71				
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.88%	20.24	3.72				
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.53%	22.53	4.14				
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.64%	21.74	3.99				
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	9.36%	17.75	3.26				
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.26%	24.68	4.53				
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.01%	19.51	3.58				
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	8.54%	22.46	4.12				
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.66%	21.60	3.97				
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	(\$0.00)	8.39%	23.60	4.33				
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.25%	24.81	4.55				
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	(\$0.00)	8.41%	23.43	4.30				
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	(\$0.00)	9.26%	18.22	3.35				
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.68%	21.51	3.95				
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	8.78%	20.81	3.82				
											Mean	8.73%						
											Max	9.70%						
											Min	8.17%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$156.84
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$88.12
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$125.65
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$149.35
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$134.03
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$100.14
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$230.88
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$169.46
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$117.06
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$68.71
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$187.62
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$120.50
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$69.73
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$91.44
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$178.41
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$87.05
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$96.09
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$96.28
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$134.43
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$99.53



Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
		Initial																
Company	Ticker	Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$161.31
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$90.64
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$130.10
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$155.38
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$137.48
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$103.40
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$238.40
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$174.42
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$120.61
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$71.26
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$192.63
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$124.57
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$71.77
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$94.23
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$183.40
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$89.36
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$98.80
Southern Company	SO	(\$48.18)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$99.76
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$138.55
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$102.68

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	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	9.54%	22.51	4.13					
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	\$0.00	9.27%	22.51	4.13					
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	11.33%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.87%	22.51	4.13					
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	10.20%	22.51	4.13					
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	\$0.00	10.98%	22.51	4.13					
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	\$0.00	10.41%	22.51	4.13					
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.78%	22.51	4.13					
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	9.76%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	\$0.00	14.18%	22.51	4.13					
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.62%	22.51	4.13					
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	\$0.00	11.72%	22.51	4.13					
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	\$0.00	11.10%	22.51	4.13					
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.99%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	\$0.00	9.79%	22.51	4.13					
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	\$0.00	9.14%	22.51	4.13					
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	\$0.00	10.13%	22.51	4.13					
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	\$0.00	12.23%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.96%	22.51	4.13					
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	10.79%	22.51	4.13					
											Mean	10.59%							
											Max	14.18%							
											Min	8.62%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95	
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67	
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02	
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82	
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40	
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90	
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67	
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74	
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24	
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59	
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$161.84
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$88.90
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$158.73
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$217.61
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$135.56
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$120.55
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$266.08
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$175.56
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$122.20
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$121.58
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$177.81
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$150.18
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$84.11
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$103.13
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$185.35
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$82.65
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$102.10
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$129.47
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$148.27
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$116.54

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$166.58
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$91.50
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$163.38
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$223.99
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$139.53
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$124.08
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$273.87
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$180.70
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$125.77
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$125.14
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$183.02
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$154.57
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$86.57
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$106.15
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$190.78
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$85.07
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$105.09
Southern Company	SO	(\$43.84)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$133.26
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$152.61
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$119.96

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		Terminal P/E Ratio	Terminal PEG Ratio				
			Zacks	First Call	Value			2018	2021	2028	Proof	IRR						
					Line	High Growth												
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	10.17%	22.51	4.13				
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	9.79%	22.51	4.13				
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	11.73%	22.51	4.13				
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	13.21%	22.51	4.13				
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	11.81%	22.51	4.13				
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	11.83%	22.51	4.13				
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	10.75%	22.51	4.13				
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	10.03%	22.51	4.13				
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	9.83%	22.51	4.13				
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	16.42%	22.51	4.13				
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.99%	22.51	4.13				
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	12.58%	22.51	4.13				
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	12.00%	22.51	4.13				
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	10.67%	22.51	4.13				
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	\$0.00	10.83%	22.51	4.13				
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	9.91%	22.51	4.13				
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	\$0.00	11.45%	22.51	4.13				
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	\$0.00	12.81%	22.51	4.13				
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	(\$0.00)	10.78%	22.51	4.13				
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	11.26%	22.51	4.13				
											Mean	11.34%						
											Max	16.42%						
											Min	8.99%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$174.00
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$94.41
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$166.04
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$225.72
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$162.94
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$132.75
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$276.36
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$180.68
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$123.19
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$153.53
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$185.74
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$165.10
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$92.90
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$111.56
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$208.58
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$90.46
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$118.74
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$137.82
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$162.72
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$122.96

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$179.10
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$97.17
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$170.90
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$232.33
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$167.72
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$136.63
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$284.45
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$185.97
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$126.79
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$158.03
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$191.17
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$169.93
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$95.62
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$114.83
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$214.69
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$93.10
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$122.22
Southern Company	SO	(\$43.84)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$141.86
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$167.48
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$126.56

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]					
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	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$68.80	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	9.06%	22.51	4.13					
Alliant Energy Corporation	LNT	\$38.71	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.96%	22.51	4.13					
Ameren Corporation	AEE	\$54.60	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	10.96%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$65.89	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.37%	22.51	4.13					
Black Hills Corporation	BKH	\$51.93	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.01%	22.51	4.13					
CMS Energy Corporation	CMS	\$43.01	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	10.29%	22.51	4.13					
DTE Energy Company	DTE	\$101.62	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	\$0.00	10.10%	22.51	4.13					
Duke Energy Corporation	DUK	\$76.11	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.46%	22.51	4.13					
El Paso Electric Company	EE	\$49.61	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	9.69%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$33.15	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	11.10%	22.51	4.13					
IDACORP, Inc.	IDA	\$82.97	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.30%	22.51	4.13					
NorthWestern Corporation	NWE	\$51.42	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	11.02%	22.51	4.13					
OGE Energy Corp.	OGE	\$31.25	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	9.46%	22.51	4.13					
Otter Tail Corporation	OTTR	\$41.20	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.31%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$76.92	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	\$0.00	9.05%	22.51	4.13					
PNM Resources, Inc.	PNM	\$35.57	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.76%	22.51	4.13					
Portland General Electric Company	POR	\$40.07	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	\$0.00	9.26%	22.51	4.13					
Southern Company	SO	\$43.84	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	\$0.00	11.45%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$60.76	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	(\$0.00)	9.51%	22.51	4.13					
Xcel Energy Inc.	XEL	\$43.57	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	10.08%	22.51	4.13					
											Mean	9.86%							
											Max	12.37%							
											Min	8.30%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15	
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24	
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95	
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41	
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87	
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60	
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18	
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10	
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56	
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51	
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25	
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78	



Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$152.92
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$85.73
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$152.12
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$206.00
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$118.05
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$111.49
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$256.70
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$169.27
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$121.21
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$87.12
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$171.13
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$138.98
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$69.86
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$95.27
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$170.16
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$78.98
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$92.29
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$118.94
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$140.68
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$107.63

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$68.80)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$157.40
Alliant Energy Corporation	LNT	(\$38.71)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$88.25
Ameren Corporation	AEE	(\$54.60)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$156.57
American Electric Power Company, Inc.	AEP	(\$65.89)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$212.04
Black Hills Corporation	BKH	(\$51.92)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$121.50
CMS Energy Corporation	CMS	(\$43.01)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$114.76
DTE Energy Company	DTE	(\$101.62)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$264.22
Duke Energy Corporation	DUK	(\$76.11)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$174.23
El Paso Electric Company	EE	(\$49.61)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$124.76
Hawaiian Electric Industries, Inc.	HE	(\$33.15)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$89.67
IDACORP, Inc.	IDA	(\$82.97)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$176.14
NorthWestern Corporation	NWE	(\$51.42)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$143.05
OGE Energy Corp.	OGE	(\$31.25)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$71.91
Otter Tail Corporation	OTTR	(\$41.20)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$98.06
Pinnacle West Capital Corporation	PNW	(\$76.92)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$175.14
PNM Resources, Inc.	PNM	(\$35.57)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$81.29
Portland General Electric Company	POR	(\$40.07)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$94.99
Southern Company	SO	(\$43.84)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$122.42
WEC Energy Group, Inc.	WEC	(\$60.76)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$144.80
Xcel Energy Inc.	XEL	(\$43.57)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$110.78

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	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.94%	22.51	4.13					
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.66%	22.51	4.13					
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	10.72%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.13%	22.51	4.13					
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.54%	22.51	4.13					
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	\$0.00	10.33%	22.51	4.13					
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.91%	22.51	4.13					
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.08%	22.51	4.13					
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.98%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	\$0.00	13.56%	22.51	4.13					
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.00%	22.51	4.13					
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.77%	22.51	4.13					
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	\$0.00	10.63%	22.51	4.13					
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.49%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	\$0.00	9.09%	22.51	4.13					
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.18%	22.51	4.13					
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	\$0.00	9.23%	22.51	4.13					
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	\$0.00	11.48%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.38%	22.51	4.13					
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	10.06%	22.51	4.13					
											Mean	9.91%							
											Max	13.56%							
											Min	8.00%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95	
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67	
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02	
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82	
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40	
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90	
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67	
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74	
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24	
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59	
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$161.84
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$88.90
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$158.73
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$217.61
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$135.56
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$120.55
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$266.08
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$175.56
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$122.20
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$121.58
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$177.81
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$150.18
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$84.11
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$103.13
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$185.35
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$82.65
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$102.10
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$129.47
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$148.27
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$116.54

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$166.58
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$91.50
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$163.38
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$223.99
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$139.53
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$124.08
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$273.87
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$180.70
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$125.77
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$125.14
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$183.02
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$154.57
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$86.57
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$106.15
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$190.78
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$85.07
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$105.09
Southern Company	SO	(\$47.14)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$133.26
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$152.61
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$119.96

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		Terminal P/E Ratio	Terminal PEG Ratio				
			Zacks	First Call	Value Line	High Growth		2018	2021	2028	Proof	IRR						
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	9.56%	22.51	4.13				
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	9.17%	22.51	4.13				
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	11.12%	22.51	4.13				
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.46%	22.51	4.13				
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	11.13%	22.51	4.13				
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	11.18%	22.51	4.13				
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	10.24%	22.51	4.13				
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.33%	22.51	4.13				
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	9.05%	22.51	4.13				
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	15.78%	22.51	4.13				
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.37%	22.51	4.13				
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	11.62%	22.51	4.13				
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	11.52%	22.51	4.13				
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	10.16%	22.51	4.13				
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	\$0.00	10.11%	22.51	4.13				
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.94%	22.51	4.13				
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	\$0.00	10.54%	22.51	4.13				
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	\$0.00	12.04%	22.51	4.13				
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	\$0.00	10.19%	22.51	4.13				
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	10.53%	22.51	4.13				
											Mean	10.65%						
											Max	15.78%						
											Min	8.37%						
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$174.00
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$94.41
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$166.04
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$225.72
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$162.94
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$132.75
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$276.36
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$180.68
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$123.19
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$153.53
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$185.74
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$165.10
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$92.90
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$111.56
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$208.58
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$90.46
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$118.74
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$137.82
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$162.72
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$122.96

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$179.10
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$97.17
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$170.90
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$232.33
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$167.72
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$136.63
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$284.45
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$185.97
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$126.79
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$158.03
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$191.17
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$169.93
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$95.62
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$114.83
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$214.69
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$93.10
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$122.22
Southern Company	SO	(\$47.14)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$141.86
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$167.48
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$126.56



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]					
		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	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$73.39	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.45%	22.51	4.13					
Alliant Energy Corporation	LNT	\$41.32	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.35%	22.51	4.13					
Ameren Corporation	AEE	\$58.17	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	10.35%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$70.89	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	11.63%	22.51	4.13					
Black Hills Corporation	BKH	\$55.75	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.36%	22.51	4.13					
CMS Energy Corporation	CMS	\$46.01	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.66%	22.51	4.13					
DTE Energy Company	DTE	\$107.17	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.60%	22.51	4.13					
Duke Energy Corporation	DUK	\$81.78	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.76%	22.51	4.13					
El Paso Electric Company	EE	\$53.98	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.91%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$35.12	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	10.52%	22.51	4.13					
IDACORP, Inc.	IDA	\$88.81	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.68%	22.51	4.13					
NorthWestern Corporation	NWE	\$56.57	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.09%	22.51	4.13					
OGE Energy Corp.	OGE	\$32.77	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	8.99%	22.51	4.13					
Otter Tail Corporation	OTTR	\$43.47	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.81%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$82.88	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	\$0.00	8.36%	22.51	4.13					
PNM Resources, Inc.	PNM	\$39.54	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.80%	22.51	4.13					
Portland General Electric Company	POR	\$44.10	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	\$0.00	8.37%	22.51	4.13					
Southern Company	SO	\$47.14	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	\$0.00	10.71%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$64.56	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.93%	22.51	4.13					
Xcel Energy Inc.	XEL	\$46.97	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.37%	22.51	4.13					
											Mean	9.18%							
											Max	11.63%							
											Min	7.68%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15	
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24	
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95	
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41	
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87	
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60	
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18	
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10	
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56	
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51	
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25	
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$152.92
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$85.73
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$152.12
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$206.00
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$118.05
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$111.49
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$256.70
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$169.27
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$121.21
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$87.12
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$171.13
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$138.98
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$69.86
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$95.27
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$170.16
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$78.98
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$92.29
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$118.94
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$140.68
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$107.63

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$73.39)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$157.40
Alliant Energy Corporation	LNT	(\$41.32)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$88.25
Ameren Corporation	AEE	(\$58.17)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$156.57
American Electric Power Company, Inc.	AEP	(\$70.89)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$212.04
Black Hills Corporation	BKH	(\$55.75)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$121.50
CMS Energy Corporation	CMS	(\$46.01)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$114.76
DTE Energy Company	DTE	(\$107.17)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$264.22
Duke Energy Corporation	DUK	(\$81.78)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$174.23
El Paso Electric Company	EE	(\$53.98)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$124.76
Hawaiian Electric Industries, Inc.	HE	(\$35.12)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$89.67
IDACORP, Inc.	IDA	(\$88.81)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$176.14
NorthWestern Corporation	NWE	(\$56.57)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$143.05
OGE Energy Corp.	OGE	(\$32.77)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$71.91
Otter Tail Corporation	OTTR	(\$43.47)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$98.06
Pinnacle West Capital Corporation	PNW	(\$82.88)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$175.14
PNM Resources, Inc.	PNM	(\$39.54)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$81.29
Portland General Electric Company	POR	(\$44.10)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$94.99
Southern Company	SO	(\$47.14)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$122.42
WEC Energy Group, Inc.	WEC	(\$64.56)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$144.80
Xcel Energy Inc.	XEL	(\$46.97)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$110.78

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					
			Value																
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2018	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	5.20%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.79%	22.51	4.13					
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	5.75%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.59%	22.51	4.13					
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	6.93%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	10.69%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	5.18%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.07%	22.51	4.13					
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	5.20%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.54%	22.51	4.13					
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	7.28%	5.45%	61.00%	61.00%	65.91%	\$0.00	10.20%	22.51	4.13					
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	6.03%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.82%	22.51	4.13					
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	4.15%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.84%	22.51	4.13					
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.92%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	5.57%	5.45%	69.00%	71.00%	65.91%	\$0.00	13.80%	22.51	4.13					
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.02%	22.51	4.13					
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	3.34%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.53%	22.51	4.13					
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	4.77%	5.45%	68.00%	74.00%	65.91%	\$0.00	10.17%	22.51	4.13					
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	8.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	9.59%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	4.04%	5.45%	64.00%	62.00%	65.91%	\$0.00	8.83%	22.51	4.13					
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	6.37%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.03%	22.51	4.13					
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	4.13%	5.45%	59.00%	55.00%	65.91%	\$0.00	9.02%	22.51	4.13					
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	3.73%	5.45%	78.00%	72.00%	65.91%	\$0.00	11.25%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	4.85%	5.45%	67.00%	66.00%	65.91%	\$0.00	9.40%	22.51	4.13					
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	5.48%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.94%	22.51	4.13					
											Mean	9.75%							
											Max	13.80%							
											Min	8.02%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.30	\$3.48	\$3.66	\$3.85	\$4.05	\$4.26	\$4.48	\$4.72	\$4.97	\$5.23	\$5.52	\$5.82	\$6.13	\$6.47	\$6.82	\$7.19	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.85	\$1.95	\$2.06	\$2.18	\$2.31	\$2.44	\$2.58	\$2.72	\$2.87	\$3.03	\$3.20	\$3.37	\$3.55	\$3.75	\$3.95	
Ameren Corporation	AEE	\$2.68	\$2.87	\$3.06	\$3.28	\$3.50	\$3.75	\$4.01	\$4.27	\$4.55	\$4.83	\$5.12	\$5.41	\$5.70	\$6.02	\$6.34	\$6.69	\$7.05	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.45	\$4.68	\$4.92	\$5.18	\$5.44	\$5.73	\$6.03	\$6.34	\$6.68	\$7.04	\$7.42	\$7.82	\$8.25	\$8.70	\$9.17	\$9.67	
Black Hills Corporation	BKH	\$2.63	\$2.77	\$2.91	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.38	\$4.62	\$4.87	\$5.14	\$5.42	\$5.71	\$6.02	
CMS Energy Corporation	CMS	\$1.98	\$2.12	\$2.28	\$2.44	\$2.62	\$2.81	\$3.02	\$3.23	\$3.44	\$3.66	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	
DTE Energy Company	DTE	\$4.83	\$5.12	\$5.43	\$5.76	\$6.10	\$6.47	\$6.86	\$7.27	\$7.69	\$8.13	\$8.59	\$9.07	\$9.56	\$10.08	\$10.63	\$11.21	\$11.82	
Duke Energy Corporation	DUK	\$3.71	\$3.86	\$4.02	\$4.19	\$4.36	\$4.55	\$4.73	\$4.94	\$5.17	\$5.41	\$5.69	\$5.98	\$6.31	\$6.65	\$7.02	\$7.40	\$7.80	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.64	\$2.77	\$2.92	\$3.06	\$3.22	\$3.39	\$3.56	\$3.75	\$3.95	\$4.16	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.17	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	\$4.37	\$4.61	\$4.86	\$5.12	\$5.40	
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.23	\$4.38	\$4.53	\$4.69	\$4.86	\$5.05	\$5.26	\$5.50	\$5.76	\$6.06	\$6.39	\$6.74	\$7.11	\$7.49	\$7.90	
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.87	\$4.00	\$4.13	\$4.28	\$4.45	\$4.65	\$4.87	\$5.12	\$5.40	\$5.69	\$6.00	\$6.33	\$6.67	
OGE Energy Corp.	OGE	\$1.69	\$1.77	\$1.85	\$1.94	\$2.04	\$2.13	\$2.23	\$2.34	\$2.46	\$2.59	\$2.72	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$3.74	
Otter Tail Corporation	OTTR	\$1.60	\$1.73	\$1.87	\$2.02	\$2.18	\$2.35	\$2.54	\$2.73	\$2.93	\$3.12	\$3.32	\$3.51	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.11	\$4.28	\$4.45	\$4.63	\$4.82	\$5.01	\$5.22	\$5.46	\$5.72	\$6.00	\$6.32	\$6.66	\$7.02	\$7.41	\$7.81	\$8.24	
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.25	\$2.38	\$2.52	\$2.67	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	
Portland General Electric Company	POR	\$2.16	\$2.25	\$2.34	\$2.44	\$2.54	\$2.64	\$2.75	\$2.87	\$3.01	\$3.15	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	
Southern Company	SO	\$2.83	\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.67	\$3.83	\$4.00	\$4.20	\$4.41	\$4.65	\$4.91	\$5.17	\$5.46	\$5.75	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.10	\$3.25	\$3.41	\$3.58	\$3.75	\$3.93	\$4.13	\$4.33	\$4.56	\$4.80	\$5.05	\$5.33	\$5.62	\$5.92	\$6.25	\$6.59	
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.74	\$2.89	\$3.04	\$3.21	\$3.39	\$3.57	\$3.77	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.29	\$2.39	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$4.74	\$161.84
Alliant Energy Corporation	LNT	\$1.18	\$1.25	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$2.60	\$88.90
Ameren Corporation	AEE	\$1.87	\$1.99	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$4.65	\$158.73
American Electric Power Company, Inc.	AEP	\$3.09	\$3.20	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$6.37	\$217.61
Black Hills Corporation	BKH	\$1.51	\$1.61	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$3.97	\$135.56
CMS Energy Corporation	CMS	\$1.39	\$1.49	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$3.53	\$120.55
DTE Energy Company	DTE	\$3.37	\$3.55	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$7.79	\$266.08
Duke Energy Corporation	DUK	\$3.02	\$3.19	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$5.14	\$175.56
El Paso Electric Company	EE	\$1.37	\$1.51	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$3.58	\$122.20
Hawaiian Electric Industries, Inc.	HE	\$1.76	\$1.88	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$3.56	\$121.58
IDACORP, Inc.	IDA	\$2.41	\$2.54	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$5.21	\$177.81
NorthWestern Corporation	NWE	\$2.28	\$2.34	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$4.40	\$150.18
OGE Energy Corp.	OGE	\$1.26	\$1.36	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$2.46	\$84.11
Otter Tail Corporation	OTTR	\$1.34	\$1.39	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$3.02	\$103.13
Pinnacle West Capital Corporation	PNW	\$2.74	\$2.82	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$5.43	\$185.35
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$2.42	\$82.65
Portland General Electric Company	POR	\$1.38	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$102.10
Southern Company	SO	\$2.38	\$2.40	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$3.79	\$129.47
WEC Energy Group, Inc.	WEC	\$2.18	\$2.27	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$4.34	\$148.27
Xcel Energy Inc.	XEL	\$1.55	\$1.67	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$3.41	\$116.54

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.82	\$2.35	\$2.49	\$2.59	\$2.74	\$2.89	\$3.06	\$3.23	\$3.42	\$3.62	\$3.83	\$4.04	\$4.26	\$4.49	\$166.58
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.94	\$1.21	\$1.32	\$1.40	\$1.48	\$1.57	\$1.67	\$1.77	\$1.88	\$1.99	\$2.11	\$2.22	\$2.34	\$2.47	\$91.50
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.49	\$1.93	\$2.11	\$2.25	\$2.44	\$2.64	\$2.85	\$3.06	\$3.29	\$3.52	\$3.76	\$3.96	\$4.18	\$4.41	\$163.38
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.45	\$3.17	\$3.31	\$3.43	\$3.63	\$3.85	\$4.07	\$4.32	\$4.58	\$4.86	\$5.15	\$5.44	\$5.73	\$6.04	\$223.99
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.20	\$1.55	\$1.72	\$1.83	\$1.99	\$2.15	\$2.33	\$2.53	\$2.74	\$2.97	\$3.21	\$3.39	\$3.57	\$3.76	\$139.53
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.10	\$1.44	\$1.60	\$1.72	\$1.86	\$2.01	\$2.17	\$2.34	\$2.51	\$2.68	\$2.86	\$3.01	\$3.17	\$3.35	\$124.08
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.67	\$3.47	\$3.74	\$3.95	\$4.23	\$4.54	\$4.85	\$5.19	\$5.54	\$5.91	\$6.30	\$6.65	\$7.01	\$7.39	\$273.87
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.40	\$3.08	\$3.36	\$3.55	\$3.61	\$3.68	\$3.76	\$3.85	\$3.94	\$4.05	\$4.16	\$4.38	\$4.62	\$4.88	\$180.70
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.41	\$1.65	\$1.81	\$1.93	\$2.07	\$2.21	\$2.36	\$2.53	\$2.70	\$2.89	\$3.05	\$3.22	\$3.39	\$125.77
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.40	\$1.81	\$2.00	\$2.13	\$2.23	\$2.33	\$2.43	\$2.54	\$2.65	\$2.76	\$2.88	\$3.04	\$3.20	\$3.38	\$125.14
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.91	\$2.45	\$2.67	\$2.82	\$2.96	\$3.12	\$3.29	\$3.49	\$3.70	\$3.94	\$4.21	\$4.44	\$4.68	\$4.94	\$183.02
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.81	\$2.32	\$2.41	\$2.48	\$2.58	\$2.70	\$2.84	\$2.99	\$3.16	\$3.34	\$3.56	\$3.75	\$3.96	\$4.17	\$154.57
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$1.00	\$1.29	\$1.47	\$1.58	\$1.63	\$1.68	\$1.74	\$1.79	\$1.86	\$1.92	\$1.99	\$2.10	\$2.22	\$2.34	\$86.57
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.07	\$1.40	\$1.44	\$1.48	\$1.61	\$1.74	\$1.88	\$2.02	\$2.16	\$2.30	\$2.44	\$2.58	\$2.72	\$2.86	\$106.15
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.17	\$2.79	\$2.90	\$2.99	\$3.13	\$3.30	\$3.48	\$3.67	\$3.89	\$4.13	\$4.39	\$4.63	\$4.88	\$5.15	\$190.78
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.75	\$0.97	\$1.05	\$1.11	\$1.21	\$1.32	\$1.43	\$1.56	\$1.68	\$1.82	\$1.96	\$2.06	\$2.18	\$2.30	\$85.07
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.10	\$1.41	\$1.43	\$1.45	\$1.56	\$1.67	\$1.79	\$1.93	\$2.08	\$2.24	\$2.42	\$2.55	\$2.69	\$2.84	\$105.09
Southern Company	SO	(\$48.18)	\$0.00	\$1.89	\$2.42	\$2.42	\$2.45	\$2.51	\$2.58	\$2.65	\$2.74	\$2.84	\$2.95	\$3.07	\$3.23	\$3.41	\$3.60	\$133.26
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.73	\$2.23	\$2.37	\$2.48	\$2.59	\$2.72	\$2.86	\$3.01	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.12	\$152.61
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.23	\$1.59	\$1.80	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.49	\$2.62	\$2.76	\$2.91	\$3.07	\$3.24	\$119.96

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	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio						
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	6.10%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	9.41%	22.51	4.13						
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	6.50%	5.45%	64.00%	64.00%	65.91%	\$0.00	9.10%	22.51	4.13						
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	7.50%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	11.09%	22.51	4.13						
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	5.63%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	12.40%	22.51	4.13						
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	10.11%	22.51	4.13						
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	8.50%	5.45%	61.00%	61.00%	65.91%	\$0.00	11.05%	22.51	4.13						
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	6.50%	5.45%	62.00%	61.00%	65.91%	\$0.00	10.15%	22.51	4.13						
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	4.50%	5.45%	75.00%	78.00%	65.91%	\$0.00	9.09%	22.51	4.13						
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.99%	22.51	4.13						
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	16.02%	22.51	4.13						
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.39%	22.51	4.13						
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	11.37%	22.51	4.13						
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	6.00%	5.45%	68.00%	74.00%	65.91%	\$0.00	11.05%	22.51	4.13						
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	9.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	10.27%	22.51	4.13						
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	5.50%	5.45%	64.00%	62.00%	65.91%	\$0.00	9.85%	22.51	4.13						
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.79%	22.51	4.13						
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	6.00%	5.45%	59.00%	55.00%	65.91%	\$0.00	10.32%	22.51	4.13						
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	4.50%	5.45%	78.00%	72.00%	65.91%	\$0.00	11.82%	22.51	4.13						
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	6.00%	5.45%	67.00%	66.00%	65.91%	\$0.00	10.21%	22.51	4.13						
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	6.15%	5.45%	63.00%	67.00%	65.91%	\$0.00	10.41%	22.51	4.13						
											Mean	10.50%								
											Max	16.02%								
											Min	8.39%								
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.48	\$4.75	\$5.03	\$5.32	\$5.62	\$5.93	\$6.25	\$6.59	\$6.95	\$7.33	\$7.73		
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.41	\$2.56	\$2.72	\$2.88	\$3.05	\$3.22	\$3.39	\$3.58	\$3.77	\$3.98	\$4.19		
Ameren Corporation	AEE	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.85	\$4.14	\$4.43	\$4.73	\$5.04	\$5.35	\$5.66	\$5.97	\$6.29	\$6.64	\$7.00	\$7.38		
American Electric Power Company, Inc.	AEP	\$4.23	\$4.47	\$4.72	\$4.99	\$5.27	\$5.56	\$5.88	\$6.20	\$6.55	\$6.91	\$7.29	\$7.69	\$8.11	\$8.55	\$9.02	\$9.51	\$10.03		
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.04	\$3.27	\$3.51	\$3.78	\$4.06	\$4.35	\$4.65	\$4.95	\$5.25	\$5.55	\$5.86	\$6.18	\$6.51	\$6.87	\$7.24		
CMS Energy Corporation	CMS	\$1.98	\$2.15	\$2.33	\$2.53	\$2.74	\$2.98	\$3.23	\$3.49	\$3.75	\$4.01	\$4.27	\$4.52	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90		
DTE Energy Company	DTE	\$4.83	\$5.14	\$5.48	\$5.83	\$6.21	\$6.62	\$7.05	\$7.49	\$7.95	\$8.43	\$8.92	\$9.42	\$9.93	\$10.47	\$11.04	\$11.64	\$12.28		
Duke Energy Corporation	DUK	\$3.71	\$3.88	\$4.05	\$4.23	\$4.42	\$4.62	\$4.83	\$5.06	\$5.30	\$5.56	\$5.85	\$6.16	\$6.49	\$6.85	\$7.22	\$7.61	\$8.03		
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.65	\$2.78	\$2.93	\$3.08	\$3.24	\$3.41	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.67	\$4.92	\$5.19	\$5.47		
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.48	\$2.70	\$2.92	\$3.17	\$3.44	\$3.74	\$4.03	\$4.34	\$4.64	\$4.94	\$5.23	\$5.52	\$5.82	\$6.14	\$6.47	\$6.82		
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.27	\$4.44	\$4.63	\$4.82	\$5.01	\$5.23	\$5.47	\$5.73	\$6.02	\$6.33	\$6.68	\$7.04	\$7.42	\$7.83	\$8.25		
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.41	\$4.62	\$4.84	\$5.08	\$5.34	\$5.63	\$5.93	\$6.26	\$6.60	\$6.96	\$7.34		
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.26	\$2.40	\$2.54	\$2.69	\$2.84	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$4.13		
Otter Tail Corporation	OTTR	\$1.60	\$1.74	\$1.90	\$2.07	\$2.26	\$2.46	\$2.68	\$2.91	\$3.14	\$3.36	\$3.59	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96		
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.89	\$5.16	\$5.45	\$5.75	\$6.06	\$6.39	\$6.74	\$7.11	\$7.50	\$7.90	\$8.33	\$8.79	\$9.27		
PNM Resources, Inc.	PNM	\$1.46	\$1.57	\$1.69	\$1.81	\$1.95	\$2.10	\$2.25	\$2.41	\$2.58	\$2.75	\$2.91	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	\$4.02		
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.25	\$3.43	\$3.63	\$3.83	\$4.05	\$4.27	\$4.50	\$4.74	\$5.00	\$5.28		
Southern Company	SO	\$2.83	\$2.96	\$3.09	\$3.23	\$3.37	\$3.53	\$3.69	\$3.86	\$4.04	\$4.24	\$4.46	\$4.70	\$4.95	\$5.22	\$5.51	\$5.81	\$6.12		
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.20	\$4.45	\$4.71	\$4.97	\$5.25	\$5.55	\$5.85	\$6.17	\$6.50	\$6.86	\$7.23		
Xcel Energy Inc.	XEL	\$2.21	\$2.35	\$2.49	\$2.64	\$2.81	\$2.98	\$3.16	\$3.35	\$3.55	\$3.76	\$3.97	\$4.19	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46		

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.33	\$2.45	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$174.00
Alliant Energy Corporation	LNT	\$1.20	\$1.28	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$2.76	\$94.41
Ameren Corporation	AEE	\$1.89	\$2.02	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$4.86	\$166.04
American Electric Power Company, Inc.	AEP	\$3.12	\$3.24	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$6.61	\$225.72
Black Hills Corporation	BKH	\$1.58	\$1.72	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$4.77	\$162.94
CMS Energy Corporation	CMS	\$1.42	\$1.54	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$3.89	\$132.75
DTE Energy Company	DTE	\$3.40	\$3.60	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$8.09	\$276.36
Duke Energy Corporation	DUK	\$3.04	\$3.22	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$5.29	\$180.68
El Paso Electric Company	EE	\$1.38	\$1.51	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$3.61	\$123.19
Hawaiian Electric Industries, Inc.	HE	\$1.86	\$2.04	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$4.50	\$153.53
IDACORP, Inc.	IDA	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$5.44	\$185.74
NorthWestern Corporation	NWE	\$2.33	\$2.42	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$165.10
OGE Energy Corp.	OGE	\$1.29	\$1.41	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$92.90
Otter Tail Corporation	OTTR	\$1.37	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$3.27	\$111.56
Pinnacle West Capital Corporation	PNW	\$2.81	\$2.94	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$6.11	\$208.58
PNM Resources, Inc.	PNM	\$0.96	\$1.03	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$2.65	\$90.46
Portland General Electric Company	POR	\$1.43	\$1.48	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$3.48	\$118.74
Southern Company	SO	\$2.41	\$2.45	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$4.04	\$137.82
WEC Energy Group, Inc.	WEC	\$2.23	\$2.35	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$4.76	\$162.72
Xcel Energy Inc.	XEL	\$1.57	\$1.70	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$3.60	\$122.96



Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.85	\$2.40	\$2.57	\$2.70	\$2.88	\$3.06	\$3.26	\$3.46	\$3.67	\$3.89	\$4.12	\$4.35	\$4.58	\$4.83	\$179.10
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.95	\$1.24	\$1.36	\$1.45	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.11	\$2.24	\$2.36	\$2.49	\$2.62	\$97.17
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.50	\$1.96	\$2.16	\$2.31	\$2.52	\$2.73	\$2.96	\$3.19	\$3.44	\$3.68	\$3.93	\$4.15	\$4.37	\$4.61	\$170.90
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.47	\$3.20	\$3.37	\$3.50	\$3.73	\$3.96	\$4.21	\$4.47	\$4.75	\$5.04	\$5.35	\$5.64	\$5.94	\$6.27	\$232.33
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.26	\$1.64	\$1.87	\$2.04	\$2.26	\$2.50	\$2.75	\$3.01	\$3.28	\$3.57	\$3.86	\$4.07	\$4.29	\$4.53	\$167.72
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.13	\$1.48	\$1.67	\$1.82	\$1.99	\$2.18	\$2.37	\$2.56	\$2.75	\$2.95	\$3.14	\$3.32	\$3.50	\$3.69	\$136.63
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.70	\$3.51	\$3.81	\$4.04	\$4.35	\$4.68	\$5.02	\$5.38	\$5.75	\$6.14	\$6.55	\$6.90	\$7.28	\$7.67	\$284.45
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.41	\$3.11	\$3.41	\$3.61	\$3.69	\$3.77	\$3.86	\$3.96	\$4.06	\$4.17	\$4.28	\$4.51	\$4.76	\$5.02	\$185.97
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.41	\$1.66	\$1.82	\$1.94	\$2.08	\$2.22	\$2.38	\$2.55	\$2.73	\$2.92	\$3.08	\$3.24	\$3.42	\$126.79
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.48	\$1.94	\$2.23	\$2.44	\$2.63	\$2.81	\$2.98	\$3.16	\$3.33	\$3.49	\$3.64	\$3.83	\$4.04	\$4.26	\$158.03
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.93	\$2.48	\$2.73	\$2.89	\$3.05	\$3.23	\$3.42	\$3.63	\$3.86	\$4.12	\$4.40	\$4.64	\$4.89	\$5.16	\$191.17
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.85	\$2.38	\$2.52	\$2.62	\$2.76	\$2.92	\$3.08	\$3.27	\$3.46	\$3.68	\$3.91	\$4.12	\$4.35	\$4.58	\$169.93
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$1.03	\$1.33	\$1.54	\$1.67	\$1.75	\$1.82	\$1.89	\$1.97	\$2.05	\$2.12	\$2.20	\$2.32	\$2.45	\$2.58	\$95.62
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.09	\$1.43	\$1.49	\$1.55	\$1.70	\$1.86	\$2.01	\$2.17	\$2.33	\$2.49	\$2.64	\$2.79	\$2.94	\$3.10	\$114.83
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.24	\$2.89	\$3.07	\$3.20	\$3.41	\$3.63	\$3.86	\$4.11	\$4.37	\$4.65	\$4.94	\$5.21	\$5.49	\$5.79	\$214.69
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.76	\$1.00	\$1.10	\$1.17	\$1.29	\$1.42	\$1.55	\$1.69	\$1.84	\$1.99	\$2.14	\$2.26	\$2.38	\$2.51	\$93.10
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.14	\$1.47	\$1.54	\$1.59	\$1.73	\$1.89	\$2.05	\$2.22	\$2.41	\$2.60	\$2.81	\$2.97	\$3.13	\$3.30	\$122.22
Southern Company	SO	(\$48.18)	\$0.00	\$1.92	\$2.46	\$2.50	\$2.54	\$2.62	\$2.71	\$2.81	\$2.91	\$3.02	\$3.14	\$3.26	\$3.44	\$3.63	\$3.83	\$141.86
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.77	\$2.30	\$2.48	\$2.61	\$2.77	\$2.93	\$3.10	\$3.28	\$3.46	\$3.66	\$3.85	\$4.06	\$4.29	\$4.52	\$167.48
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.25	\$1.62	\$1.84	\$2.00	\$2.11	\$2.24	\$2.36	\$2.49	\$2.63	\$2.77	\$2.91	\$3.07	\$3.24	\$3.41	\$126.56

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	2021	2028	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$74.59	6.10%	5.00%	4.50%	4.50%	5.45%	66.00%	64.00%	65.91%	(\$0.00)	8.30%	22.51	4.13					
Alliant Energy Corporation	LNT	\$41.63	5.30%	5.45%	6.50%	5.30%	5.45%	64.00%	64.00%	65.91%	\$0.00	8.28%	22.51	4.13					
Ameren Corporation	AEE	\$58.34	6.90%	6.40%	7.50%	6.40%	5.45%	61.00%	60.00%	65.91%	(\$0.00)	10.32%	22.51	4.13					
American Electric Power Company, Inc.	AEP	\$71.29	5.40%	5.63%	4.50%	4.50%	5.45%	66.00%	63.00%	65.91%	(\$0.00)	11.57%	22.51	4.13					
Black Hills Corporation	BKH	\$62.19	4.60%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	7.38%	22.51	4.13					
CMS Energy Corporation	CMS	\$46.64	6.30%	7.04%	8.50%	6.30%	5.45%	61.00%	61.00%	65.91%	\$0.00	9.53%	22.51	4.13					
DTE Energy Company	DTE	\$108.14	6.00%	5.58%	6.50%	5.58%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.51%	22.51	4.13					
Duke Energy Corporation	DUK	\$83.84	3.70%	4.24%	4.50%	3.70%	5.45%	75.00%	78.00%	65.91%	\$0.00	8.52%	22.51	4.13					
El Paso Electric Company	EE	\$54.30	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.85%	22.51	4.13					
Hawaiian Electric Industries, Inc.	HE	\$34.36	6.70%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	10.74%	22.51	4.13					
IDACORP, Inc.	IDA	\$88.56	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.70%	22.51	4.13					
NorthWestern Corporation	NWE	\$57.95	2.40%	3.12%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	9.85%	22.51	4.13					
OGE Energy Corp.	OGE	\$34.33	6.00%	5.80%	2.50%	2.50%	5.45%	68.00%	74.00%	65.91%	\$0.00	8.55%	22.51	4.13					
Otter Tail Corporation	OTTR	\$42.98	NA	9.00%	7.00%	7.00%	5.45%	72.00%	63.00%	65.91%	\$0.00	8.91%	22.51	4.13					
Pinnacle West Capital Corporation	PNW	\$85.18	3.00%	3.63%	5.50%	3.00%	5.45%	64.00%	62.00%	65.91%	\$0.00	8.10%	22.51	4.13					
PNM Resources, Inc.	PNM	\$40.22	5.80%	5.80%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.65%	22.51	4.13					
Portland General Electric Company	POR	\$45.11	2.90%	3.50%	6.00%	2.90%	5.45%	59.00%	55.00%	65.91%	\$0.00	8.17%	22.51	4.13					
Southern Company	SO	\$48.18	4.50%	2.70%	4.00%	2.70%	5.45%	78.00%	72.00%	65.91%	\$0.00	10.49%	22.51	4.13					
WEC Energy Group, Inc.	WEC	\$64.44	4.20%	4.34%	6.00%	4.20%	5.45%	67.00%	66.00%	65.91%	\$0.00	8.95%	22.51	4.13					
Xcel Energy Inc.	XEL	\$47.55	5.80%	6.15%	4.50%	4.50%	5.45%	63.00%	67.00%	65.91%	\$0.00	9.25%	22.51	4.13					
											Mean	9.03%							
											Max	11.57%							
											Min	7.38%							
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.28	\$3.43	\$3.58	\$3.74	\$3.91	\$4.09	\$4.28	\$4.49	\$4.71	\$4.95	\$5.21	\$5.50	\$5.80	\$6.11	\$6.44	\$6.79	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.03	\$2.14	\$2.25	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.43	\$3.61	\$3.81	
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.03	\$3.23	\$3.43	\$3.65	\$3.89	\$4.13	\$4.38	\$4.64	\$4.91	\$5.18	\$5.47	\$5.76	\$6.08	\$6.41	\$6.76	
American Electric Power Company, Inc.	AEP	\$4.23	\$4.42	\$4.62	\$4.83	\$5.04	\$5.27	\$5.51	\$5.77	\$6.04	\$6.34	\$6.67	\$7.02	\$7.40	\$7.81	\$8.23	\$8.68	\$9.15	
Black Hills Corporation	BKH	\$2.63	\$2.72	\$2.82	\$2.92	\$3.02	\$3.12	\$3.23	\$3.36	\$3.50	\$3.65	\$3.83	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24	
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.24	\$2.38	\$2.53	\$2.69	\$2.86	\$3.03	\$3.22	\$3.40	\$3.60	\$3.80	\$4.01	\$4.23	\$4.46	\$4.70	\$4.95	
DTE Energy Company	DTE	\$4.83	\$5.10	\$5.38	\$5.68	\$6.00	\$6.34	\$6.69	\$7.06	\$7.45	\$7.86	\$8.30	\$8.75	\$9.23	\$9.73	\$10.26	\$10.82	\$11.41	
Duke Energy Corporation	DUK	\$3.71	\$3.85	\$3.99	\$4.14	\$4.29	\$4.45	\$4.61	\$4.80	\$5.00	\$5.23	\$5.49	\$5.77	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$4.84	\$5.11	\$5.39	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.36	\$2.39	\$2.43	\$2.47	\$2.50	\$2.56	\$2.63	\$2.72	\$2.83	\$2.97	\$3.13	\$3.30	\$3.48	\$3.67	\$3.87	
IDACORP, Inc.	IDA	\$3.94	\$4.06	\$4.19	\$4.32	\$4.45	\$4.59	\$4.73	\$4.90	\$5.09	\$5.30	\$5.55	\$5.83	\$6.15	\$6.49	\$6.84	\$7.21	\$7.60	
NorthWestern Corporation	NWE	\$3.39	\$3.47	\$3.55	\$3.64	\$3.73	\$3.82	\$3.91	\$4.02	\$4.16	\$4.32	\$4.51	\$4.74	\$4.99	\$5.27	\$5.55	\$5.86	\$6.18	
OGE Energy Corp.	OGE	\$1.69	\$1.73	\$1.78	\$1.82	\$1.87	\$1.91	\$1.96	\$2.02	\$2.09	\$2.17	\$2.27	\$2.38	\$2.51	\$2.65	\$2.79	\$2.94	\$3.10	
Otter Tail Corporation	OTTR	\$1.60	\$1.71	\$1.83	\$1.96	\$2.10	\$2.24	\$2.40	\$2.56	\$2.73	\$2.90	\$3.07	\$3.25	\$3.42	\$3.61	\$3.81	\$4.01	\$4.23	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.07	\$4.19	\$4.32	\$4.45	\$4.58	\$4.72	\$4.88	\$5.06	\$5.28	\$5.52	\$5.80	\$6.12	\$6.45	\$6.80	\$7.17	\$7.56	
PNM Resources, Inc.	PNM	\$1.46	\$1.54	\$1.63	\$1.73	\$1.83	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$3.16	\$3.33	\$3.51	
Portland General Electric Company	POR	\$2.16	\$2.22	\$2.29	\$2.35	\$2.42	\$2.49	\$2.56	\$2.65	\$2.75	\$2.86	\$3.00	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.10	
Southern Company	SO	\$2.83	\$2.91	\$2.98	\$3.07	\$3.15	\$3.23	\$3.32	\$3.43	\$3.55	\$3.69	\$3.86	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$5.28	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.08	\$3.21	\$3.35	\$3.49	\$3.64	\$3.79	\$3.96	\$4.14	\$4.34	\$4.56	\$4.79	\$5.06	\$5.33	\$5.62	\$5.93	\$6.25	
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.01	\$3.16	\$3.31	\$3.48	\$3.67	\$3.87	\$4.08	\$4.30	\$4.54	\$4.78	

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	66.00%	65.33%	64.67%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	64.00%	64.00%	64.00%	64.00%	64.27%	64.54%	64.82%	65.09%	65.36%	65.63%	65.91%	65.91%	65.91%	65.91%	65.91%
Ameren Corporation	AEE	61.00%	60.67%	60.33%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
American Electric Power Company, Inc.	AEP	66.00%	65.00%	64.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	52.00%	52.67%	53.33%	54.00%	55.70%	57.40%	59.10%	60.80%	62.50%	64.21%	65.91%	65.91%	65.91%	65.91%	65.91%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
DTE Energy Company	DTE	62.00%	61.67%	61.33%	61.00%	61.70%	62.40%	63.10%	63.80%	64.50%	65.21%	65.91%	65.91%	65.91%	65.91%	65.91%
Duke Energy Corporation	DUK	75.00%	76.00%	77.00%	78.00%	76.27%	74.54%	72.82%	71.09%	69.36%	67.63%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	52.00%	54.33%	56.67%	59.00%	59.99%	60.97%	61.96%	62.95%	63.93%	64.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	69.00%	69.67%	70.33%	71.00%	70.27%	69.54%	68.82%	68.09%	67.36%	66.63%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	57.00%	58.00%	59.00%	60.00%	60.84%	61.69%	62.53%	63.37%	64.22%	65.06%	65.91%	65.91%	65.91%	65.91%	65.91%
NorthWestern Corporation	NWE	63.00%	62.67%	62.33%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	68.00%	70.00%	72.00%	74.00%	72.84%	71.69%	70.53%	69.37%	68.22%	67.06%	65.91%	65.91%	65.91%	65.91%	65.91%
Otter Tail Corporation	OTTR	72.00%	69.00%	66.00%	63.00%	63.42%	63.83%	64.25%	64.66%	65.08%	65.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Pinnacle West Capital Corporation	PNW	64.00%	63.33%	62.67%	62.00%	62.56%	63.12%	63.67%	64.23%	64.79%	65.35%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	57.00%	56.67%	56.33%	56.00%	57.42%	58.83%	60.25%	61.66%	63.08%	64.49%	65.91%	65.91%	65.91%	65.91%	65.91%
Portland General Electric Company	POR	59.00%	57.67%	56.33%	55.00%	56.56%	58.12%	59.67%	61.23%	62.79%	64.35%	65.91%	65.91%	65.91%	65.91%	65.91%
Southern Company	SO	78.00%	76.00%	74.00%	72.00%	71.13%	70.26%	69.39%	68.52%	67.65%	66.78%	65.91%	65.91%	65.91%	65.91%	65.91%
WEC Energy Group, Inc.	WEC	67.00%	66.67%	66.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%
Xcel Energy Inc.	XEL	63.00%	64.33%	65.67%	67.00%	66.84%	66.69%	66.53%	66.37%	66.22%	66.06%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[46]	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]
Company	Ticker	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.26	\$2.34	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$4.48	\$152.92
Alliant Energy Corporation	LNT	\$1.17	\$1.23	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$2.51	\$85.73
Ameren Corporation	AEE	\$1.85	\$1.96	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$4.45	\$152.12
American Electric Power Company, Inc.	AEP	\$3.05	\$3.14	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$6.03	\$206.00
Black Hills Corporation	BKH	\$1.47	\$1.54	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$118.05
CMS Energy Corporation	CMS	\$1.36	\$1.45	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$3.26	\$111.49
DTE Energy Company	DTE	\$3.34	\$3.51	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$7.52	\$256.70
Duke Energy Corporation	DUK	\$2.99	\$3.14	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$4.96	\$169.27
El Paso Electric Company	EE	\$1.37	\$1.50	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$121.21
Hawaiian Electric Industries, Inc.	HE	\$1.63	\$1.67	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$2.55	\$87.12
IDACORP, Inc.	IDA	\$2.39	\$2.50	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$5.01	\$171.13
NorthWestern Corporation	NWE	\$2.24	\$2.28	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$4.07	\$138.98
OGE Energy Corp.	OGE	\$1.21	\$1.27	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$69.86
Otter Tail Corporation	OTTR	\$1.32	\$1.35	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$95.27
Pinnacle West Capital Corporation	PNW	\$2.68	\$2.73	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$4.98	\$170.16
PNM Resources, Inc.	PNM	\$0.93	\$0.98	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$2.31	\$78.98
Portland General Electric Company	POR	\$1.35	\$1.36	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$92.29
Southern Company	SO	\$2.33	\$2.33	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$3.48	\$118.94
WEC Energy Group, Inc.	WEC	\$2.15	\$2.23	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$4.12	\$140.68
Xcel Energy Inc.	XEL	\$1.52	\$1.62	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$3.15	\$107.63

Projected Annual Data

Investor Cash Flows		[62]	[63]	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]
Company	Ticker	Initial Outflow	3/16/18	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	(\$74.59)	\$0.00	\$1.80	\$2.31	\$2.42	\$2.50	\$2.63	\$2.76	\$2.91	\$3.06	\$3.24	\$3.42	\$3.62	\$3.82	\$4.03	\$4.25	\$157.40
Alliant Energy Corporation	LNT	(\$41.63)	\$0.00	\$0.93	\$1.20	\$1.30	\$1.37	\$1.45	\$1.53	\$1.62	\$1.71	\$1.81	\$1.92	\$2.03	\$2.14	\$2.26	\$2.38	\$88.25
Ameren Corporation	AEE	(\$58.34)	\$0.00	\$1.47	\$1.91	\$2.07	\$2.19	\$2.37	\$2.55	\$2.74	\$2.94	\$3.15	\$3.37	\$3.60	\$3.80	\$4.01	\$4.22	\$156.57
American Electric Power Company, Inc.	AEP	(\$71.29)	\$0.00	\$2.42	\$3.12	\$3.23	\$3.32	\$3.49	\$3.68	\$3.88	\$4.10	\$4.34	\$4.60	\$4.88	\$5.15	\$5.43	\$5.72	\$212.04
Black Hills Corporation	BKH	(\$62.19)	\$0.00	\$1.16	\$1.49	\$1.61	\$1.69	\$1.80	\$1.93	\$2.07	\$2.22	\$2.39	\$2.58	\$2.80	\$2.95	\$3.11	\$3.28	\$121.50
CMS Energy Corporation	CMS	(\$46.64)	\$0.00	\$1.08	\$1.41	\$1.54	\$1.64	\$1.76	\$1.89	\$2.03	\$2.17	\$2.32	\$2.48	\$2.64	\$2.78	\$2.94	\$3.10	\$114.76
DTE Energy Company	DTE	(\$108.14)	\$0.00	\$2.65	\$3.43	\$3.68	\$3.87	\$4.13	\$4.41	\$4.70	\$5.02	\$5.35	\$5.70	\$6.08	\$6.41	\$6.76	\$7.13	\$264.22
Duke Energy Corporation	DUK	(\$83.84)	\$0.00	\$2.38	\$3.05	\$3.30	\$3.47	\$3.52	\$3.58	\$3.64	\$3.72	\$3.81	\$3.90	\$4.01	\$4.23	\$4.46	\$4.70	\$174.23
El Paso Electric Company	EE	(\$54.30)	\$0.00	\$1.09	\$1.40	\$1.65	\$1.80	\$1.92	\$2.05	\$2.19	\$2.34	\$2.51	\$2.68	\$2.87	\$3.03	\$3.19	\$3.37	\$124.76
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.29	\$1.64	\$1.71	\$1.75	\$1.76	\$1.78	\$1.81	\$1.85	\$1.91	\$1.98	\$2.06	\$2.18	\$2.29	\$2.42	\$89.67
IDACORP, Inc.	IDA	(\$88.56)	\$0.00	\$1.90	\$2.42	\$2.63	\$2.75	\$2.88	\$3.02	\$3.18	\$3.36	\$3.57	\$3.79	\$4.05	\$4.27	\$4.51	\$4.75	\$176.14
NorthWestern Corporation	NWE	(\$57.95)	\$0.00	\$1.78	\$2.27	\$2.32	\$2.37	\$2.45	\$2.54	\$2.65	\$2.78	\$2.92	\$3.10	\$3.29	\$3.47	\$3.66	\$3.86	\$143.05
OGE Energy Corp.	OGE	(\$34.33)	\$0.00	\$0.96	\$1.22	\$1.34	\$1.41	\$1.43	\$1.45	\$1.47	\$1.51	\$1.55	\$1.60	\$1.65	\$1.74	\$1.84	\$1.94	\$71.91
Otter Tail Corporation	OTTR	(\$42.98)	\$0.00	\$1.05	\$1.37	\$1.38	\$1.41	\$1.52	\$1.64	\$1.75	\$1.87	\$2.00	\$2.13	\$2.26	\$2.38	\$2.51	\$2.65	\$98.06
Pinnacle West Capital Corporation	PNW	(\$85.18)	\$0.00	\$2.13	\$2.72	\$2.79	\$2.84	\$2.95	\$3.08	\$3.22	\$3.39	\$3.58	\$3.79	\$4.03	\$4.25	\$4.48	\$4.73	\$175.14
PNM Resources, Inc.	PNM	(\$40.22)	\$0.00	\$0.74	\$0.96	\$1.03	\$1.08	\$1.18	\$1.27	\$1.38	\$1.49	\$1.61	\$1.74	\$1.87	\$1.97	\$2.08	\$2.19	\$81.29
Portland General Electric Company	POR	(\$45.11)	\$0.00	\$1.07	\$1.37	\$1.36	\$1.37	\$1.45	\$1.54	\$1.64	\$1.75	\$1.88	\$2.02	\$2.19	\$2.30	\$2.43	\$2.56	\$94.99
Southern Company	SO	(\$48.18)	\$0.00	\$1.85	\$2.36	\$2.33	\$2.33	\$2.36	\$2.41	\$2.46	\$2.53	\$2.61	\$2.71	\$2.82	\$2.97	\$3.13	\$3.30	\$122.42
WEC Energy Group, Inc.	WEC	(\$64.44)	\$0.00	\$1.71	\$2.20	\$2.31	\$2.40	\$2.50	\$2.61	\$2.73	\$2.86	\$3.00	\$3.16	\$3.33	\$3.51	\$3.70	\$3.91	\$144.80
Xcel Energy Inc.	XEL	(\$47.55)	\$0.00	\$1.21	\$1.55	\$1.73	\$1.85	\$1.92	\$2.01	\$2.10	\$2.20	\$2.31	\$2.42	\$2.55	\$2.69	\$2.83	\$2.99	\$110.78

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of March 16, 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 [62]
- [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
- [12] Equals Column [61] / Column [30] 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 Column [19] x (1 + Column [5])
- [21] Equals  $(1 + (\text{Column [5]} + (((\text{Column [6]} - \text{Column [5]} / (2028 - 2023 + 1)) \times (2023 - 2022)))) \times \text{Column [20]}$
- [22] Equals  $(1 + (\text{Column [5]} + (((\text{Column [6]} - \text{Column [5]} / (2028 - 2023 + 1)) \times (2024 - 2022)))) \times \text{Column [21]}$
- [23] Equals  $(1 + (\text{Column [5]} + (((\text{Column [6]} - \text{Column [5]} / (2028 - 2023 + 1)) \times (2025 - 2022)))) \times \text{Column [22]}$
- [24] Equals  $(1 + (\text{Column [5]} + (((\text{Column [6]} - \text{Column [5]} / (2028 - 2023 + 1)) \times (2026 - 2022)))) \times \text{Column [23]}$
- [25] Equals  $(1 + (\text{Column [5]} + (((\text{Column [6]} - \text{Column [5]} / (2028 - 2023 + 1)) \times (2027 - 2022)))) \times \text{Column [24]}$
- [26] Equals Column [25] x (1 + Column [6])
- [27] Equals Column [26] x (1 + Column [6])
- [28] Equals Column [27] x (1 + Column [6])
- [29] Equals Column [28] x (1 + Column [6])
- [30] Equals Column [29] x (1 + Column [6])
- [31] Equals Column [7]
- [32] Equals Column [31] + ((Column [34] - Column [31]) / 3)
- [33] Equals Column [32] + ((Column [34] - Column [31]) / 3)
- [34] Equals Column [8]
- [35] Equals Column [34] + ((Column [41] - Column [34]) / 7)
- [36] Equals Column [35] + ((Column [41] - Column [34]) / 7)
- [37] Equals Column [36] + ((Column [41] - Column [34]) / 7)
- [38] Equals Column [37] + ((Column [41] - Column [34]) / 7)
- [39] Equals Column [38] + ((Column [41] - Column [34]) / 7)
- [40] Equals Column [39] + ((Column [41] - Column [34]) / 7)
- [41] Equals Column [9]
- [42] Equals Column [9]
- [43] Equals Column [9]
- [44] Equals Column [9]
- [45] Equals Column [9]
- [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 [30] x Column [45]
- [61] Equals  $(\text{Column [60]} \times (1 + \text{Column [6]})) / (\text{Column [11]} - \text{Column [6]})$ , or Column [12] x Column [30]
- [62] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [63] through Column [78]
- [63] Equals \$0.00
- [64] Equals Column [46] x (12/31/2018 - 3/16/2018) / 365
- [65] Equals Column [46] x (1 + (0.5 x Column [5]))
- [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]
- [78] Equals Column [60] + [61]

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

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
14.62%	3.13%	11.49%

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	\$ 22,541.11	0.09%	0.86%	6.85%	7.74%	0.0070%
AMERICAN AIRLINES GROUP INC	AAL	\$ 26,211.88	0.11%	0.72%	18.86%	19.65%	0.0208%
ADVANCE AUTO PARTS INC	AAP	\$ 8,628.07	0.03%	0.21%	16.24%	16.46%	0.0057%
APPLE INC	AAPL	\$ 903,275.79	3.65%	1.51%	12.24%	13.85%	0.5050%
ABBVIE INC	ABBV	\$ 180,568.37	0.73%	2.93%	11.91%	15.01%	0.1095%
AMERISOURCEBERGEN CORP	ABC	\$ 21,222.23	0.09%	1.58%	9.76%	11.41%	0.0098%
ABBOTT LABORATORIES	ABT	\$ 110,333.38	0.45%	1.78%	12.67%	14.56%	0.0649%
ACCENTURE PLC-CL A	ACN	\$ 103,550.33	0.42%	1.66%	10.85%	12.60%	0.0527%
ADOBE SYSTEMS INC	ADBE	\$ 111,271.37	0.45%	0.00%	18.66%	18.66%	0.0838%
ANALOG DEVICES INC	ADI	\$ 34,817.01	0.14%	2.00%	9.68%	11.77%	0.0165%
ARCHER-DANIELS-MIDLAND CO	ADM	\$ 24,309.51	0.10%	3.08%	7.40%	10.60%	0.0104%
AUTOMATIC DATA PROCESSING	ADP	\$ 51,933.47	0.21%	2.07%	12.23%	14.42%	0.0302%
ALLIANCE DATA SYSTEMS CORP	ADS	\$ 12,705.63	0.05%	1.00%	15.13%	16.20%	0.0083%
AUTODESK INC	ADSK	\$ 29,901.22	0.12%	0.00%	53.87%	53.87%	0.0650%
AMEREN CORPORATION	AEE	\$ 13,463.80	0.05%	3.37%	8.45%	11.96%	0.0065%
AMERICAN ELECTRIC POWER	AEP	\$ 33,382.46	0.13%	3.72%	5.12%	8.94%	0.0120%
AES CORP	AES	\$ 7,159.74	0.03%	4.89%	8.08%	13.16%	0.0038%
AETNA INC	AET	\$ 56,858.57	0.23%	1.16%	11.51%	12.74%	0.0292%
AFLAC INC	AFL	\$ 35,262.41	0.14%	2.28%	5.00%	7.33%	0.0104%
ALLERGAN PLC	AGN	\$ 55,349.10	0.22%	1.72%	8.88%	10.68%	0.0239%
AMERICAN INTERNATIONAL GROUP	AIG	\$ 49,004.06	0.20%	2.64%	11.00%	13.78%	0.0273%
APARTMENT INVT & MGMT CO -A	AIV	\$ 6,401.77	0.03%	3.73%	5.78%	9.61%	0.0025%
ASSURANT INC	AIZ	\$ 4,719.11	N/A	2.52%	N/A	N/A	N/A
ARTHUR J GALLAGHER & CO	AJG	\$ 12,883.06	0.05%	2.28%	11.67%	14.08%	0.0073%
AKAMAI TECHNOLOGIES INC	AKAM	\$ 12,585.74	0.05%	0.00%	11.50%	11.50%	0.0058%
ALBEMARLE CORP	ALB	\$ 10,883.50	0.04%	1.35%	11.70%	13.12%	0.0058%
ALIGN TECHNOLOGY INC	ALGN	\$ 21,669.37	0.09%	0.00%	38.00%	38.00%	0.0332%
ALASKA AIR GROUP INC	ALK	\$ 8,205.60	0.03%	1.91%	11.40%	13.42%	0.0044%
ALLSTATE CORP	ALL	\$ 34,570.30	0.14%	1.79%	6.87%	8.72%	0.0122%
ALLEGION PLC	ALLE	\$ 8,174.52	0.03%	0.89%	11.55%	12.50%	0.0041%
ALEXION PHARMACEUTICALS INC	ALXN	\$ 28,098.12	0.11%	0.00%	19.46%	19.46%	0.0221%
APPLIED MATERIALS INC	AMAT	\$ 62,452.87	0.25%	1.18%	11.88%	13.12%	0.0331%
ADVANCED MICRO DEVICES	AMD	\$ 11,115.94	0.04%	0.00%	23.55%	23.55%	0.0106%
AMETEK INC	AME	\$ 18,201.41	0.07%	0.71%	11.85%	12.60%	0.0093%
AFFILIATED MANAGERS GROUP	AMG	\$ 10,485.07	0.04%	0.61%	14.72%	15.37%	0.0065%
AMGEN INC	AMGN	\$ 135,638.64	0.55%	2.69%	5.25%	8.01%	0.0439%
AMERIPRISE FINANCIAL INC	AMP	\$ 22,951.15	0.09%	2.32%	7.20%	9.60%	0.0089%
AMERICAN TOWER CORP	AMT	\$ 64,606.83	0.26%	2.14%	15.58%	17.89%	0.0467%
AMAZON.COM INC	AMZN	\$ 760,861.58	3.07%	0.00%	31.94%	31.94%	0.9813%
ANDEAVOR	ANDV	\$ 15,177.88	0.06%	2.49%	21.38%	24.13%	0.0148%
ANSYS INC	ANSS	\$ 13,948.65	0.06%	0.00%	11.70%	11.70%	0.0066%
ANTHEM INC	ANTM	\$ 58,332.72	0.24%	1.29%	11.47%	12.83%	0.0302%
AON PLC	AON	\$ 35,934.97	0.15%	1.06%	11.18%	12.30%	0.0178%
SMITH (A.O.) CORP	AOS	\$ 11,259.43	0.05%	1.08%	15.00%	16.16%	0.0073%
APACHE CORP	APA	\$ 13,785.52	0.06%	2.76%	-19.13%	-16.63%	-0.0093%
ANADARKO PETROLEUM CORP	APC	\$ 31,166.48	0.13%	0.84%	1.27%	2.11%	0.0027%
AIR PRODUCTS & CHEMICALS INC	APD	\$ 37,123.35	0.15%	2.47%	13.90%	16.55%	0.0248%
AMPHENOL CORP-CL A	APH	\$ 28,104.51	0.11%	0.84%	10.54%	11.42%	0.0130%
APTIV PLC	APTIV	\$ 23,669.80	0.10%	1.16%	10.69%	11.92%	0.0114%
ALEXANDRIA REAL ESTATE EQUIT	ARE	\$ 12,982.87	0.05%	2.86%	6.78%	9.73%	0.0051%
ARCONIC INC	ARNC	\$ 11,856.89	0.05%	0.96%	17.30%	18.35%	0.0088%
ACTIVISION BLIZZARD INC	ATVI	\$ 54,378.72	0.22%	0.47%	15.88%	16.39%	0.0360%
AVALONBAY COMMUNITIES INC	AVB	\$ 22,889.33	0.09%	3.56%	6.24%	9.92%	0.0092%
BROADCOM LTD	AVGO	\$ 104,688.36	0.42%	2.75%	13.25%	16.18%	0.0684%
AVERY DENNISON CORP	AVY	\$ 9,834.78	0.04%	1.63%	6.15%	7.83%	0.0031%
AMERICAN WATER WORKS CO INC	AWK	\$ 14,669.83	0.06%	2.18%	7.85%	10.12%	0.0060%
AMERICAN EXPRESS CO	AXP	\$ 82,251.26	0.33%	1.52%	10.17%	11.76%	0.0391%
ACUITY BRANDS INC	AYI	\$ 6,329.22	0.03%	0.35%	11.00%	11.37%	0.0029%
AUTOZONE INC	AZO	\$ 17,738.16	0.07%	0.00%	15.54%	15.54%	0.0111%
BOEING CO/THE	BA	\$ 194,060.05	0.78%	2.10%	18.00%	20.29%	0.1590%
BANK OF AMERICA CORP	BAC	\$ 328,906.81	1.33%	1.86%	15.65%	17.65%	0.2345%
BAXTER INTERNATIONAL INC	BAX	\$ 36,670.02	0.15%	1.06%	12.90%	14.03%	0.0208%
BB&T CORP	BBT	\$ 42,785.93	0.17%	2.64%	14.24%	17.07%	0.0295%
BEST BUY CO INC	BBY	\$ 20,383.93	0.08%	2.52%	9.22%	11.85%	0.0098%
BECTON DICKINSON AND CO	BDX	\$ 59,443.96	0.24%	1.35%	13.50%	14.94%	0.0358%
FRANKLIN RESOURCES INC	BEN	\$ 21,510.92	0.09%	3.32%	10.00%	13.49%	0.0117%
BROWN-FORMAN CORP-CLASS B	BF/B	\$ 26,419.98	0.11%	1.97%	13.70%	15.80%	0.0169%
BRIGHTHOUSE FINANCIAL INC	BHF	\$ 6,555.18	0.03%	0.00%	8.00%	8.00%	0.0021%
BAKER HUGHES A GE CO	BHGE	\$ 34,926.18	0.14%	2.10%	45.93%	48.51%	0.0684%
BIOGEN INC	BIIB	\$ 60,849.66	0.25%	0.00%	4.92%	4.92%	0.0121%
BANK OF NEW YORK MELLON CORP	BK	\$ 55,415.07	0.22%	1.89%	8.80%	10.78%	0.0241%
BOOKING HOLDINGS INC	BKNG	\$ 104,858.19	0.42%	0.00%	15.88%	15.88%	0.0672%
BLACKROCK INC	BLK	\$ 91,485.16	0.37%	2.06%	12.19%	14.37%	0.0531%
BALL CORP	BLL	\$ 14,232.43	0.06%	1.00%	5.40%	6.43%	0.0037%
BRISTOL-MYERS SQUIBB CO	BMJ	\$ 108,863.19	0.44%	2.43%	9.38%	11.93%	0.0524%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	\$ 510,805.62	2.06%	0.00%	6.70%	6.70%	0.1382%
BOSTON SCIENTIFIC CORP	BSX	\$ 38,401.26	0.16%	0.00%	9.12%	9.12%	0.0141%
BORGWARNER INC	BWA	\$ 10,841.02	0.04%	1.29%	5.81%	7.13%	0.0031%
BOSTON PROPERTIES INC	BXP	\$ 19,625.82	0.08%	2.56%	6.12%	8.76%	0.0069%
CITIGROUP INC	C	\$ 188,107.12	0.76%	2.01%	14.04%	16.19%	0.1230%
CA INC	CA	\$ 14,921.72	0.06%	2.87%	2.80%	5.71%	0.0034%
CONAGRA BRANDS INC	CAG	\$ 14,668.19	0.06%	2.29%	8.95%	11.34%	0.0067%
CARDINAL HEALTH INC	CAH	\$ 22,328.46	0.09%	2.61%	13.72%	16.51%	0.0149%
CATERPILLAR INC	CAT	\$ 93,504.53	0.38%	2.02%	20.40%	22.62%	0.0854%
CHUBB LTD	CB	\$ 65,427.58	0.26%	2.10%	8.73%	10.91%	0.0288%







		[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
L BRANDS INC	LB	\$ 11,448.68	0.05%	6.03%	10.15%	16.49%	0.0076%
LEGETT & PLATT INC	LEG	\$ 6,101.50	0.02%	3.21%	11.00%	14.39%	0.0035%
LENNAR CORP-A	LEN	\$ 18,803.72	0.08%	0.27%	18.95%	19.24%	0.0146%
LABORATORY CRP OF AMER HLDGS	LH	\$ 17,713.28	0.07%	0.00%	9.68%	9.68%	0.0069%
LKQ CORP	LKQ	\$ 12,245.49	0.05%	0.00%	13.00%	13.00%	0.0064%
L3 TECHNOLOGIES INC	LLL	\$ 16,064.07	0.06%	1.59%	10.72%	12.39%	0.0080%
ELI LILLY & CO	LLY	\$ 88,184.65	0.36%	2.84%	9.93%	12.91%	0.0460%
LOCKHEED MARTIN CORP	LMT	\$ 94,638.14	0.38%	2.47%	21.24%	23.97%	0.0916%
LINCOLN NATIONAL CORP	LNC	\$ 16,666.15	0.07%	1.76%	8.00%	9.83%	0.0066%
ALLIANT ENERGY CORP	LNT	\$ 9,284.33	0.04%	3.34%	5.50%	8.93%	0.0033%
LOWE'S COS INC	LOW	\$ 72,189.17	0.29%	2.07%	16.60%	18.84%	0.0549%
LAM RESEARCH CORP	LRCX	\$ 36,162.42	0.15%	1.00%	7.60%	8.64%	0.0126%
LEUCADIA NATIONAL CORP	LUK	\$ 8,781.63	0.04%	1.62%	18.00%	19.77%	0.0070%
SOUTHWEST AIRLINES CO	LUV	\$ 35,806.21	0.14%	0.90%	15.04%	16.01%	0.0231%
LYONDELLBASELL INDU-CL A	LYB	\$ 42,288.55	0.17%	3.47%	6.90%	10.49%	0.0179%
MACY'S INC	M	\$ 8,808.72	0.04%	5.56%	4.50%	10.19%	0.0036%
MASTERCARD INC - A	MA	\$ 191,930.32	0.77%	0.54%	20.55%	21.15%	0.1639%
MID-AMERICA APARTMENT COMM	MAA	\$ 10,448.02	0.04%	4.04%	7.00%	11.19%	0.0047%
MACERICH CO/THE	MAC	\$ 8,300.42	0.03%	5.07%	5.09%	10.28%	0.0034%
MARRIOTT INTERNATIONAL -CL A	MAR	\$ 50,344.28	0.20%	1.00%	15.18%	16.26%	0.0330%
MASCO CORP	MAS	\$ 13,027.68	0.05%	1.04%	16.27%	17.40%	0.0092%
MATTEL INC	MAT	\$ 4,766.77	0.02%	0.00%	9.73%	9.73%	0.0019%
MCDONALD'S CORP	MCD	\$ 128,994.68	0.52%	2.52%	8.48%	11.11%	0.0578%
MICROCHIP TECHNOLOGY INC	MCHP	\$ 23,007.80	0.09%	1.48%	14.29%	15.87%	0.0147%
MCKESSON CORP	MCK	\$ 31,431.67	0.13%	0.85%	14.73%	15.64%	0.0199%
MOODY'S CORP	MCO	\$ 31,972.46	0.13%	1.05%	8.00%	9.09%	0.0117%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$ 64,237.72	0.26%	2.12%	11.42%	13.67%	0.0354%
MEDTRONIC PLC	MDT	\$ 110,178.31	0.44%	2.29%	6.60%	8.97%	0.0399%
METLIFE INC	MET	\$ 49,053.93	0.20%	3.48%	36.55%	40.67%	0.0805%
MGM RESORTS INTERNATIONAL	MGM	\$ 20,383.56	0.08%	1.32%	10.99%	12.38%	0.0102%
MOHAWK INDUSTRIES INC	MHK	\$ 18,450.07	0.07%	0.00%	9.82%	9.82%	0.0073%
MCCORMICK & CO-NON VTG SHRS	MKC	\$ 14,123.54	0.06%	1.93%	9.00%	11.02%	0.0063%
MARTIN MARIETTA MATERIALS	MLM	\$ 13,012.78	0.05%	0.87%	14.57%	15.51%	0.0081%
MARSH & MCLENNAN COS	MMC	\$ 42,807.71	0.17%	1.87%	13.29%	15.28%	0.0264%
3M CO	MMM	\$ 141,264.51	0.57%	2.28%	8.80%	11.18%	0.0638%
MONSTER BEVERAGE CORP	MNST	\$ 33,213.86	0.13%	0.00%	18.25%	18.25%	0.0245%
ALTRIA GROUP INC	MO	\$ 120,089.40	0.48%	4.68%	2.57%	7.30%	0.0354%
MONSANTO CO	MON	\$ 51,913.11	0.21%	1.99%	8.25%	10.33%	0.0216%
MOSAIC CO/THE	MOS	\$ 10,054.40	0.04%	0.38%	13.65%	14.06%	0.0057%
MARATHON PETROLEUM CORP	MPC	\$ 33,055.55	0.13%	2.61%	15.24%	18.05%	0.0241%
MERCK & CO. INC.	MRK	\$ 150,096.93	0.61%	3.47%	6.42%	10.00%	0.0606%
MARATHON OIL CORP	MRO	\$ 12,848.31	0.05%	1.32%	5.00%	6.36%	0.0033%
MORGAN STANLEY	MS	\$ 103,049.09	0.42%	1.91%	14.78%	16.83%	0.0700%
MICROSOFT CORP	MSFT	\$ 728,400.40	2.94%	1.78%	11.08%	12.96%	0.3811%
MOTOROLA SOLUTIONS INC	MSI	\$ 17,555.10	0.07%	1.94%	4.07%	6.05%	0.0043%
M & T BANK CORP	MTB	\$ 28,271.72	0.11%	1.73%	-5.16%	-3.48%	-0.0040%
METTLER-TOLEDO INTERNATIONAL	MTD	\$ 15,623.52	0.06%	0.00%	12.53%	12.53%	0.0079%
MICRON TECHNOLOGY INC	MU	\$ 70,049.56	0.28%	0.00%	10.00%	10.00%	0.0283%
MYLAN NV	MYL	\$ 21,481.84	0.09%	0.00%	4.19%	4.19%	0.0036%
NAVIENT CORP	NAVI	\$ 3,558.38	0.01%	4.81%	-6.00%	-1.33%	-0.0002%
NOBLE ENERGY INC	NBL	\$ 14,470.44	0.06%	1.36%	9.95%	11.38%	0.0066%
NORWEGIAN CRUISE LINE HOLDIN	NCLH	\$ 12,567.54	0.05%	0.31%	20.04%	20.37%	0.0103%
NASDAQ INC	NDAQ	\$ 13,986.01	0.06%	1.95%	10.78%	12.83%	0.0072%
NEXTERA ENERGY INC	NEE	\$ 75,816.66	0.31%	2.77%	8.27%	11.15%	0.0341%
NEWMONT MINING CORP	NEM	\$ 19,955.90	0.08%	1.32%	-11.20%	-9.96%	-0.0080%
NETFLIX INC	NFLX	\$ 138,190.89	0.56%	0.00%	46.79%	46.79%	0.2610%
NEWFIELD EXPLORATION CO	NFX	\$ 4,847.26	0.02%	0.00%	21.60%	21.60%	0.0042%
NISOURCE INC	NI	\$ 7,905.54	0.03%	3.24%	5.24%	8.57%	0.0027%
NIKE INC -CL B	NKE	\$ 107,231.66	0.43%	1.17%	9.13%	10.35%	0.0448%
NIELSEN HOLDINGS PLC	NLSN	\$ 11,947.58	0.05%	4.22%	9.75%	14.18%	0.0068%
NORTHROP GRUMMAN CORP	NOC	\$ 58,951.28	0.24%	1.38%	13.68%	15.16%	0.0361%
NATIONAL OILWELL VARCO INC	NOV	\$ 14,023.50	N/A	0.50%	N/A	N/A	N/A
NRG ENERGY INC	NRG	\$ 9,625.28	0.04%	0.40%	53.92%	54.42%	0.0212%
NORFOLK SOUTHERN CORP	NSC	\$ 39,359.18	0.16%	2.08%	14.33%	16.56%	0.0263%
NETAPP INC	NTAP	\$ 17,128.30	0.07%	1.25%	9.83%	11.14%	0.0077%
NORTHERN TRUST CORP	NTRS	\$ 24,184.63	0.10%	1.68%	14.77%	16.58%	0.0162%
NUCOR CORP	NUE	\$ 21,171.41	0.09%	2.28%	5.00%	7.33%	0.0063%
NVIDIA CORP	NVDA	\$ 151,540.40	0.61%	0.24%	9.68%	9.93%	0.0608%
NEWELL BRANDS INC	NWL	\$ 13,905.83	0.06%	3.29%	4.50%	7.87%	0.0044%
NEWS CORP - CLASS A	NWSA	\$ 9,753.32	0.04%	1.33%	13.33%	14.75%	0.0058%
REALTY INCOME CORP	O	\$ 14,630.12	0.06%	5.12%	4.87%	10.11%	0.0060%
ONEOK INC	OKE	\$ 23,738.76	0.10%	5.52%	26.19%	32.43%	0.0311%
OMNICOM GROUP	OMC	\$ 17,035.20	0.07%	3.27%	5.80%	9.17%	0.0063%
ORACLE CORP	ORCL	\$ 216,377.00	0.87%	1.46%	8.31%	9.83%	0.0859%
O'REILLY AUTOMOTIVE INC	ORLY	\$ 21,014.78	0.08%	0.00%	16.40%	16.40%	0.0139%
OCCIDENTAL PETROLEUM CORP	OXY	\$ 49,313.83	0.20%	4.78%	8.05%	13.03%	0.0259%
PAYCHEX INC	PAYX	\$ 23,760.12	0.10%	2.99%	8.50%	11.62%	0.0111%
PEOPLE'S UNITED FINANCIAL	PBCT	\$ 6,879.29	0.03%	3.50%	2.00%	5.54%	0.0015%
PACCAR INC	PCAR	\$ 23,850.28	0.10%	3.30%	7.63%	11.06%	0.0106%
P G & E CORP	PCG	\$ 23,214.80	0.09%	4.03%	2.80%	6.88%	0.0065%
PATTERSON COS INC	PDCO	\$ 2,262.70	0.01%	4.50%	3.97%	8.57%	0.0008%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$ 24,879.85	0.10%	3.65%	4.06%	7.78%	0.0078%
PEPSICO INC	PEP	\$ 158,518.56	0.64%	3.20%	6.92%	10.23%	0.0655%
PFIZER INC	PFE	\$ 218,946.37	0.88%	3.73%	5.94%	9.78%	0.0865%
PRINCIPAL FINANCIAL GROUP	PFGB	\$ 17,990.58	0.07%	3.35%	10.00%	13.52%	0.0098%
PROCTER & GAMBLE CO/THE	PG	\$ 199,083.37	0.80%	3.57%	7.53%	11.23%	0.0902%
PROGRESSIVE CORP	PGR	\$ 36,062.21	0.15%	2.04%	9.33%	11.47%	0.0167%
PARKER HANNIFIN CORP	PH	\$ 24,309.30	0.10%	1.47%	10.12%	11.66%	0.0114%
PULTEGROUP INC	PHM	\$ 8,416.34	0.03%	1.25%	19.58%	20.95%	0.0071%
PACKAGING CORP OF AMERICA	PKG	\$ 11,181.40	0.05%	2.20%	8.50%	10.79%	0.0049%
PERKINELMER INC	PKI	\$ 8,546.41	0.03%	0.37%	44.49%	44.94%	0.0155%
PROLOGIS INC	PLD	\$ 33,801.80	0.14%	2.88%	6.28%	9.25%	0.0126%
PHILIP MORRIS INTERNATIONAL	PM	\$ 160,697.17	0.65%	4.21%	11.40%	15.85%	0.1029%
PNC FINANCIAL SERVICES GROUP	PNC	\$ 75,487.47	0.30%	2.08%	10.40%	12.59%	0.0384%
PENTAIR PLC	PNR	\$ 13,241.00	0.05%	1.96%	10.34%	12.40%	0.0066%
PINNACLE WEST CAPITAL	PNW	\$ 8,717.03	0.04%	3.62%	2.80%	6.47%	0.0023%

		[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
PPG INDUSTRIES INC	PPG	\$ 28,654.67	0.12%	1.60%	9.09%	10.77%	0.0125%
PPL CORP	PPL	\$ 19,498.35	0.08%	5.83%	5.47%	11.46%	0.0090%
PERRIGO CO PLC	PRGO	\$ 11,865.89	0.05%	0.79%	6.62%	7.43%	0.0036%
PRUDENTIAL FINANCIAL INC	PRU	\$ 45,850.30	0.19%	3.15%	8.00%	11.27%	0.0209%
PUBLIC STORAGE	PSA	\$ 34,470.49	0.14%	4.15%	4.27%	8.51%	0.0118%
PHILLIPS 66	PSX	\$ 44,669.29	0.18%	3.09%	-16.49%	-13.65%	-0.0246%
PVH CORP	PVH	\$ 11,060.13	0.04%	0.10%	11.32%	11.43%	0.0051%
QUANTA SERVICES INC	PWR	\$ 5,453.60	N/A	0.00%	N/A	N/A	N/A
PRAXAIR INC	PX	\$ 44,310.92	0.18%	2.24%	11.00%	13.36%	0.0239%
PIONEER NATURAL RESOURCES CO	PXD	\$ 28,838.74	0.12%	0.13%	15.00%	15.14%	0.0176%
PAYPAL HOLDINGS INC	PYPL	\$ 98,605.18	0.40%	0.00%	18.50%	18.50%	0.0737%
QUALCOMM INC	QCOM	\$ 89,739.62	0.36%	3.85%	6.01%	9.98%	0.0362%
QORVO INC	QRVO	\$ 10,214.36	0.04%	0.00%	13.35%	13.35%	0.0055%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$ 26,665.19	0.11%	1.99%	18.83%	21.01%	0.0226%
EVEREST RE GROUP LTD	RE	\$ 10,675.52	0.04%	2.03%	10.00%	12.13%	0.0052%
REGENCY CENTERS CORP	REG	\$ 9,899.31	0.04%	3.81%	8.58%	12.55%	0.0050%
REGENERON PHARMACEUTICALS	REGN	\$ 36,972.31	0.15%	0.00%	14.37%	14.37%	0.0214%
REGIONS FINANCIAL CORP	RF	\$ 22,039.48	0.09%	2.12%	15.10%	17.38%	0.0155%
ROBERT HALF INTL INC	RHI	\$ 7,386.11	0.03%	1.80%	10.03%	11.92%	0.0036%
RED HAT INC	RHT	\$ 27,288.75	0.11%	0.00%	17.25%	17.25%	0.0190%
RAYMOND JAMES FINANCIAL INC	RJF	\$ 14,207.65	0.06%	1.05%	17.00%	18.14%	0.0104%
RALPH LAUREN CORP	RL	\$ 8,872.77	0.04%	1.83%	5.16%	7.04%	0.0025%
RESMED INC	RMD	\$ 14,034.01	0.06%	1.46%	15.20%	16.77%	0.0095%
ROCKWELL AUTOMATION INC	ROK	\$ 23,509.85	0.09%	1.81%	10.92%	12.83%	0.0122%
ROPER TECHNOLOGIES INC	ROP	\$ 29,477.26	0.12%	0.57%	13.37%	13.97%	0.0166%
ROSS STORES INC	ROST	\$ 29,329.71	0.12%	1.01%	14.06%	15.14%	0.0179%
RANGE RESOURCES CORP	RRC	\$ 3,755.43	0.02%	0.53%	22.89%	23.48%	0.0036%
REPUBLIC SERVICES INC	RSG	\$ 22,774.24	0.09%	2.03%	10.18%	12.32%	0.0113%
RAYTHEON COMPANY	RTN	\$ 60,609.34	0.24%	1.65%	11.21%	12.94%	0.0317%
SBA COMMUNICATIONS CORP	SBAC	\$ 19,653.71	0.08%	0.00%	24.90%	24.90%	0.0198%
STARBUCKS CORP	SBUX	\$ 82,930.40	0.33%	2.13%	15.57%	17.86%	0.0598%
SCANA CORP	SCG	\$ 5,735.49	0.02%	5.35%	-7.55%	-2.40%	-0.0006%
SCHWAB (CHARLES) CORP	SCHW	\$ 75,012.04	0.30%	0.72%	25.21%	26.02%	0.0788%
SEALED AIR CORP	SEE	\$ 7,381.24	0.03%	1.48%	4.04%	5.55%	0.0017%
SHERWIN-WILLIAMS CO/THE	SHW	\$ 38,490.20	0.16%	0.83%	11.12%	12.00%	0.0186%
SIGNET JEWELERS LTD	SIG	\$ 2,340.14	0.01%	3.37%	2.50%	5.91%	0.0006%
JM SMUCKER CO/THE	SJM	\$ 14,295.32	0.06%	2.47%	9.00%	11.59%	0.0067%
SCHLUMBERGER LTD	SLB	\$ 91,611.77	0.37%	3.09%	40.24%	43.95%	0.1626%
SL GREEN REALTY CORP	SLG	\$ 9,082.25	0.04%	3.28%	2.21%	5.52%	0.0020%
SNAP-ON INC	SNA	\$ 8,671.35	0.04%	2.13%	9.27%	11.49%	0.0040%
SYNOPSIS INC	SNPS	\$ 13,107.14	N/A	0.00%	N/A	N/A	N/A
SOUTHERN CO/THE	SO	\$ 44,550.57	0.18%	5.40%	4.20%	9.72%	0.0175%
SIMON PROPERTY GROUP INC	SPG	\$ 50,334.52	0.20%	5.03%	6.71%	11.91%	0.0242%
S&P GLOBAL INC	SPGI	\$ 48,878.29	0.20%	1.01%	11.70%	12.77%	0.0252%
STERICYCLE INC	SRCL	\$ 5,439.77	0.02%	0.00%	8.18%	8.18%	0.0018%
SEMPRA ENERGY	SRE	\$ 29,823.81	0.12%	3.17%	21.19%	24.70%	0.0297%
SUNTRUST BANKS INC	STI	\$ 33,497.51	0.14%	2.41%	13.21%	15.78%	0.0213%
STATE STREET CORP	STT	\$ 39,291.10	0.16%	1.69%	16.83%	18.66%	0.0296%
SEAGATE TECHNOLOGY	STX	\$ 17,115.28	0.07%	4.21%	10.85%	15.28%	0.0106%
CONSTELLATION BRANDS INC-A	STZ	\$ 44,478.59	0.18%	0.91%	16.52%	17.50%	0.0314%
STANLEY BLACK & DECKER INC	SWK	\$ 24,509.89	0.10%	1.62%	11.50%	13.21%	0.0131%
SKYWORKS SOLUTIONS INC	SWKS	\$ 20,188.07	0.08%	1.18%	10.60%	11.84%	0.0096%
SYNCHRONY FINANCIAL	SYF	\$ 26,759.64	0.11%	1.88%	8.40%	10.36%	0.0112%
STRYKER CORP	SYK	\$ 62,756.29	0.25%	1.37%	8.83%	10.26%	0.0260%
SYMANTEC CORP	SYMC	\$ 17,011.51	0.07%	1.17%	11.08%	12.31%	0.0085%
SYSCO CORP	SY	\$ 31,377.76	0.13%	2.31%	11.62%	14.07%	0.0178%
AT&T INC	T	\$ 227,236.71	0.92%	5.42%	-1.60%	3.78%	0.0347%
MOLSON COORS BREWING CO -B	TAP	\$ 17,311.84	0.07%	2.10%	6.25%	8.41%	0.0059%
TRANSDIGM GROUP INC	TDG	\$ 15,618.70	0.06%	0.00%	11.28%	11.28%	0.0071%
TE CONNECTIVITY LTD	TEL	\$ 36,679.99	0.15%	1.57%	10.18%	11.82%	0.0175%
TARGET CORP	TGT	\$ 38,249.13	0.15%	3.70%	3.05%	6.81%	0.0105%
TIFFANY & CO	TIF	\$ 12,130.10	0.05%	2.10%	11.10%	13.31%	0.0065%
TJX COMPANIES INC	TJX	\$ 51,475.75	0.21%	1.88%	12.53%	14.53%	0.0302%
TORCHMARK CORP	TMK	\$ 9,764.27	0.04%	0.74%	8.00%	8.77%	0.0035%
THERMO FISHER SCIENTIFIC INC	TMO	\$ 84,551.44	0.34%	0.31%	12.25%	12.58%	0.0430%
TAPESTRY INC	TPR	\$ 15,033.25	0.06%	2.59%	12.00%	14.74%	0.0089%
TRIPADVISOR INC	TRIP	\$ 6,083.33	0.02%	0.00%	18.06%	18.06%	0.0044%
T ROWE PRICE GROUP INC	TROW	\$ 28,260.79	0.11%	2.27%	14.53%	16.97%	0.0194%
TRAVELERS COS INC/THE	TRV	\$ 38,358.20	0.15%	2.12%	20.39%	22.72%	0.0352%
TRACTOR SUPPLY COMPANY	TSCO	\$ 8,055.03	0.03%	1.83%	13.95%	15.92%	0.0052%
TYSON FOODS INC-CL A	TSN	\$ 29,664.44	0.12%	1.70%	8.00%	9.76%	0.0117%
TOTAL SYSTEM SERVICES INC	TSS	\$ 16,349.85	0.07%	0.51%	12.75%	13.29%	0.0088%
TIME WARNER INC	TWX	\$ 75,084.11	0.30%	1.71%	5.00%	6.76%	0.0205%
TEXAS INSTRUMENTS INC	TXN	\$ 108,112.14	0.44%	2.30%	11.38%	13.81%	0.0603%
TEXTRON INC	TXT	\$ 15,256.59	0.06%	0.16%	11.89%	12.07%	0.0074%
UNDER ARMOUR INC-CLASS A	UAA	\$ 6,653.08	0.03%	0.00%	24.62%	24.62%	0.0066%
UNITED CONTINENTAL HOLDINGS	UAL	\$ 20,179.57	0.08%	0.00%	17.78%	17.78%	0.0145%
UDR INC	UDR	\$ 9,643.03	0.04%	3.60%	5.66%	9.36%	0.0036%
UNIVERSAL HEALTH SERVICES-B	UHS	\$ 11,619.42	0.05%	0.26%	9.11%	9.38%	0.0044%
ULTA BEAUTY INC	ULTA	\$ 13,532.99	0.05%	0.00%	18.60%	18.60%	0.0102%
UNITEDHEALTH GROUP INC	UNH	\$ 220,491.67	0.89%	1.40%	12.59%	14.08%	0.1254%
UNUM GROUP	UNM	\$ 11,125.01	0.04%	1.90%	5.00%	6.95%	0.0031%
UNION PACIFIC CORP	UNP	\$ 106,889.51	0.43%	2.04%	11.95%	14.11%	0.0609%
UNITED PARCEL SERVICE-CL B	UPS	\$ 95,561.70	0.39%	3.19%	15.04%	18.47%	0.0712%
UNITED RENTALS INC	URI	\$ 15,728.03	0.06%	0.00%	17.76%	17.76%	0.0113%
US BANCORP	USB	\$ 87,923.25	0.36%	2.43%	8.03%	10.56%	0.0375%
UNITED TECHNOLOGIES CORP	UTX	\$ 102,675.06	0.41%	2.28%	9.12%	11.50%	0.0477%
VISA INC-CLASS A SHARES	V	\$ 256,598.83	1.04%	0.66%	17.57%	18.29%	0.1895%
VARIAN MEDICAL SYSTEMS INC	VAR	\$ 11,397.92	0.05%	0.00%	11.25%	11.25%	0.0052%
VF CORP	VFC	\$ 29,934.90	0.12%	2.33%	7.00%	9.41%	0.0114%
VIACOM INC-CLASS B	VIAB	\$ 13,090.03	0.05%	2.54%	6.99%	9.62%	0.0051%
VALERO ENERGY CORP	VLO	\$ 40,627.60	0.16%	3.40%	11.94%	15.54%	0.0255%
VULCAN MATERIALS CO	VMC	\$ 15,516.34	0.06%	0.92%	20.86%	21.89%	0.0137%
VORNADO REALTY TRUST	VNO	\$ 13,205.78	0.05%	3.65%	6.41%	10.17%	0.0054%
VERISK ANALYTICS INC	VRSK	\$ 17,289.21	0.07%	0.00%	12.11%	12.11%	0.0085%
VERISIGN INC	VRSN	\$ 12,229.42	0.05%	0.00%	9.90%	9.90%	0.0049%

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
VERTEX PHARMACEUTICALS INC	VRTX	\$ 44,598.67	0.18%	0.00%	62.61%	62.61%	0.1127%
VENTAS INC	VTR	\$ 17,862.73	0.07%	6.33%	3.49%	9.93%	0.0072%
VERIZON COMMUNICATIONS INC	VZ	\$ 200,308.81	0.81%	4.92%	2.42%	7.40%	0.0599%
WATERS CORP	WAT	\$ 16,795.27	0.07%	0.00%	9.01%	9.01%	0.0061%
WALGREENS BOOTS ALLIANCE INC	WBA	\$ 66,939.49	0.27%	2.39%	11.16%	13.69%	0.0370%
WESTERN DIGITAL CORP	WDC	\$ 31,675.29	0.13%	1.91%	14.08%	16.12%	0.0206%
WEC ENERGY GROUP INC	WEC	\$ 19,705.75	0.08%	3.53%	3.09%	6.68%	0.0053%
WELLTOWER INC	WELL	\$ 20,070.15	0.08%	6.51%	5.32%	12.00%	0.0097%
WELLS FARGO & CO	WFC	\$ 272,573.59	1.10%	2.93%	11.06%	14.15%	0.1557%
WHIRLPOOL CORP	WHR	\$ 11,298.07	0.05%	2.94%	12.07%	15.19%	0.0069%
WILLIS TOWERS WATSON PLC	WLTW	\$ 21,524.79	0.09%	1.42%	10.00%	11.49%	0.0100%
WASTE MANAGEMENT INC	WM	\$ 37,465.09	0.15%	2.11%	13.52%	15.76%	0.0238%
WILLIAMS COS INC	WMB	\$ 22,511.58	0.09%	5.02%	-13.30%	-8.62%	-0.0078%
WALMART INC	WMT	\$ 264,155.55	1.07%	2.36%	5.74%	8.17%	0.0872%
WESTROCK CO	WRK	\$ 16,932.79	0.07%	2.60%	5.20%	7.86%	0.0054%
WESTERN UNION CO	WU	\$ 9,204.34	0.04%	3.71%	4.46%	8.25%	0.0031%
WEYERHAEUSER CO	WY	\$ 27,083.42	0.11%	3.62%	14.05%	17.92%	0.0196%
WYNDHAM WORLDWIDE CORP	WYN	\$ 11,593.85	0.05%	2.18%	19.50%	21.89%	0.0102%
WYNN RESORTS LTD	WYNN	\$ 19,033.58	N/A	1.53%	N/A	N/A	N/A
CIMAREX ENERGY CO	XEC	\$ 8,826.12	0.04%	0.45%	71.38%	71.99%	0.0257%
XCEL ENERGY INC	XEL	\$ 22,420.91	0.09%	3.45%	5.81%	9.36%	0.0085%
XL GROUP LTD	XL	\$ 14,254.89	0.06%	1.68%	20.45%	22.30%	0.0128%
XILINX INC	XLNX	\$ 19,373.60	0.08%	1.85%	8.53%	10.46%	0.0082%
EXXON MOBIL CORP	XOM	\$ 318,318.16	1.29%	4.22%	8.92%	13.33%	0.1713%
DENTSPLY SIRONA INC	XRAY	\$ 12,808.04	0.05%	0.64%	10.00%	10.67%	0.0055%
XEROX CORP	XRX	\$ 7,920.35	0.03%	3.38%	1.00%	4.39%	0.0014%
XYLEM INC	XYL	\$ 14,112.61	0.06%	1.07%	18.00%	19.17%	0.0109%
YUM! BRANDS INC	YUM	\$ 27,764.84	0.11%	1.61%	12.13%	13.84%	0.0155%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$ 23,733.66	0.10%	0.87%	6.58%	7.48%	0.0072%
ZIONS BANCORPORATION	ZION	\$ 10,910.47	0.04%	1.76%	10.10%	11.95%	0.0053%
ZOETIS INC	ZTS	\$ 41,052.46	0.17%	0.59%	14.11%	14.74%	0.0244%
Total Market Capitalization:		\$ 24,766,992.99					14.62%

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 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
15.68%	3.13%	12.56%

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	\$ 22,491.70	0.10%	0.86%	10.00%	10.90%	0.0111%
AMERICAN AIRLINES GROUP INC	AAL	\$ 26,053.08	0.12%	0.73%	2.00%	2.74%	0.0032%
ADVANCE AUTO PARTS INC	AAP	\$ 8,553.69	0.04%	0.21%	9.50%	9.72%	0.0038%
APPLE INC	AAPL	\$ 899,147.30	4.06%	1.54%	14.50%	16.15%	0.6554%
ABBVIE INC	ABBV	\$ 186,762.30	0.84%	3.28%	12.50%	15.99%	0.1347%
AMERISOURCEBERGEN CORP	ABC	\$ 21,028.54	0.09%	1.58%	7.00%	8.64%	0.0082%
ABBOTT LABORATORIES	ABT	\$ 107,691.00	0.49%	1.81%	8.50%	10.39%	0.0505%
ACCENTURE PLC-CL A	ACN	\$ 100,698.10	0.45%	1.75%	10.00%	11.84%	0.0538%
ADOBE SYSTEMS INC	ADBE	\$ 106,657.90	0.48%	0.00%	34.50%	34.50%	0.1661%
ANALOG DEVICES INC	ADI	\$ 34,288.23	0.15%	2.07%	16.00%	18.24%	0.0282%
ARCHER-DANIELS-MIDLAND CO	ADM	\$ 24,199.11	0.11%	3.10%	2.50%	5.64%	0.0062%
AUTOMATIC DATA PROCESSING	ADP	\$ 51,778.20	0.23%	2.27%	11.00%	13.39%	0.0313%
ALLIANCE DATA SYSTEMS CORP	ADS	\$ 13,060.20	0.06%	0.97%	15.00%	16.04%	0.0095%
AUTODESK INC	ADSK	\$ 30,240.46	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	\$ 13,068.27	0.06%	3.47%	6.00%	9.57%	0.0056%
AMERICAN ELECTRIC POWER	AEP	\$ 32,127.93	0.14%	3.89%	4.50%	8.48%	0.0123%
AES CORP	AES	\$ 7,158.60	N/A	4.80%	N/A	N/A	N/A
AETNA INC	AET	\$ 57,475.13	0.26%	1.14%	10.50%	11.70%	0.0303%
AFLAC INC	AFL	\$ 35,444.81	0.16%	2.31%	4.00%	6.36%	0.0102%
ALLERGAN PLC	AGN	\$ 51,054.10	0.23%	1.88%	9.00%	10.96%	0.0253%
AMERICAN INTERNATIONAL GROUP	AIG	\$ 50,579.98	0.23%	2.28%	27.00%	29.59%	0.0675%
APARTMENT INVT & MGMT CO -A	AIV	\$ -	N/A	3.90%	N/A	N/A	N/A
ASSURANT INC	AIZ	\$ 4,753.42	0.02%	2.54%	4.00%	6.59%	0.0014%
ARTHUR J GALLAGHER & CO	AJG	\$ 12,665.04	0.06%	2.34%	15.50%	18.02%	0.0103%
AKAMAI TECHNOLOGIES INC	AKAM	\$ 12,743.10	0.06%	0.00%	13.00%	13.00%	0.0075%
ALBEMARLE CORP	ALB	\$ 10,969.94	0.05%	1.35%	14.00%	15.44%	0.0076%
ALIGN TECHNOLOGY INC	ALGN	\$ 21,501.60	0.10%	0.00%	25.50%	25.50%	0.0247%
ALASKA AIR GROUP INC	ALK	\$ 7,995.48	0.04%	1.98%	6.00%	8.04%	0.0029%
ALLSTATE CORP	ALL	\$ 33,958.80	0.15%	1.95%	11.50%	13.56%	0.0208%
ALLEGION PLC	ALLE	\$ 8,057.46	0.04%	0.99%	10.00%	11.04%	0.0040%
ALEXION PHARMACEUTICALS INC	ALXN	\$ 26,762.23	0.12%	0.00%	19.00%	19.00%	0.0229%
APPLIED MATERIALS INC	AMAT	\$ 62,932.20	0.28%	1.35%	24.00%	25.51%	0.0725%
ADVANCED MICRO DEVICES	AMD	\$ 11,551.05	N/A	0.00%	N/A	N/A	N/A
AMETEK INC	AME	\$ 17,853.79	0.08%	0.73%	7.00%	7.76%	0.0062%
AFFILIATED MANAGERS GROUP	AMG	\$ 10,649.62	0.05%	0.68%	7.00%	7.70%	0.0037%
AMGEN INC	AMGN	\$ 135,167.00	0.61%	2.84%	6.50%	9.43%	0.0575%
AMERIPRISE FINANCIAL INC	AMP	\$ 23,201.55	0.10%	2.12%	13.50%	15.76%	0.0165%
AMERICAN TOWER CORP	AMT	\$ 61,270.29	0.28%	2.19%	11.50%	13.82%	0.0382%
AMAZON.COM INC	AMZN	\$ 747,996.60	3.38%	0.00%	60.00%	60.00%	2.0253%
ANDEAVOR	ANDV	\$ 15,677.50	0.07%	2.35%	5.50%	7.91%	0.0056%
ANSYS INC	ANSS	\$ 14,252.11	0.06%	0.00%	11.00%	11.00%	0.0071%
ANTHEM INC	ANTM	\$ 58,506.41	0.26%	1.31%	11.50%	12.89%	0.0340%
AON PLC	AON	\$ 36,172.89	0.16%	1.00%	10.50%	11.55%	0.0189%
SMITH (A.O.) CORP	AOS	\$ 11,096.36	0.05%	1.12%	14.00%	15.20%	0.0076%
APACHE CORP	APA	\$ 13,321.40	0.06%	2.86%	21.00%	24.16%	0.0145%
ANADARKO PETROLEUM CORP	APC	\$ 31,542.41	N/A	1.75%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	\$ 36,580.32	0.17%	2.63%	9.00%	11.75%	0.0194%
AMPHENOL CORP-CL A	APH	\$ 27,657.61	0.12%	0.84%	9.50%	10.38%	0.0130%
APTIV PLC	APTIV	\$ 23,845.76	0.11%	0.98%	8.50%	9.52%	0.0102%
ALEXANDRIA REAL ESTATE EQUIT	ARE	N/A	N/A	0.00%	N/A	N/A	N/A
ARCONIC INC	ARNC	\$ 11,936.83	N/A	0.97%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	\$ 58,072.73	0.26%	0.44%	9.00%	9.46%	0.0248%
AVALONBAY COMMUNITIES INC	AVB	\$ -	N/A	3.84%	N/A	N/A	N/A
BROADCOM LTD	AVGO	\$ 100,645.20	0.45%	2.84%	44.00%	47.46%	0.2156%
AVERY DENNISON CORP	AVY	\$ 10,173.36	0.05%	1.70%	12.50%	14.31%	0.0066%
AMERICAN WATER WORKS CO INC	AWK	\$ 14,412.62	0.07%	2.20%	8.50%	10.79%	0.0070%
AMERICAN EXPRESS CO	AXP	\$ 82,970.80	0.37%	1.51%	8.50%	10.07%	0.0377%
ACUITY BRANDS INC	AYI	\$ 6,365.42	0.03%	0.34%	14.50%	14.86%	0.0043%
AUTOZONE INC	AZO	\$ 17,845.71	0.08%	0.00%	14.00%	14.00%	0.0113%
BOEING CO/THE	BA	\$ 206,113.00	0.93%	1.96%	16.00%	18.12%	0.1685%
BANK OF AMERICA CORP	BAC	\$ 336,730.60	1.52%	1.62%	18.00%	19.77%	0.3004%
BAXTER INTERNATIONAL INC	BAX	\$ 36,936.47	0.17%	0.94%	5.50%	6.47%	0.0108%
BB&T CORP	BBT	\$ 43,406.43	0.20%	2.51%	9.00%	11.62%	0.0228%
BEST BUY CO INC	BBY	\$ 21,682.00	0.10%	2.46%	10.00%	12.58%	0.0123%
BECTON DICKINSON AND CO	BDX	\$ 59,489.11	0.27%	1.36%	10.00%	11.43%	0.0307%
FRANKLIN RESOURCES INC	BEN	\$ 21,831.08	0.10%	2.38%	8.00%	10.48%	0.0103%
BROWN-FORMAN CORP-CLASS B	BF/B	\$ 25,717.95	0.12%	1.18%	11.50%	12.75%	0.0148%
BRIGHTHOUSE FINANCIAL INC	BHF	N/A	N/A	0.00%	N/A	N/A	N/A
BAKER HUGHES A GE CO	BHGE	\$ 12,544.68	N/A	2.46%	N/A	N/A	N/A
BIOGEN INC	BIIB	\$ 60,205.39	0.27%	0.00%	5.50%	5.50%	0.0149%
BANK OF NEW YORK MELLON CORP	BK	\$ 57,027.79	0.26%	1.72%	9.00%	10.80%	0.0278%
BOOKING HOLDINGS INC	BKNG	\$ 104,820.70	0.47%	0.00%	15.00%	15.00%	0.0710%
BLACKROCK INC	BLK	\$ 88,834.59	0.40%	2.08%	12.00%	14.20%	0.0569%
BALL CORP	BLL	\$ 14,350.89	0.06%	0.98%	15.00%	16.05%	0.0104%
BRISTOL-MYERS SQUIBB CO	BMJ	\$ 109,249.70	0.49%	2.40%	14.50%	17.07%	0.0842%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	\$ -	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	\$ 38,230.70	0.17%	0.00%	16.50%	16.50%	0.0285%
BORGWARNER INC	BWA	\$ 10,509.03	0.05%	1.36%	8.50%	9.92%	0.0047%
BOSTON PROPERTIES INC	BXP	\$ -	N/A	2.62%	N/A	N/A	N/A
CITIGROUP INC	C	\$ 195,947.00	0.88%	1.73%	11.00%	12.83%	0.1134%
CA INC	CA	\$ 14,905.01	0.07%	2.88%	6.00%	8.97%	0.0060%
CONAGRA BRANDS INC	CAG	\$ 15,217.11	0.07%	2.24%	5.00%	7.30%	0.0050%
CARDINAL HEALTH INC	CAH	\$ 22,182.30	0.10%	2.78%	11.00%	13.93%	0.0139%
CATERPILLAR INC	CAT	\$ 91,375.91	0.41%	2.03%	13.50%	15.67%	0.0646%
CHUBB LTD	CB	\$ 65,868.80	0.30%	2.00%	7.00%	9.07%	0.0270%

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
CBRE GROUP INC - A	CBG	\$ 15,947.79	0.07%	0.00%	12.00%	12.00%	0.0086%
CBOE GLOBAL MARKETS INC	CBOE	\$ 13,602.48	0.06%	0.90%	16.50%	17.47%	0.0107%
CBS CORP-CLASS B NON VOTING	CBS	\$ 21,064.00	0.10%	1.37%	13.50%	14.96%	0.0142%
CROWN CASTLE INTL CORP	CCI	\$ 44,787.76	0.20%	3.99%	9.50%	13.68%	0.0276%
CARNIVAL CORP	CCL	\$ 48,112.33	0.22%	2.70%	14.00%	16.89%	0.0367%
CADENCE DESIGN SYS INC	CDNS	\$ 11,096.75	0.05%	0.00%	11.00%	11.00%	0.0055%
CELGENE CORP	CELG	\$ 71,775.65	0.32%	0.00%	25.00%	25.00%	0.0810%
CERNER CORP	CERN	\$ 21,155.05	0.10%	0.00%	9.00%	9.00%	0.0086%
CF INDUSTRIES HOLDINGS INC	CF	\$ 9,537.88	0.04%	3.18%	8.50%	11.82%	0.0051%
CITIZENS FINANCIAL GROUP	CFG	\$ 22,587.62	0.10%	1.99%	11.50%	13.60%	0.0139%
CHURCH & DWIGHT CO INC	CHD	\$ 12,730.47	0.06%	1.71%	7.50%	9.27%	0.0053%
CHESAPEAKE ENERGY CORP	CHK	\$ 2,691.83	N/A	0.00%	N/A	N/A	N/A
C.H. ROBINSON WORLDWIDE INC	CHRW	\$ 12,532.44	0.06%	2.05%	9.50%	11.65%	0.0066%
CHARTER COMMUNICATIONS INC-A	CHTR	\$ 81,375.86	0.37%	0.00%	19.50%	19.50%	0.0716%
CIGNA CORP	CI	\$ 42,406.43	0.19%	0.02%	12.50%	12.52%	0.0240%
CINCINNATI FINANCIAL CORP	CINF	\$ 12,342.64	0.06%	2.82%	6.50%	9.41%	0.0052%
COLGATE-PALMOLIVE CO	CL	\$ 62,363.02	0.28%	2.37%	11.00%	13.50%	0.0380%
CLOROX COMPANY	CLX	\$ 17,200.70	0.08%	2.89%	7.00%	9.99%	0.0078%
COMERICA INC	CMA	\$ 17,492.27	0.08%	1.20%	17.00%	18.30%	0.0144%
COMCAST CORP-CLASS A	CMCSA	\$ 171,289.40	0.77%	2.06%	12.50%	14.69%	0.1135%
CME GROUP INC	CME	\$ 57,121.04	0.26%	1.66%	8.50%	10.23%	0.0264%
CHIPOTLE MEXICAN GRILL INC	CMG	\$ 9,020.45	0.04%	0.00%	18.00%	18.00%	0.0073%
CUMMINS INC	CMI	\$ 26,522.72	0.12%	2.71%	8.00%	10.82%	0.0129%
CMS ENERGY CORP	CMS	\$ 11,986.90	0.05%	3.43%	7.00%	10.55%	0.0057%
CENTENE CORP	CNC	\$ 17,304.92	0.08%	0.00%	14.00%	14.00%	0.0109%
CENTERPOINT ENERGY INC	CNP	\$ 11,676.98	0.05%	4.13%	8.50%	12.81%	0.0067%
CAPITAL ONE FINANCIAL CORP	COF	\$ 47,545.82	0.21%	1.63%	5.00%	6.67%	0.0143%
CABOT OIL & GAS CORP	COG	\$ 11,539.55	N/A	0.96%	N/A	N/A	N/A
ROCKWELL COLLINS INC	COL	\$ 22,370.71	0.10%	0.97%	12.50%	13.53%	0.0137%
COOPER COS INC/THE	COO	\$ 12,130.70	0.05%	0.02%	16.50%	16.52%	0.0090%
CONOCOPHILLIPS	COP	\$ 63,876.81	0.29%	2.13%	62.00%	64.79%	0.1868%
COSTCO WHOLESALE CORP	COST	\$ 81,552.27	0.37%	1.16%	10.00%	11.22%	0.0413%
COTY INC-CL A	COTY	\$ 14,486.14	0.07%	2.59%	7.00%	9.68%	0.0063%
CAMPBELL SOUP CO	CPB	\$ 13,934.22	0.06%	3.25%	4.00%	7.32%	0.0046%
SALESFORCE.COM INC	CRM	\$ 91,269.83	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	\$ 215,847.10	0.97%	2.98%	7.50%	10.59%	0.1032%
CSRA INC	CSRA	\$ 6,656.29	N/A	0.98%	N/A	N/A	N/A
CSX CORP	CSX	\$ 50,271.92	0.23%	1.56%	13.50%	15.17%	0.0344%
CINTAS CORP	CTAS	\$ 18,337.33	0.08%	1.05%	14.00%	15.12%	0.0125%
CENTURYLINK INC	CTL	\$ 9,794.83	0.04%	12.12%	5.50%	17.95%	0.0079%
COGNIZANT TECH SOLUTIONS-A	CTSH	\$ 49,099.80	0.22%	0.96%	13.50%	14.52%	0.0322%
CITRIX SYSTEMS INC	CTXS	\$ 14,244.99	0.06%	0.00%	6.50%	6.50%	0.0042%
CVS HEALTH CORP	CVS	\$ 69,248.68	0.31%	2.93%	8.00%	11.05%	0.0345%
CHEVRON CORP	CVX	\$ 215,294.00	0.97%	3.95%	12.50%	16.70%	0.1622%
CONCHO RESOURCES INC	CXO	\$ 22,266.34	0.10%	0.00%	20.50%	20.50%	0.0206%
DOMINION ENERGY INC	D	\$ 46,902.52	0.21%	4.71%	7.00%	11.87%	0.0251%
DELTA AIR LINES INC	DAL	\$ 38,956.84	0.18%	2.23%	10.50%	12.85%	0.0226%
DEERE & CO	DE	\$ 52,149.13	0.24%	1.49%	15.00%	16.60%	0.0391%
DISCOVER FINANCIAL SERVICES	DFS	\$ 28,221.92	0.13%	1.82%	7.50%	9.39%	0.0120%
DOLLAR GENERAL CORP	DG	\$ 23,368.08	0.11%	1.21%	11.00%	12.28%	0.0129%
QUEST DIAGNOSTICS INC	DGX	\$ 14,231.04	0.06%	1.91%	10.00%	12.01%	0.0077%
DR HORTON INC	DHI	\$ 16,376.50	0.07%	1.15%	11.00%	12.21%	0.0090%
DANAHER CORP	DHR	\$ 70,669.76	0.32%	0.63%	9.00%	9.66%	0.0308%
WALT DISNEY CO/THE	DIS	\$ 156,045.00	0.70%	1.62%	8.50%	10.19%	0.0717%
DISCOVERY COMMUNICATIONS-A	DISCA	\$ 9,082.16	0.04%	0.00%	13.50%	13.50%	0.0055%
DISH NETWORK CORP-A	DISH	\$ 19,302.45	0.09%	0.00%	1.00%	1.00%	0.0009%
DIGITAL REALTY TRUST INC	DLR	\$ -	N/A	3.90%	N/A	N/A	N/A
DOLLAR TREE INC	DLTR	\$ 21,651.70	0.10%	0.00%	21.00%	21.00%	0.0205%
DOVER CORP	DOV	\$ 15,608.70	0.07%	1.88%	8.00%	9.96%	0.0070%
DR PEPPER SNAPPLE GROUP INC	DPS	\$ 21,198.11	0.10%	2.05%	7.50%	9.63%	0.0092%
DUKE REALTY CORP	DRE	\$ -	0.00%	3.18%	33.50%	37.21%	0.0000%
DARDEN RESTAURANTS INC	DRI	\$ 11,565.25	0.05%	2.71%	13.00%	15.89%	0.0083%
DTE ENERGY COMPANY	DTE	\$ 18,010.35	0.08%	3.65%	7.00%	10.78%	0.0088%
DUKE ENERGY CORP	DUK	\$ 53,193.00	0.24%	4.84%	4.50%	9.45%	0.0227%
DAVITA INC	DVA	\$ 13,738.24	0.06%	0.00%	9.00%	9.00%	0.0056%
DEVON ENERGY CORP	DVN	\$ 17,004.75	0.08%	0.99%	14.00%	15.06%	0.0116%
DOWDUPONT INC	DWDP	\$ 165,114.60	N/A	2.27%	N/A	N/A	N/A
DXC TECHNOLOGY CO	DXC	\$ 29,460.50	0.13%	0.70%	19.00%	19.77%	0.0263%
ELECTRONIC ARTS INC	EA	\$ 39,547.74	0.18%	0.00%	13.00%	13.00%	0.0232%
EBAY INC	EBAY	\$ 45,820.32	0.21%	0.00%	10.00%	10.00%	0.0207%
ECOLAB INC	ECL	\$ 38,812.71	0.18%	1.22%	8.00%	9.27%	0.0162%
CONSOLIDATED EDISON INC	ED	\$ 23,346.10	0.11%	3.84%	3.00%	6.90%	0.0073%
EQUIFAX INC	EFX	\$ 14,515.20	0.07%	1.29%	8.50%	9.84%	0.0064%
EDISON INTERNATIONAL	EIX	\$ 19,405.30	0.09%	4.11%	4.00%	8.19%	0.0072%
ESTEE LAUDER COMPANIES-CL A	EL	\$ 53,146.07	0.24%	1.08%	13.50%	14.65%	0.0351%
EASTMAN CHEMICAL CO	EMN	\$ 15,216.03	0.07%	2.12%	10.50%	12.73%	0.0087%
EMERSON ELECTRIC CO	EMR	\$ 45,056.01	0.20%	2.76%	12.00%	14.93%	0.0303%
EOG RESOURCES INC	EOG	\$ 58,198.45	0.26%	0.75%	27.50%	28.35%	0.0745%
EQUINIX INC	EQIX	\$ 30,465.88	0.14%	2.34%	23.00%	25.61%	0.0352%
EQUITY RESIDENTIAL	EQR	\$ -	N/A	3.57%	N/A	N/A	N/A
EQT CORP	EQT	\$ 8,852.63	0.04%	0.24%	20.50%	20.76%	0.0083%
EVERSOURCE ENERGY	ES	\$ 18,021.25	0.08%	3.55%	6.50%	10.17%	0.0083%
EXPRESS SCRIPTS HOLDING CO	ESRX	\$ 45,153.41	0.20%	0.00%	16.00%	16.00%	0.0326%
ESSEX PROPERTY TRUST INC	ESS	\$ -	N/A	3.18%	N/A	N/A	N/A
E*TRADE FINANCIAL CORP	ETFC	\$ 14,933.86	0.07%	0.00%	15.50%	15.50%	0.0104%
EATON CORP PLC	ETN	\$ 35,750.29	0.16%	3.25%	7.00%	10.36%	0.0167%
ENTERGY CORP	ETR	\$ 13,838.43	0.06%	4.70%	2.00%	6.75%	0.0042%
ENVISION HEALTHCARE CORP	EVHC	\$ 5,172.84	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	\$ 29,252.32	0.13%	0.00%	16.50%	16.50%	0.0218%
EXELON CORP	EXC	\$ 35,983.90	0.16%	3.69%	6.00%	9.80%	0.0159%
EXPEDITORS INTL WASH INC	EXPD	\$ 11,276.77	0.05%	1.39%	9.00%	10.45%	0.0053%
EXPEDIA INC	EXPE	\$ 16,797.96	0.08%	1.23%	19.00%	20.35%	0.0154%
EXTRA SPACE STORAGE INC	EXR	\$ -	N/A	4.00%	N/A	N/A	N/A
FORD MOTOR CO	F	\$ 42,146.13	0.19%	5.66%	3.00%	8.74%	0.0166%
FASTENAL CO	FAST	\$ 16,242.89	0.07%	2.62%	5.50%	8.19%	0.0060%
FACEBOOK INC-A	FB	\$ 529,880.00	2.39%	0.00%	31.50%	31.50%	0.7532%

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	\$ 9,407.11	0.04%	1.29%	12.00%	13.37%	0.0057%
FREEMPORT-MCMORAN INC	FCX	\$ 25,875.76	N/A	0.00%	N/A	N/A	N/A
FEDEX CORP	FDX	\$ 64,419.51	0.29%	0.96%	11.00%	12.01%	0.0349%
FIRSTENERGY CORP	FE	\$ 14,273.68	0.06%	4.53%	9.00%	13.73%	0.0088%
F5 NETWORKS INC	FFIV	\$ 9,094.78	0.04%	0.00%	10.00%	10.00%	0.0041%
FIDELITY NATIONAL INFO SERV	FIS	\$ 33,060.24	0.15%	1.29%	7.50%	8.84%	0.0132%
FISERV INC	FISV	\$ 30,505.68	0.14%	0.00%	9.00%	9.00%	0.0124%
FIFTH THIRD BANCORP	FITB	\$ 23,753.31	0.11%	2.14%	8.50%	10.73%	0.0115%
FOOT LOCKER INC	FL	\$ 5,446.78	0.02%	3.38%	7.00%	10.50%	0.0026%
FLIR SYSTEMS INC	FLIR	\$ 6,959.46	0.03%	1.43%	7.50%	8.98%	0.0028%
FLUOR CORP	FLR	\$ 7,998.20	0.04%	1.47%	2.00%	3.48%	0.0013%
FLOWERVE CORP	FLS	\$ 5,797.91	N/A	1.71%	N/A	N/A	N/A
FMC CORP	FMC	\$ 11,043.05	0.05%	0.90%	13.50%	14.46%	0.0072%
TWENTY-FIRST CENTURY FOX-A	FOXA	\$ 68,877.06	0.31%	0.97%	11.50%	12.53%	0.0389%
FEDERAL REALTY INVS TRUST	FRT	\$ -	N/A	3.46%	N/A	N/A	N/A
TECHNIPFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
FORTIVE CORP	FTV	\$ 27,230.10	N/A	0.36%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	\$ 67,291.48	0.30%	1.64%	8.50%	10.21%	0.0310%
GENERAL ELECTRIC CO	GE	\$ 125,918.70	0.57%	3.31%	8.50%	11.95%	0.0679%
GGP INC	GGP	\$ -	N/A	4.64%	N/A	N/A	N/A
GILEAD SCIENCES INC	GILD	\$ 104,651.50	0.47%	2.85%	-1.00%	1.84%	0.0087%
GENERAL MILLS INC	GIS	\$ 29,419.52	0.13%	3.87%	5.50%	9.48%	0.0126%
CORNING INC	GLW	\$ 25,165.14	0.11%	2.46%	11.50%	14.10%	0.0160%
GENERAL MOTORS CO	GM	\$ 52,976.00	0.24%	4.02%	5.50%	9.63%	0.0230%
ALPHABET INC-CL A	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
GENUINE PARTS CO	GPC	\$ 13,271.41	0.06%	3.18%	7.50%	10.80%	0.0065%
GLOBAL PAYMENTS INC	GPN	\$ 18,183.13	0.08%	0.04%	12.00%	12.04%	0.0099%
GAP INC/THE	GPS	\$ 12,681.40	0.06%	2.98%	4.00%	7.04%	0.0040%
GARMIN LTD	GRMN	\$ 11,270.64	0.05%	3.47%	5.50%	9.07%	0.0046%
GOLDMAN SACHS GROUP INC	GS	\$ 100,969.00	0.46%	1.13%	9.50%	10.68%	0.0487%
GOODYEAR TIRE & RUBBER CO	GT	\$ 6,834.78	0.03%	2.18%	12.50%	14.82%	0.0046%
WW GRAINGER INC	GWW	\$ 15,473.58	0.07%	1.86%	4.50%	6.40%	0.0045%
HALLIBURTON CO	HAL	\$ 40,120.72	0.18%	1.57%	23.00%	24.75%	0.0448%
HASBRO INC	HAS	\$ 11,630.95	0.05%	2.70%	11.00%	13.85%	0.0073%
HUNTINGTON BANCSHARES INC	HBAN	\$ 17,468.09	0.08%	2.85%	9.00%	11.98%	0.0094%
HANESBRANDS INC	HBI	\$ 7,123.74	0.03%	3.38%	9.50%	13.04%	0.0042%
HCA HEALTHCARE INC	HCA	\$ 35,812.57	0.16%	1.37%	13.00%	14.46%	0.0234%
HCP INC	HCP	\$ -	N/A	6.65%	N/A	N/A	N/A
HOME DEPOT INC	HD	\$ 207,833.90	0.94%	2.34%	11.00%	13.47%	0.1263%
HESS CORP	HES	\$ 14,839.11	N/A	2.14%	N/A	N/A	N/A
HARTFORD FINANCIAL SVCS GRP	HIG	\$ 19,435.88	0.09%	1.84%	12.50%	14.46%	0.0127%
HUNTINGTON INGALLS INDUSTRIE	HII	\$ 11,768.85	0.05%	1.10%	9.50%	10.65%	0.0057%
HILTON WORLDWIDE HOLDINGS IN	HLT	\$ 25,420.07	0.11%	0.76%	8.50%	9.29%	0.0107%
HARLEY-DAVIDSON INC	HOG	\$ 7,462.20	0.03%	3.34%	8.00%	11.47%	0.0039%
HOLOGIC INC	HOLX	\$ 10,677.51	0.05%	0.00%	22.00%	22.00%	0.0106%
HONEYWELL INTERNATIONAL INC	HON	\$ 115,210.50	0.52%	1.97%	8.50%	10.55%	0.0549%
HELMERICH & PAYNE	HP	\$ 7,077.10	0.03%	4.31%	62.00%	67.65%	0.0216%
HEWLETT PACKARD ENTERPRISE	HPE	\$ 30,228.30	0.14%	1.58%	3.50%	5.11%	0.0070%
HP INC	HPQ	\$ 39,507.44	0.18%	2.34%	4.50%	6.89%	0.0123%
H&R BLOCK INC	HRB	\$ 5,786.32	0.03%	3.47%	9.00%	12.63%	0.0033%
HORMEL FOODS CORP	HRL	\$ 17,702.17	0.08%	2.24%	10.50%	12.86%	0.0103%
HARRIS CORP	HRS	\$ 18,467.18	0.08%	1.46%	10.50%	12.04%	0.0100%
HENRY SCHEIN INC	HSIC	\$ 10,536.26	0.05%	0.00%	9.00%	9.00%	0.0043%
HOST HOTELS & RESORTS INC	HST	\$ -	N/A	4.46%	N/A	N/A	N/A
HERSHEY CO/THE	HSY	\$ 20,993.16	0.09%	2.63%	7.50%	10.23%	0.0097%
HUMANA INC	HUM	\$ 38,503.63	0.17%	0.74%	13.00%	13.79%	0.0240%
INTL BUSINESS MACHINES CORP	IBM	\$ 144,617.80	N/A	4.03%	N/A	N/A	N/A
INTERCONTINENTAL EXCHANGE IN	ICE	\$ 43,539.80	0.20%	1.29%	12.00%	13.37%	0.0263%
IDEXX LABORATORIES INC	IDXX	\$ 17,237.58	0.08%	0.00%	17.00%	17.00%	0.0132%
INTL FLAVORS & FRAGRANCES	IFF	\$ 10,977.80	0.05%	2.07%	8.00%	10.15%	0.0050%
ILLUMINA INC	ILMN	\$ 35,553.92	0.16%	0.00%	16.00%	16.00%	0.0257%
INCYTE CORP	INCY	\$ 19,561.89	N/A	0.00%	N/A	N/A	N/A
IHS MARKIT LTD	INFO	\$ 20,343.65	0.09%	0.00%	19.50%	19.50%	0.0179%
INTEL CORP	INTC	\$ 237,463.20	1.07%	2.37%	7.50%	9.96%	0.1067%
INTUIT INC	INTU	\$ 43,909.35	0.20%	0.91%	15.00%	15.98%	0.0317%
INTERNATIONAL PAPER CO	IP	\$ 22,669.58	0.10%	3.46%	18.50%	22.28%	0.0228%
INTERPUBLIC GROUP OF COS INC	IPG	\$ 9,445.81	0.04%	3.55%	10.00%	13.73%	0.0059%
IPG PHOTONICS CORP	IPGP	\$ 13,074.75	0.06%	0.00%	15.00%	15.00%	0.0089%
IQVIA HOLDINGS INC	IQV	\$ 21,501.92	0.10%	0.00%	14.50%	14.50%	0.0141%
INGERSOLL-RAND PLC	IR	\$ 21,913.74	0.10%	2.06%	11.00%	13.17%	0.0130%
IRON MOUNTAIN INC	IRM	\$ 8,729.71	0.04%	7.22%	9.50%	17.06%	0.0067%
INTUITIVE SURGICAL INC	ISRG	\$ 48,424.32	0.22%	0.00%	15.00%	15.00%	0.0328%
GARTNER INC	IT	\$ 10,927.38	0.05%	0.00%	13.50%	13.50%	0.0067%
ILLINOIS TOOL WORKS	ITW	\$ 56,957.25	0.26%	1.88%	11.50%	13.49%	0.0347%
INVESCO LTD	IVZ	\$ 13,800.69	0.06%	3.42%	7.00%	10.54%	0.0066%
HUNT (JB) TRANSPRT SVCS INC	JBHT	\$ 13,027.56	0.06%	0.81%	12.00%	12.86%	0.0076%
JOHNSON CONTROLS INTERNATION	JCI	\$ 34,849.33	0.16%	2.76%	-0.50%	2.25%	0.0035%
JACOBS ENGINEERING GROUP INC	JEC	\$ 8,438.21	0.04%	1.01%	8.00%	9.05%	0.0034%
JOHNSON & JOHNSON	JNJ	\$ 354,578.70	1.60%	2.67%	9.00%	11.79%	0.1887%
JUNIPER NETWORKS INC	JNPR	\$ 9,517.62	0.04%	2.77%	4.50%	7.33%	0.0031%
JPMORGAN CHASE & CO	JPM	\$ 398,116.40	1.80%	1.99%	8.00%	10.07%	0.1809%
NORDSTROM INC	JWN	\$ 8,351.66	0.04%	2.95%	3.50%	6.50%	0.0025%
KELLOGG CO	K	\$ 24,025.80	0.11%	3.16%	8.00%	11.29%	0.0122%
KEYCORP	KEY	\$ 23,533.84	0.11%	2.11%	12.50%	14.74%	0.0157%
KRAFT HEINZ CO/THE	KHC	\$ 81,593.83	N/A	3.81%	N/A	N/A	N/A
KIMCO REALTY CORP	KIM	\$ -	N/A	7.53%	N/A	N/A	N/A
KLA-TENCOR CORP	KLAC	\$ 18,324.54	0.08%	2.56%	15.50%	18.26%	0.0151%
KIMBERLY-CLARK CORP	KMB	\$ 39,414.37	0.18%	3.57%	10.50%	14.26%	0.0254%
KINDER MORGAN INC	KMI	\$ 35,495.93	0.16%	3.12%	57.00%	61.01%	0.0977%
CARMAX INC	KMX	\$ 11,027.27	0.05%	0.00%	13.50%	13.50%	0.0067%
COCA-COLA CO/THE	KO	\$ 189,445.90	0.85%	3.51%	5.00%	8.60%	0.0735%
MICHAEL KORS HOLDINGS LTD	KORS	\$ 9,238.06	0.04%	0.00%	3.00%	3.00%	0.0013%
KROGER CO	KR	\$ 20,245.38	0.09%	2.39%	4.50%	6.94%	0.0063%
KOHL'S CORP	KSS	\$ 10,447.92	0.05%	3.92%	7.00%	11.06%	0.0052%
KANSAS CITY SOUTHERN	KSU	\$ 11,196.92	0.05%	1.33%	12.50%	13.91%	0.0070%
LOEWS CORP	L	\$ 17,255.60	0.08%	0.49%	14.00%	14.52%	0.0113%

		[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
L BRANDS INC	LB	\$ 11,736.84	0.05%	5.77%	0.50%	6.28%	0.0033%
LEGETT & PLATT INC	LEG	\$ 5,973.95	0.03%	3.18%	7.50%	10.80%	0.0029%
LENNAR CORP-A	LEN	\$ 14,076.29	0.06%	0.27%	10.50%	10.78%	0.0069%
LABORATORY CRP OF AMER HLDGS	LH	\$ 17,642.88	0.08%	0.00%	9.50%	9.50%	0.0076%
LKQ CORP	LKQ	\$ 11,986.81	0.05%	0.00%	11.50%	11.50%	0.0062%
L3 TECHNOLOGIES INC	LLL	\$ 16,142.34	0.07%	1.54%	11.00%	12.62%	0.0092%
ELI LILLY & CO	LLY	\$ 86,865.38	0.39%	2.85%	11.00%	14.01%	0.0549%
LOCKHEED MARTIN CORP	LMT	\$ 97,065.53	0.44%	2.40%	12.50%	15.05%	0.0659%
LINCOLN NATIONAL CORP	LNC	\$ 16,662.07	0.08%	1.78%	8.00%	9.85%	0.0074%
ALLIANT ENERGY CORP	LNT	\$ 8,859.74	0.04%	3.50%	6.50%	10.11%	0.0040%
LOWE'S COS INC	LOW	\$ 71,598.96	0.32%	2.02%	13.50%	15.66%	0.0506%
LAM RESEARCH CORP	LRCX	\$ 33,921.61	0.15%	0.94%	20.00%	21.03%	0.0322%
LEUCADIA NATIONAL CORP	LUK	\$ 8,541.44	0.04%	1.67%	31.00%	32.93%	0.0127%
SOUTHWEST AIRLINES CO	LUV	\$ 34,353.72	0.16%	0.86%	11.50%	12.41%	0.0192%
LYONDELLBASELL INDU-CL A	LYB	\$ 43,141.87	0.19%	3.66%	3.50%	7.22%	0.0141%
MACY'S INC	M	\$ 8,808.05	0.04%	5.22%	2.50%	7.79%	0.0031%
MASTERCARD INC - A	MA	\$ 190,005.00	0.86%	0.56%	13.50%	14.10%	0.1209%
MID-AMERICA APARTMENT COMM	MAA	\$ -	N/A	4.27%	N/A	N/A	N/A
MACERICH CO/THE	MAC	\$ -	N/A	5.10%	N/A	N/A	N/A
MARRIOTT INTERNATIONAL -CL A	MAR	\$ 50,804.36	0.23%	0.95%	17.50%	18.53%	0.0425%
MASCO CORP	MAS	\$ 12,866.08	0.06%	1.06%	14.00%	15.13%	0.0088%
MATTEL INC	MAT	\$ 5,488.89	0.02%	0.00%	1.50%	1.50%	0.0004%
MCDONALD'S CORP	MCD	\$ 123,119.60	0.56%	2.66%	10.00%	12.79%	0.0711%
MICROCHIP TECHNOLOGY INC	MCHP	\$ 22,342.07	0.10%	1.53%	14.50%	16.14%	0.0163%
MCKESSON CORP	MCK	\$ 31,772.08	0.14%	0.94%	9.50%	10.48%	0.0150%
MOODY'S CORP	MCO	\$ 32,172.31	0.15%	1.05%	12.00%	13.11%	0.0190%
MONDELEZ INTERNATIONAL INC-A	MDLZ	\$ 65,796.68	0.30%	2.09%	10.00%	12.19%	0.0362%
MEDTRONIC PLC	MDT	\$ 111,278.80	0.50%	2.31%	6.00%	8.38%	0.0421%
METLIFE INC	MET	\$ 49,382.80	0.22%	3.67%	5.50%	9.27%	0.0207%
MGM RESORTS INTERNATIONAL	MGM	\$ 20,306.89	0.09%	1.34%	44.50%	46.14%	0.0423%
MOHAWK INDUSTRIES INC	MHK	\$ 17,847.07	0.08%	0.00%	8.50%	8.50%	0.0068%
MCCORMICK & CO-NON VTG SHRS	MKC	\$ 14,360.00	0.06%	1.90%	10.50%	12.50%	0.0081%
MARTIN MARIETTA MATERIALS	MLM	\$ 13,015.34	0.06%	0.85%	17.50%	18.42%	0.0108%
MARSH & MCLENNAN COS	MMC	\$ 43,162.10	0.19%	1.78%	10.50%	12.37%	0.0241%
3M CO	MMM	\$ 140,766.00	0.64%	2.30%	9.50%	11.91%	0.0757%
MONSTER BEVERAGE CORP	MNST	\$ 32,049.79	0.14%	0.00%	13.50%	13.50%	0.0195%
ALTRIA GROUP INC	MO	\$ 124,946.50	0.56%	4.28%	10.00%	14.49%	0.0817%
MONSANTO CO	MON	\$ 54,215.16	0.24%	1.76%	7.50%	9.33%	0.0228%
MOSAIC CO/THE	MOS	\$ 9,580.16	0.04%	0.37%	3.00%	3.38%	0.0015%
MARATHON PETROLEUM CORP	MPC	\$ 34,376.94	0.16%	2.80%	8.50%	11.42%	0.0177%
MERCK & CO. INC.	MRK	\$ 149,297.90	0.67%	3.51%	5.50%	9.11%	0.0614%
MARATHON OIL CORP	MRO	\$ 12,605.50	N/A	1.35%	N/A	N/A	N/A
MORGAN STANLEY	MS	\$ 103,238.40	0.47%	1.76%	10.50%	12.35%	0.0575%
MICROSOFT CORP	MSFT	\$ 727,583.10	3.28%	1.78%	9.50%	11.36%	0.3731%
MOTOROLA SOLUTIONS INC	MSI	\$ 17,572.14	0.08%	1.99%	12.00%	14.11%	0.0112%
M & T BANK CORP	MTB	\$ 29,697.82	0.13%	1.54%	9.50%	11.11%	0.0149%
METTLER-TOLEDO INTERNATIONAL	MTD	\$ 15,523.38	0.07%	0.00%	11.50%	11.50%	0.0081%
MICRON TECHNOLOGY INC	MU	\$ 63,944.76	0.29%	0.00%	31.00%	31.00%	0.0895%
MYLAN NV	MYL	\$ 22,532.06	0.10%	0.00%	10.00%	10.00%	0.0102%
NAVIENT CORP	NAVI	\$ 3,569.07	0.02%	4.72%	6.00%	10.86%	0.0017%
NOBLE ENERGY INC	NBL	\$ 15,033.20	N/A	1.30%	N/A	N/A	N/A
NORWEGIAN CRUISE LINE HOLDIN	NCLH	\$ 12,668.05	0.06%	0.00%	21.50%	21.50%	0.0123%
NASDAQ INC	NDAQ	\$ 14,137.25	0.06%	1.79%	9.50%	11.38%	0.0073%
NEXTERA ENERGY INC	NEE	\$ 72,587.12	0.33%	2.90%	8.50%	11.52%	0.0377%
NEWMONT MINING CORP	NEM	\$ 20,085.44	0.09%	1.49%	9.00%	10.56%	0.0096%
NETFLIX INC	NFLX	\$ 137,175.70	0.62%	0.00%	44.50%	44.50%	0.2755%
NEWFIELD EXPLORATION CO	NFX	\$ 4,692.83	0.02%	0.00%	19.00%	19.00%	0.0040%
NISOURCE INC	NI	\$ 7,778.31	0.04%	3.38%	18.00%	21.68%	0.0076%
NIKE INC -CL B	NKE	\$ 105,738.60	0.48%	1.23%	14.00%	15.32%	0.0731%
NIELSEN HOLDINGS PLC	NLSN	\$ 11,671.44	0.05%	4.15%	9.00%	13.34%	0.0070%
NORTHROP GRUMMAN CORP	NOC	\$ 60,296.43	0.27%	1.27%	8.50%	9.82%	0.0267%
NATIONAL OILWELL VARCO INC	NOV	\$ 13,925.14	0.06%	0.55%	3.00%	3.56%	0.0022%
NRG ENERGY INC	NRG	\$ 9,372.51	N/A	0.41%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	\$ 40,186.77	0.18%	2.05%	11.50%	13.67%	0.0248%
NETAPP INC	NTAP	\$ 17,055.96	0.08%	1.25%	16.00%	17.35%	0.0134%
NORTHERN TRUST CORP	NTRS	\$ 24,509.16	0.11%	1.56%	11.00%	12.65%	0.0140%
NUCOR CORP	NUE	\$ 21,500.73	0.10%	2.25%	20.00%	22.48%	0.0218%
NVIDIA CORP	NVDA	\$ 146,155.10	0.66%	0.25%	23.50%	23.78%	0.1568%
NEWELL BRANDS INC	NWL	\$ 13,561.07	0.06%	3.33%	24.50%	28.24%	0.0173%
NEWS CORP - CLASS A	NWSA	\$ 9,451.69	N/A	1.23%	N/A	N/A	N/A
REALTY INCOME CORP	O	\$ -	N/A	5.24%	N/A	N/A	N/A
ONEOK INC	OKE	\$ 21,580.73	0.10%	5.57%	17.50%	23.56%	0.0229%
OMNICOM GROUP	OMC	\$ 16,946.48	0.08%	3.27%	7.50%	10.89%	0.0083%
ORACLE CORP	ORCL	\$ 215,974.60	0.97%	1.46%	8.00%	9.52%	0.0928%
O'REILLY AUTOMOTIVE INC	ORLY	\$ 20,680.81	0.09%	0.00%	13.50%	13.50%	0.0126%
OCCIDENTAL PETROLEUM CORP	OXY	\$ 48,179.82	0.22%	4.96%	21.00%	26.48%	0.0576%
PAYCHEX INC	PAYX	\$ 23,488.09	0.11%	3.41%	12.00%	15.61%	0.0166%
PEOPLE'S UNITED FINANCIAL	PBCT	\$ 6,812.74	0.03%	3.54%	13.50%	17.28%	0.0053%
PACCAR INC	PCAR	\$ 23,958.24	0.11%	3.23%	6.50%	9.83%	0.0106%
P G & E CORP	PCG	\$ 21,480.73	0.10%	0.00%	8.50%	8.50%	0.0082%
PATTERSON COS INC	PDCO	\$ 2,363.01	0.01%	4.41%	14.50%	19.23%	0.0021%
PUBLIC SERVICE ENTERPRISE GP	PEG	\$ 23,649.15	0.11%	3.84%	2.00%	5.88%	0.0063%
PEPSICO INC	PEP	\$ 159,489.80	0.72%	2.92%	7.50%	10.53%	0.0758%
PFIZER INC	PFE	\$ 217,565.80	0.98%	3.73%	12.00%	15.95%	0.1566%
PRINCIPAL FINANCIAL GROUP	PFGB	\$ 17,705.25	0.08%	3.32%	5.00%	8.40%	0.0067%
PROCTER & GAMBLE CO/THE	PG	\$ 201,604.70	0.91%	3.45%	10.00%	13.62%	0.1239%
PROGRESSIVE CORP	PGR	\$ 34,326.03	0.15%	1.90%	15.00%	17.04%	0.0264%
PARKER HANNIFIN CORP	PH	\$ 24,102.98	0.11%	1.46%	13.00%	14.55%	0.0158%
PULTEGROUP INC	PHM	\$ 8,464.92	0.04%	1.36%	17.00%	18.48%	0.0071%
PACKAGING CORP OF AMERICA	PKG	\$ 11,014.59	0.05%	2.16%	8.50%	10.75%	0.0053%
PERKINELMER INC	PKI	\$ 8,507.98	0.04%	0.36%	11.00%	11.38%	0.0044%
PROLOGIS INC	PLD	\$ -	N/A	3.08%	N/A	N/A	N/A
PHILIP MORRIS INTERNATIONAL	PM	\$ 169,300.80	0.76%	3.93%	8.00%	12.09%	0.0923%
PNC FINANCIAL SERVICES GROUP	PNC	\$ 75,917.23	0.34%	1.88%	8.00%	9.96%	0.0341%
PENTAIR PLC	PNR	\$ 12,760.82	0.06%	1.99%	12.00%	14.11%	0.0081%
PINNACLE WEST CAPITAL	PNW	\$ 8,482.58	0.04%	3.77%	5.50%	9.37%	0.0036%

		[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
PPG INDUSTRIES INC	PPG	\$ 29,366.53	0.13%	1.56%	10.50%	12.14%	0.0161%
PPL CORP	PPL	\$ 19,109.45	0.09%	5.91%	1.50%	7.45%	0.0064%
PERRIGO CO PLC	PRGO	\$ 11,976.45	0.05%	0.89%	0.50%	1.39%	0.0008%
PRUDENTIAL FINANCIAL INC	PRU	\$ 45,654.55	0.21%	3.35%	5.50%	8.94%	0.0184%
PUBLIC STORAGE	PSA	\$ -	N/A	4.00%	N/A	N/A	N/A
PHILLIPS 66	PSX	\$ 48,236.58	0.22%	3.24%	4.50%	7.81%	0.0170%
PVH CORP	PVH	\$ 10,811.24	0.05%	0.11%	8.50%	8.61%	0.0042%
QUANTA SERVICES INC	PWR	\$ 5,317.95	0.02%	0.00%	17.00%	17.00%	0.0041%
PRAXAIR INC	PX	\$ 45,201.84	0.20%	2.14%	8.50%	10.73%	0.0219%
PIONEER NATURAL RESOURCES CO	PXD	\$ 28,533.27	0.13%	0.19%	41.50%	41.73%	0.0537%
PAYPAL HOLDINGS INC	PYPL	\$ 96,003.73	N/A	0.00%	N/A	N/A	N/A
QUALCOMM INC	QCOM	\$ 91,493.60	0.41%	3.69%	4.50%	8.27%	0.0342%
QORVO INC	QRVO	\$ 10,652.82	0.05%	0.00%	26.50%	26.50%	0.0127%
ROYAL CARIBBEAN CRUISES LTD	RCL	\$ 26,712.28	0.12%	1.92%	13.50%	15.55%	0.0187%
EVEREST RE GROUP LTD	RE	\$ 10,567.21	0.05%	2.06%	3.50%	5.60%	0.0027%
REGENCY CENTERS CORP	REG	\$ -	N/A	3.77%	N/A	N/A	N/A
REGENERON PHARMACEUTICALS	REGN	\$ 36,676.45	0.17%	0.00%	14.00%	14.00%	0.0232%
REGIONS FINANCIAL CORP	RF	\$ 22,409.18	0.10%	1.97%	12.00%	14.09%	0.0142%
ROBERT HALF INTL INC	RHI	\$ 7,478.20	0.03%	1.88%	5.50%	7.43%	0.0025%
RED HAT INC	RHT	\$ 27,162.88	0.12%	0.00%	20.50%	20.50%	0.0251%
RAYMOND JAMES FINANCIAL INC	RJF	\$ 13,972.52	0.06%	1.04%	12.50%	13.61%	0.0086%
RALPH LAUREN CORP	RL	\$ 8,555.20	0.04%	1.90%	3.50%	5.43%	0.0021%
RESMED INC	RMD	\$ 13,877.70	0.06%	1.48%	10.00%	11.55%	0.0072%
ROCKWELL AUTOMATION INC	ROK	\$ 23,496.03	0.11%	1.82%	6.00%	7.87%	0.0083%
ROPER TECHNOLOGIES INC	ROP	\$ 28,629.63	0.13%	0.59%	9.00%	9.62%	0.0124%
ROSS STORES INC	ROST	\$ 28,745.02	0.13%	1.20%	9.50%	10.76%	0.0140%
RANGE RESOURCES CORP	RRC	\$ 3,736.73	0.02%	0.53%	23.50%	24.09%	0.0041%
REPUBLIC SERVICES INC	RSG	\$ 22,874.28	0.10%	2.10%	12.50%	14.73%	0.0152%
RAYTHEON COMPANY	RTN	\$ 61,657.92	0.28%	1.49%	11.00%	12.57%	0.0350%
SBA COMMUNICATIONS CORP	SBAC	\$ 19,447.06	0.09%	0.00%	88.50%	88.50%	0.0777%
STARBUCKS CORP	SBUX	\$ 80,894.77	0.37%	2.26%	15.00%	17.43%	0.0636%
SCANA CORP	SCG	\$ 5,891.60	0.03%	0.00%	-0.50%	-0.50%	-0.0001%
SCHWAB (CHARLES) CORP	SCHW	\$ 74,921.08	0.34%	0.72%	14.00%	14.77%	0.0499%
SEALED AIR CORP	SEE	\$ 7,384.51	0.03%	1.46%	12.00%	13.55%	0.0045%
SHERWIN-WILLIAMS CO/THE	SHW	\$ 37,812.38	0.17%	0.86%	14.50%	15.42%	0.0263%
SIGNET JEWELERS LTD	SIG	\$ 2,890.74	0.01%	2.84%	5.00%	7.91%	0.0010%
JM SMUCKER CO/THE	SJM	\$ 14,730.51	0.07%	2.43%	8.00%	10.53%	0.0070%
SCHLUMBERGER LTD	SLB	\$ 92,452.39	0.42%	3.00%	17.50%	20.76%	0.0866%
SL GREEN REALTY CORP	SLG	\$ -	N/A	3.27%	N/A	N/A	N/A
SNAP-ON INC	SNA	\$ 8,822.97	0.04%	2.12%	9.00%	11.22%	0.0045%
SYNOPSIS INC	SNPS	\$ 13,203.19	0.06%	0.00%	9.00%	9.00%	0.0054%
SOUTHERN CO/THE	SO	\$ 43,567.50	0.20%	5.53%	4.00%	9.64%	0.0190%
SIMON PROPERTY GROUP INC	SPG	\$ -	N/A	4.99%	N/A	N/A	N/A
S&P GLOBAL INC	SPGI	\$ 49,087.50	0.22%	1.04%	14.50%	15.62%	0.0346%
STERICYCLE INC	SRCL	\$ 5,446.31	0.02%	0.00%	6.50%	6.50%	0.0016%
SEMPRA ENERGY	SRE	\$ 27,557.29	0.12%	3.26%	7.50%	10.88%	0.0135%
SUNTRUST BANKS INC	STI	\$ 33,948.39	0.15%	2.24%	7.00%	9.32%	0.0143%
STATE STREET CORP	STT	\$ 39,036.97	0.18%	1.64%	9.50%	11.22%	0.0198%
SEAGATE TECHNOLOGY	STX	\$ 16,755.72	0.08%	4.28%	4.50%	8.88%	0.0067%
CONSTELLATION BRANDS INC-A	STZ	\$ 44,334.10	0.20%	0.95%	13.50%	14.51%	0.0290%
STANLEY BLACK & DECKER INC	SWK	\$ 24,064.00	0.11%	1.61%	9.50%	11.19%	0.0121%
SKYWORKS SOLUTIONS INC	SWKS	\$ 20,326.66	0.09%	1.15%	14.00%	15.23%	0.0140%
SYNCHRONY FINANCIAL	SYF	\$ 28,830.39	0.13%	1.63%	9.00%	10.70%	0.0139%
STRYKER CORP	SYK	\$ 61,092.90	0.28%	1.15%	14.00%	15.23%	0.0420%
SYMANTEC CORP	SYMC	\$ 17,167.93	0.08%	1.09%	8.50%	9.64%	0.0075%
SYSCO CORP	SYO	\$ 31,534.88	0.14%	2.38%	14.00%	16.55%	0.0235%
AT&T INC	T	\$ 227,834.00	1.03%	5.42%	5.50%	11.07%	0.1138%
MOLSON COORS BREWING CO -B	TAP	\$ 17,350.47	0.08%	2.09%	14.00%	16.24%	0.0127%
TRANSDIGM GROUP INC	TDG	\$ 14,907.99	0.07%	0.00%	11.00%	11.00%	0.0074%
TE CONNECTIVITY LTD	TEL	\$ 36,133.43	0.16%	1.56%	9.50%	11.13%	0.0182%
TARGET CORP	TGT	\$ 37,937.93	0.17%	3.56%	5.00%	8.65%	0.0148%
TIFFANY & CO	TIF	\$ 12,689.79	0.06%	2.11%	8.00%	10.19%	0.0058%
TJX COMPANIES INC	TJX	\$ 52,266.17	0.24%	1.51%	12.00%	13.60%	0.0321%
TORCHMARK CORP	TMK	\$ 9,877.04	0.04%	0.75%	7.50%	8.28%	0.0037%
THERMO FISHER SCIENTIFIC INC	TMO	\$ 84,890.65	0.38%	0.32%	9.00%	9.33%	0.0358%
TAPESTRY INC	TPR	\$ 14,647.52	0.07%	2.60%	14.00%	16.78%	0.0111%
TRIPADVISOR INC	TRIP	\$ 5,893.63	0.03%	0.00%	3.50%	3.50%	0.0009%
T ROWE PRICE GROUP INC	TROW	\$ 27,653.57	0.12%	2.45%	8.00%	10.55%	0.0132%
TRAVELERS COS INC/THE	TRV	\$ 38,227.68	0.17%	2.06%	3.00%	5.09%	0.0088%
TRACTOR SUPPLY COMPANY	TSCO	\$ 8,070.77	0.04%	1.82%	9.00%	10.90%	0.0040%
TYSON FOODS INC-CL A	TSN	\$ 27,588.96	0.12%	1.60%	11.50%	13.19%	0.0164%
TOTAL SYSTEM SERVICES INC	TSS	\$ 16,424.33	0.07%	0.58%	11.50%	12.11%	0.0090%
TIME WARNER INC	TWX	\$ 73,841.41	0.33%	1.70%	9.50%	11.28%	0.0376%
TEXAS INSTRUMENTS INC	TXN	\$ 107,996.20	0.49%	2.27%	10.50%	12.89%	0.0628%
TEXTRON INC	TXT	\$ 15,553.77	0.07%	0.14%	13.00%	13.15%	0.0092%
UNDER ARMOUR INC-CLASS A	UA	\$ 7,578.37	0.03%	0.00%	3.50%	3.50%	0.0012%
UNITED CONTINENTAL HOLDINGS	UAL	\$ 20,699.13	0.09%	0.00%	2.50%	2.50%	0.0023%
UDR INC	UDR	\$ -	N/A	3.60%	N/A	N/A	N/A
UNIVERSAL HEALTH SERVICES-B	UHS	\$ 12,079.45	0.05%	0.31%	10.50%	10.83%	0.0059%
ULTA BEAUTY INC	ULTA	\$ 12,614.22	0.06%	0.00%	21.00%	21.00%	0.0120%
UNITEDHEALTH GROUP INC	UNH	\$ 217,763.40	0.98%	1.34%	14.50%	15.94%	0.1566%
UNUM GROUP	UNM	\$ 11,135.33	0.05%	1.85%	12.00%	13.96%	0.0070%
UNION PACIFIC CORP	UNP	\$ 104,479.40	0.47%	2.21%	11.00%	13.33%	0.0629%
UNITED PARCEL SERVICE-CL B	UPS	\$ 93,785.60	0.42%	3.35%	8.50%	11.99%	0.0508%
UNITED RENTALS INC	URI	\$ 15,507.12	0.07%	0.00%	10.00%	10.00%	0.0070%
US BANCORP	USB	\$ 89,905.41	0.41%	2.30%	7.00%	9.38%	0.0381%
UNITED TECHNOLOGIES CORP	UTX	\$ 104,820.30	0.47%	2.13%	8.00%	10.22%	0.0483%
VISA INC-CLASS A SHARES	V	\$ 252,017.60	1.14%	0.69%	11.50%	12.23%	0.1391%
VARIAN MEDICAL SYSTEMS INC	VAR	\$ 11,313.51	0.05%	0.00%	10.00%	10.00%	0.0051%
VF CORP	VFC	\$ 28,719.82	0.13%	2.53%	9.00%	11.64%	0.0151%
VIACOM INC-CLASS B	VIAB	\$ 13,222.12	0.06%	2.44%	3.00%	5.48%	0.0033%
VALERO ENERGY CORP	VLO	\$ 40,866.70	0.18%	3.43%	7.00%	10.55%	0.0195%
VULCAN MATERIALS CO	VMC	\$ 15,765.25	0.07%	0.94%	19.00%	20.03%	0.0142%
VORNADO REALTY TRUST	VNO	\$ 12,839.55	0.06%	3.73%	-0.50%	3.22%	0.0019%
VERISK ANALYTICS INC	VRSK	\$ 17,172.29	0.08%	0.00%	9.50%	9.50%	0.0074%
VERISIGN INC	VRSN	\$ 11,549.89	0.05%	0.00%	10.50%	10.50%	0.0055%



		[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
VERTEX PHARMACEUTICALS INC	VRTX	\$ 43,431.16	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	\$ -	N/A	6.39%	N/A	N/A	N/A
VERIZON COMMUNICATIONS INC	VZ	\$ 199,933.40	0.90%	4.82%	4.00%	8.92%	0.0804%
WATERS CORP	WAT	\$ 16,616.92	0.07%	0.00%	11.00%	11.00%	0.0082%
WALGREENS BOOTS ALLIANCE INC	WBA	\$ 68,311.06	0.31%	2.32%	9.00%	11.42%	0.0352%
WESTERN DIGITAL CORP	WDC	\$ 28,874.34	0.13%	2.06%	13.00%	15.19%	0.0198%
WEC ENERGY GROUP INC	WEC	\$ 19,022.80	0.09%	3.72%	7.00%	10.85%	0.0093%
WELLTOWER INC	WELL	\$ -	N/A	6.72%	N/A	N/A	N/A
WELLS FARGO & CO	WFC	\$ 279,508.80	1.26%	2.80%	5.00%	7.87%	0.0993%
WHIRLPOOL CORP	WHR	\$ 11,432.16	0.05%	2.77%	8.00%	10.88%	0.0056%
WILLIS TOWERS WATSON PLC	WLTW	\$ 21,108.40	N/A	1.50%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	\$ 37,011.72	0.17%	2.18%	9.50%	11.78%	0.0197%
WILLIAMS COS INC	WMB	\$ 22,425.90	0.10%	5.01%	17.50%	22.95%	0.0232%
WALMART INC	WMT	\$ 260,946.60	1.18%	2.35%	5.50%	7.91%	0.0932%
WESTROCK CO	WRK	\$ 16,836.15	0.08%	2.60%	10.00%	12.73%	0.0097%
WESTERN UNION CO	WU	\$ 9,029.84	0.04%	3.87%	6.00%	9.99%	0.0041%
WEYERHAEUSER CO	WY	\$ 25,957.67	0.12%	3.71%	14.50%	18.48%	0.0216%
WYNDHAM WORLDWIDE CORP	WYN	\$ 11,791.39	0.05%	2.27%	8.00%	10.36%	0.0055%
WYNN RESORTS LTD	WYNN	\$ 18,409.46	0.08%	1.12%	14.00%	15.20%	0.0126%
CIMAREX ENERGY CO	XEC	\$ 8,925.00	0.04%	0.68%	27.50%	28.27%	0.0114%
XCEL ENERGY INC	XEL	\$ 21,899.82	0.10%	3.52%	4.50%	8.10%	0.0080%
XL GROUP LTD	XL	\$ 14,283.74	0.06%	1.58%	11.50%	13.17%	0.0085%
XILINX INC	XLNX	\$ 19,286.95	0.09%	1.85%	8.00%	9.92%	0.0086%
EXXON MOBIL CORP	XOM	\$ 314,046.40	1.42%	4.24%	9.00%	13.43%	0.1903%
DENTSPLY SIRONA INC	XRAY	\$ 13,075.72	0.06%	0.62%	8.50%	9.15%	0.0054%
XEROX CORP	XRX	\$ 7,594.30	0.03%	3.35%	4.00%	7.42%	0.0025%
XYLEM INC	XYL	\$ 13,863.32	0.06%	1.09%	14.00%	15.17%	0.0095%
YUM! BRANDS INC	YUM	\$ 27,940.38	0.13%	1.75%	7.50%	9.32%	0.0117%
ZIMMER BIOMET HOLDINGS INC	ZBH	\$ 24,330.51	0.11%	0.83%	6.50%	7.36%	0.0081%
ZIONS BANCORPORATION	ZION	\$ 11,203.84	0.05%	1.64%	15.50%	17.27%	0.0087%
ZOETIS INC	ZTS	\$ 40,265.65	0.18%	0.61%	13.00%	13.65%	0.0248%
		Total Market Capitalization: \$ 22,159,934.02					15.68%

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	0.638	0.750
Alliant Energy Corporation	LNT	0.552	0.700
Ameren Corporation	AEE	0.488	0.650
American Electric Power Company, Inc.	AEP	0.604	0.650
Black Hills Corporation	BKH	0.670	0.900
CMS Energy Corporation	CMS	0.537	0.650
DTE Energy Company	DTE	0.565	0.650
Duke Energy Corporation	DUK	0.536	0.600
El Paso Electric Company	EE	0.670	0.800
Hawaiian Electric Industries, Inc.	HE	0.555	0.700
IDACORP, Inc.	IDA	0.645	0.700
NorthWestern Corporation	NWE	0.555	0.700
OGE Energy Corp.	OGE	0.661	0.950
Otter Tail Corporation	OTTR	0.817	0.850
Pinnacle West Capital Corporation	PNW	0.638	0.700
PNM Resources, Inc.	PNM	0.696	0.750
Portland General Electric Company	POR	0.506	0.700
Southern Company	SO	0.385	0.550
Wisconsin Energy Corporation	WEC	0.548	0.600
Xcel Energy Inc.	XEL	0.530	0.600
Mean		0.590	0.708

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
<b>PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT</b>						
Current 30-Year Treasury (30-day average) [7]	3.13%	0.590	11.49%	12.56%	9.90%	10.53%
Near-Term Projected 30-Year Treasury [8]	3.42%	0.590	11.49%	12.56%	10.19%	10.82%
Mean					10.05%	10.68%

	[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
<b>PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT</b>						
Current 30-Year Treasury (30-day average) [7]	3.13%	0.708	11.49%	12.56%	11.26%	12.01%
Near-Term Projected 30-Year Treasury [8]	3.42%	0.708	11.49%	12.56%	11.55%	12.30%
Mean					11.40%	12.16%

Notes:

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

[2] Source: RBH-4

[3] Source: RBH-3

[4] Source: RBH-3

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

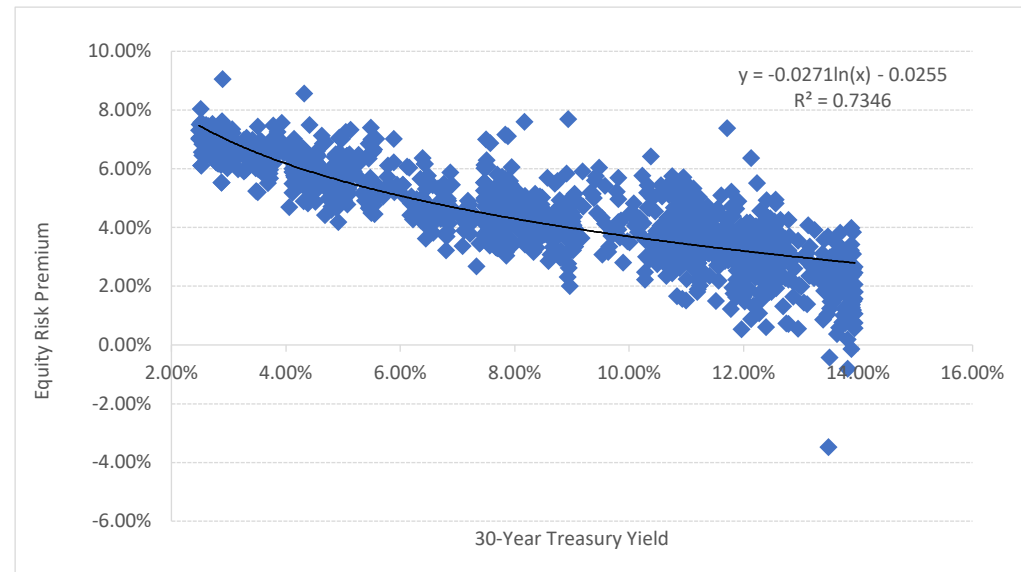
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 37, No. 3, March 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
-2.55%	-2.71%			
		Current 30-Year Treasury	3.13%	6.84%
		Near-Term Projected 30-Year Treasury	3.42%	6.61%
		Long-Term Projected 30-Year Treasury	4.20%	6.05%
				9.97%
				10.02%
				10.25%



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. 3, March 1, 2018, at 2.  
Long Term Projected = Blue Chip Financial Forecasts, Vol. 36, No. 12, December 1, 2017, 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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%



Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
3/24/1983	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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
6/29/1992	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%



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

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%
3/2/1998	11.25%	6.29%	4.96%
3/6/1998	10.75%	6.27%	4.48%
3/20/1998	10.50%	6.22%	4.28%
4/30/1998	12.20%	6.12%	6.08%
7/10/1998	11.40%	5.94%	5.46%
9/15/1998	11.90%	5.78%	6.12%
11/30/1998	12.60%	5.58%	7.02%
12/10/1998	12.20%	5.54%	6.66%
12/17/1998	12.10%	5.52%	6.58%
2/5/1999	10.30%	5.38%	4.92%
3/4/1999	10.50%	5.34%	5.16%
4/6/1999	10.94%	5.32%	5.62%
7/29/1999	10.75%	5.52%	5.23%
9/23/1999	10.75%	5.70%	5.05%
11/17/1999	11.10%	5.90%	5.20%
1/7/2000	11.50%	6.05%	5.45%
1/7/2000	11.50%	6.05%	5.45%
2/17/2000	10.60%	6.17%	4.43%
3/28/2000	11.25%	6.20%	5.05%
5/24/2000	11.00%	6.18%	4.82%
7/18/2000	12.20%	6.16%	6.04%
9/29/2000	11.16%	6.03%	5.13%
11/28/2000	12.90%	5.89%	7.01%
11/30/2000	12.10%	5.88%	6.22%
1/23/2001	11.25%	5.79%	5.46%
2/8/2001	11.50%	5.77%	5.73%
5/8/2001	10.75%	5.62%	5.13%
6/26/2001	11.00%	5.62%	5.38%
7/25/2001	11.02%	5.60%	5.42%
7/25/2001	11.02%	5.60%	5.42%
7/31/2001	11.00%	5.59%	5.41%
8/31/2001	10.50%	5.56%	4.94%
9/7/2001	10.75%	5.55%	5.20%
9/10/2001	11.00%	5.55%	5.45%
9/20/2001	10.00%	5.55%	4.45%
10/24/2001	10.30%	5.54%	4.76%
11/28/2001	10.60%	5.49%	5.11%
12/3/2001	12.88%	5.49%	7.39%
12/20/2001	12.50%	5.50%	7.00%
1/22/2002	10.00%	5.50%	4.50%
3/27/2002	10.10%	5.45%	4.65%
4/22/2002	11.80%	5.45%	6.35%
5/28/2002	10.17%	5.46%	4.71%
6/10/2002	12.00%	5.47%	6.53%
6/18/2002	11.16%	5.48%	5.68%
6/20/2002	11.00%	5.48%	5.52%
6/20/2002	12.30%	5.48%	6.82%
7/15/2002	11.00%	5.48%	5.52%
9/12/2002	12.30%	5.45%	6.85%
9/26/2002	10.45%	5.41%	5.04%
12/4/2002	11.55%	5.29%	6.26%
12/13/2002	11.75%	5.27%	6.48%
12/20/2002	11.40%	5.25%	6.15%
1/8/2003	11.10%	5.19%	5.91%
1/31/2003	12.45%	5.13%	7.32%
2/28/2003	12.30%	5.05%	7.25%
3/6/2003	10.75%	5.03%	5.72%
3/7/2003	9.96%	5.02%	4.94%
3/20/2003	12.00%	4.98%	7.02%
4/3/2003	12.00%	4.96%	7.04%
4/15/2003	11.15%	4.94%	6.21%
6/25/2003	10.75%	4.79%	5.96%
6/26/2003	10.75%	4.79%	5.96%
7/9/2003	9.75%	4.79%	4.96%
7/16/2003	9.75%	4.79%	4.96%
7/25/2003	9.50%	4.80%	4.70%
8/26/2003	10.50%	4.83%	5.67%
12/17/2003	9.85%	4.94%	4.91%
12/17/2003	10.70%	4.94%	5.76%
12/18/2003	11.50%	4.94%	6.56%
12/19/2003	12.00%	4.94%	7.06%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/18/2013	8.72%	3.51%	5.21%
12/18/2013	9.80%	3.51%	6.29%
12/19/2013	10.15%	3.51%	6.64%
12/30/2013	9.50%	3.54%	5.96%
2/20/2014	9.20%	3.68%	5.52%
2/26/2014	9.75%	3.69%	6.06%
3/17/2014	9.55%	3.72%	5.83%
3/26/2014	9.40%	3.73%	5.67%
3/26/2014	9.96%	3.73%	6.23%
4/2/2014	9.70%	3.73%	5.97%
5/16/2014	9.80%	3.70%	6.10%
5/30/2014	9.70%	3.68%	6.02%
6/6/2014	10.40%	3.67%	6.73%
6/30/2014	9.55%	3.64%	5.91%
7/2/2014	9.62%	3.64%	5.98%
7/10/2014	9.95%	3.63%	6.32%
7/23/2014	9.75%	3.61%	6.14%
7/29/2014	9.45%	3.60%	5.85%
7/31/2014	9.90%	3.60%	6.30%
8/20/2014	9.75%	3.57%	6.18%
8/25/2014	9.60%	3.56%	6.04%
8/29/2014	9.80%	3.54%	6.26%
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%



Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
9/8/2016	10.00%	2.58%	7.42%
9/28/2016	9.58%	2.54%	7.04%
9/30/2016	9.90%	2.53%	7.37%
11/9/2016	9.80%	2.48%	7.32%
11/10/2016	9.50%	2.48%	7.02%
11/15/2016	9.55%	2.49%	7.06%
11/18/2016	10.00%	2.50%	7.50%
11/29/2016	10.55%	2.51%	8.04%
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	9.40%	2.85%	6.55%
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%

# of Cases: 1547  
Average: 4.62%

Alternative Bond Yield Plus Risk Premium Analyses

	[1]	[2]	[3]	[4]
	30-Year Treasury Yield	Moody's Utility A Yield	Moody's Utility A Credit Spread	VIX
30-Day Average	3.13%	4.11%	0.98%	20.77
Near-Term Projected	3.42%	4.11%	0.69%	20.77
Long-Term Projected	4.20%	4.11%	-0.09%	20.77

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.84018742
R Square	0.705914901
Adjusted R Square	0.704643639
Standard Error	0.005347816
Observations	698

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	0.047642182	0.015880727	555.2870491	6.4248E-184
Residual	694	0.019847797	2.85991E-05		
Total	697	0.067489979			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.027641505	0.002136414	-12.93827056	1.86264E-34	-0.031836115	-0.02344689	-0.03183612	-0.02344689
LN(30-Year Treasury)	-0.025710034	0.000654983	-39.2529626	2.1273E-178	-0.02699602	-0.02442405	-0.02699602	-0.02442405
Moody's Utility A Credit Spread	0.193728304	0.085735373	2.259607634	0.024154915	0.025396491	0.362060117	0.025396491	0.362060117
VIX	0.000179552	5.49974E-05	3.264734872	0.00114946	7.15707E-05	0.000287533	7.15707E-05	0.000287533

	Risk Premium	Return on Equity
Regression Result - Credit Spread, VIX	6.71%	9.83%
Regression Result - Credit Spread, VIX	6.42%	9.84%
Regression Result - Credit Spread, VIX	5.74%	9.94%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional
- [3] Source: Bloomberg Professional
- [4] Source: Bloomberg Professional
- [5] Source: S&P Global Market Intelligence
- [6] Source: S&P Global Market Intelligence
- [7] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period) as of March 16, 2018
- [8] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period) as of March 16, 2018
- [9] Equals LN[8]
- [10] Equals [8] - [7]
- [11] Source: Bloomberg Professional, equals 200-trading day average (i.e. lag period) as of March 16, 2018
- [12] Equals [6] - [7]

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
1/1/1980	14.50%	9.36%		-2.37			5.14%
1/7/1980	14.39%	9.38%		-2.37			5.01%
1/9/1980	15.00%	9.40%		-2.36			5.60%
1/14/1980	15.17%	9.42%		-2.36			5.75%
1/17/1980	13.93%	9.44%		-2.36			4.49%
1/23/1980	15.50%	9.47%		-2.36			6.03%
1/30/1980	13.86%	9.52%		-2.35			4.34%
1/31/1980	12.61%	9.53%		-2.35			3.08%
2/6/1980	13.71%	9.58%		-2.35			4.13%
2/13/1980	12.80%	9.63%		-2.34			3.17%
2/14/1980	13.00%	9.65%		-2.34			3.35%
2/19/1980	13.50%	9.68%		-2.34			3.82%
2/27/1980	13.75%	9.78%		-2.32			3.97%
2/29/1980	13.75%	9.81%		-2.32			3.94%
2/29/1980	14.00%	9.81%		-2.32			4.19%
2/29/1980	14.77%	9.81%		-2.32			4.96%
3/7/1980	12.70%	9.89%		-2.31			2.81%
3/14/1980	13.50%	9.97%		-2.31			3.53%
3/26/1980	14.16%	10.10%		-2.29			4.06%
3/27/1980	14.24%	10.12%		-2.29			4.12%
3/28/1980	14.50%	10.13%		-2.29			4.37%
4/11/1980	12.75%	10.27%		-2.28			2.48%
4/14/1980	13.85%	10.29%		-2.27			3.56%
4/16/1980	15.50%	10.31%		-2.27			5.19%
4/22/1980	13.25%	10.35%		-2.27			2.90%
4/22/1980	13.90%	10.35%		-2.27			3.55%
4/24/1980	16.80%	10.38%		-2.27			6.43%
4/29/1980	15.50%	10.41%		-2.26			5.09%
5/6/1980	13.70%	10.45%		-2.26			3.25%
5/7/1980	15.00%	10.45%		-2.26			4.55%
5/8/1980	13.75%	10.46%		-2.26			3.29%
5/9/1980	14.35%	10.47%		-2.26			3.88%
5/13/1980	13.60%	10.48%		-2.26			3.12%
5/15/1980	13.25%	10.49%		-2.25			2.76%
5/19/1980	13.75%	10.51%		-2.25			3.24%
5/27/1980	13.62%	10.54%		-2.25			3.08%
5/27/1980	14.60%	10.54%		-2.25			4.06%
5/29/1980	16.00%	10.56%		-2.25			5.44%
5/30/1980	13.80%	10.56%		-2.25			3.24%
6/2/1980	15.63%	10.57%		-2.25			5.06%
6/9/1980	15.90%	10.60%		-2.24			5.30%
6/10/1980	13.78%	10.60%		-2.24			3.18%
6/12/1980	14.25%	10.61%		-2.24			3.64%
6/19/1980	13.40%	10.62%		-2.24			2.78%
6/30/1980	13.00%	10.65%		-2.24			2.35%
6/30/1980	13.40%	10.65%		-2.24			2.75%
7/9/1980	14.75%	10.67%		-2.24			4.08%
7/10/1980	15.00%	10.68%		-2.24			4.32%
7/15/1980	15.80%	10.70%		-2.24			5.10%
7/18/1980	13.80%	10.71%		-2.23			3.09%
7/22/1980	14.10%	10.72%		-2.23			3.38%
7/24/1980	15.00%	10.73%		-2.23			4.27%
7/25/1980	13.48%	10.73%		-2.23			2.75%
7/31/1980	14.58%	10.75%		-2.23			3.83%
8/8/1980	13.50%	10.78%		-2.23			2.72%
8/8/1980	14.00%	10.78%		-2.23			3.22%
8/8/1980	15.45%	10.78%		-2.23			4.67%
8/11/1980	14.85%	10.78%		-2.23			4.07%
8/14/1980	14.00%	10.79%		-2.23			3.21%
8/14/1980	16.25%	10.79%		-2.23			5.46%
8/25/1980	13.75%	10.82%		-2.22			2.93%
8/27/1980	13.80%	10.83%		-2.22			2.97%
8/29/1980	12.50%	10.84%		-2.22			1.66%
9/15/1980	13.50%	10.88%		-2.22			2.62%
9/15/1980	13.93%	10.88%		-2.22			3.05%
9/15/1980	15.80%	10.88%		-2.22			4.92%
9/24/1980	12.50%	10.93%		-2.21			1.57%
9/24/1980	15.00%	10.93%		-2.21			4.07%
9/26/1980	13.75%	10.94%		-2.21			2.81%
9/30/1980	14.10%	10.96%		-2.21			3.14%
9/30/1980	14.20%	10.96%		-2.21			3.24%
10/1/1980	13.90%	10.97%		-2.21			2.93%
10/3/1980	15.50%	10.98%		-2.21			4.52%
10/7/1980	12.50%	10.99%		-2.21			1.51%
10/9/1980	13.25%	11.00%		-2.21			2.25%
10/9/1980	14.50%	11.00%		-2.21			3.50%
10/9/1980	14.50%	11.00%		-2.21			3.50%
10/16/1980	16.10%	11.02%		-2.21			5.08%
10/17/1980	14.50%	11.03%		-2.20			3.47%
10/31/1980	13.75%	11.11%		-2.20			2.64%
10/31/1980	14.25%	11.11%		-2.20			3.14%
11/4/1980	15.00%	11.12%		-2.20			3.88%
11/5/1980	13.75%	11.12%		-2.20			2.63%
11/5/1980	14.00%	11.12%		-2.20			2.88%
11/8/1980	13.75%	11.14%		-2.19			2.61%
11/10/1980	14.85%	11.15%		-2.19			3.70%
11/17/1980	14.00%	11.18%		-2.19			2.82%
11/18/1980	14.00%	11.19%		-2.19			2.81%
11/19/1980	13.00%	11.19%		-2.19			1.81%
11/24/1980	14.00%	11.21%		-2.19			2.79%
11/26/1980	14.00%	11.21%		-2.19			2.79%
12/8/1980	14.15%	11.22%		-2.19			2.93%
12/8/1980	15.10%	11.22%		-2.19			3.88%
12/9/1980	15.35%	11.22%		-2.19			4.13%
12/12/1980	15.45%	11.23%		-2.19			4.22%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
12/17/1980	13.25%	11.23%		-2.19			2.02%
12/18/1980	15.80%	11.23%		-2.19			4.57%
12/19/1980	14.50%	11.23%		-2.19			3.27%
12/19/1980	14.64%	11.23%		-2.19			3.41%
12/22/1980	13.45%	11.23%		-2.19			2.22%
12/22/1980	15.00%	11.23%		-2.19			3.77%
12/30/1980	14.50%	11.22%		-2.19			3.28%
12/30/1980	14.95%	11.22%		-2.19			3.73%
12/31/1980	13.39%	11.22%		-2.19			2.17%
1/2/1981	15.25%	11.22%		-2.19			4.03%
1/7/1981	14.30%	11.21%		-2.19			3.09%
1/19/1981	15.25%	11.20%		-2.19			4.05%
1/23/1981	13.10%	11.20%		-2.19			1.90%
1/23/1981	14.40%	11.20%		-2.19			3.20%
1/26/1981	15.25%	11.20%		-2.19			4.05%
1/27/1981	15.00%	11.21%		-2.19			3.79%
1/31/1981	13.47%	11.22%		-2.19			2.25%
2/3/1981	15.25%	11.23%		-2.19			4.02%
2/5/1981	15.75%	11.25%		-2.19			4.50%
2/11/1981	15.60%	11.28%		-2.18			4.32%
2/20/1981	15.25%	11.33%		-2.18			3.92%
3/11/1981	15.40%	11.49%		-2.16			3.91%
3/12/1981	14.51%	11.50%		-2.16			3.01%
3/12/1981	16.00%	11.50%		-2.16			4.50%
3/13/1981	13.02%	11.52%		-2.16			1.50%
3/18/1981	16.19%	11.55%		-2.16			4.64%
3/19/1981	13.75%	11.56%		-2.16			2.19%
3/23/1981	14.30%	11.58%		-2.16			2.72%
3/25/1981	15.30%	11.60%		-2.15			3.70%
4/1/1981	14.53%	11.68%		-2.15			2.85%
4/3/1981	19.10%	11.71%		-2.14			7.39%
4/9/1981	15.00%	11.78%		-2.14			3.22%
4/9/1981	15.30%	11.78%		-2.14			3.52%
4/9/1981	16.50%	11.78%		-2.14			4.72%
4/9/1981	17.00%	11.78%		-2.14			5.22%
4/10/1981	13.75%	11.80%		-2.14			1.95%
4/13/1981	13.57%	11.82%		-2.14			1.75%
4/15/1981	15.30%	11.85%		-2.13			3.45%
4/16/1981	13.50%	11.87%		-2.13			1.63%
4/17/1981	14.10%	11.87%		-2.13			2.23%
4/21/1981	14.00%	11.90%		-2.13			2.10%
4/21/1981	16.80%	11.90%		-2.13			4.90%
4/24/1981	16.00%	11.95%		-2.12			4.05%
4/27/1981	12.50%	11.97%		-2.12			0.53%
4/27/1981	13.61%	11.97%		-2.12			1.64%
4/29/1981	13.65%	12.00%		-2.12			1.65%
4/30/1981	13.50%	12.02%		-2.12			1.48%
5/4/1981	16.22%	12.05%		-2.12			4.17%
5/5/1981	14.40%	12.07%		-2.11			2.33%
5/7/1981	16.25%	12.11%		-2.11			4.14%
5/7/1981	16.27%	12.11%		-2.11			4.16%
5/8/1981	13.00%	12.13%		-2.11			0.87%
5/8/1981	16.00%	12.13%		-2.11			3.87%
5/12/1981	13.50%	12.16%		-2.11			1.34%
5/15/1981	15.75%	12.22%		-2.10			3.53%
5/18/1981	14.88%	12.23%		-2.10			2.65%
5/20/1981	16.00%	12.26%		-2.10			3.74%
5/21/1981	14.00%	12.27%		-2.10			1.73%
5/26/1981	14.90%	12.30%		-2.10			2.60%
5/27/1981	15.00%	12.31%		-2.09			2.69%
5/29/1981	15.50%	12.34%		-2.09			3.16%
6/1/1981	16.50%	12.35%		-2.09			4.15%
6/3/1981	14.67%	12.37%		-2.09			2.30%
6/5/1981	13.00%	12.39%		-2.09			0.61%
6/10/1981	16.75%	12.42%		-2.09			4.33%
6/17/1981	14.40%	12.46%		-2.08			1.94%
6/18/1981	16.33%	12.47%		-2.08			3.86%
6/25/1981	14.75%	12.51%		-2.08			2.24%
6/26/1981	16.00%	12.52%		-2.08			3.48%
6/30/1981	15.25%	12.54%		-2.08			2.71%
7/1/1981	15.50%	12.56%		-2.07			2.94%
7/1/1981	17.50%	12.56%		-2.07			4.94%
7/10/1981	16.00%	12.62%		-2.07			3.38%
7/14/1981	16.90%	12.64%		-2.07			4.26%
7/15/1981	16.00%	12.65%		-2.07			3.35%
7/17/1981	15.00%	12.67%		-2.07			2.33%
7/20/1981	15.00%	12.68%		-2.07			2.32%
7/21/1981	14.00%	12.69%		-2.06			1.31%
7/28/1981	13.48%	12.74%		-2.06			0.74%
7/31/1981	13.50%	12.78%		-2.06			0.72%
7/31/1981	15.00%	12.78%		-2.06			2.22%
7/31/1981	16.00%	12.78%		-2.06			3.22%
8/5/1981	15.71%	12.83%		-2.05			2.88%
8/10/1981	14.50%	12.87%		-2.05			1.63%
8/11/1981	15.00%	12.88%		-2.05			2.12%
8/20/1981	13.50%	12.95%		-2.04			0.55%
8/20/1981	16.50%	12.95%		-2.04			3.55%
8/24/1981	15.00%	12.97%		-2.04			2.03%
8/28/1981	15.00%	13.01%		-2.04			1.99%
9/3/1981	14.50%	13.05%		-2.04			1.45%
9/10/1981	14.50%	13.11%		-2.03			1.39%
9/11/1981	16.00%	13.12%		-2.03			2.88%
9/16/1981	16.00%	13.15%		-2.03			2.85%
9/17/1981	16.50%	13.16%		-2.03			3.34%
9/23/1981	15.85%	13.20%		-2.03			2.65%

[5] Date of Electric Rate Case	[6] Return on Equity (%)	[7] 30 Year Treasury (%)	[8] Moody's Utility A Yield	[9] LN(30-Year Treasury)	[10] Moody's Utility A Credit Spread	[11] VIX	[12] Risk Premium
9/28/1981	15.50%	13.23%		-2.02			2.27%
10/9/1981	15.75%	13.33%		-2.02			2.42%
10/15/1981	16.25%	13.37%		-2.01			2.88%
10/16/1981	15.50%	13.38%		-2.01			2.12%
10/16/1981	16.50%	13.38%		-2.01			3.12%
10/19/1981	14.25%	13.39%		-2.01			0.86%
10/20/1981	15.25%	13.41%		-2.01			1.84%
10/20/1981	17.00%	13.41%		-2.01			3.59%
10/23/1981	16.00%	13.45%		-2.01			2.55%
10/27/1981	10.00%	13.48%		-2.00			-3.48%
10/29/1981	14.75%	13.51%		-2.00			1.24%
10/29/1981	16.50%	13.51%		-2.00			2.99%
11/3/1981	15.17%	13.53%		-2.00			1.64%
11/5/1981	16.60%	13.55%		-2.00			3.05%
11/6/1981	15.17%	13.56%		-2.00			1.61%
11/24/1981	15.50%	13.61%		-1.99			1.89%
11/25/1981	15.25%	13.61%		-1.99			1.64%
11/25/1981	15.35%	13.61%		-1.99			1.74%
11/25/1981	16.10%	13.61%		-1.99			2.49%
11/25/1981	16.10%	13.61%		-1.99			2.49%
12/1/1981	15.70%	13.61%		-1.99			2.09%
12/1/1981	16.00%	13.61%		-1.99			2.39%
12/1/1981	16.49%	13.61%		-1.99			2.88%
12/1/1981	16.50%	13.61%		-1.99			2.89%
12/4/1981	16.00%	13.61%		-1.99			2.39%
12/11/1981	16.25%	13.63%		-1.99			2.62%
12/14/1981	14.00%	13.63%		-1.99			0.37%
12/15/1981	15.81%	13.63%		-1.99			2.18%
12/15/1981	16.00%	13.63%		-1.99			2.37%
12/16/1981	15.25%	13.63%		-1.99			1.62%
12/17/1981	16.50%	13.63%		-1.99			2.87%
12/18/1981	15.45%	13.63%		-1.99			1.82%
12/30/1981	14.25%	13.67%		-1.99			0.58%
12/30/1981	16.00%	13.67%		-1.99			2.33%
12/30/1981	16.25%	13.67%		-1.99			2.58%
12/31/1981	16.15%	13.67%		-1.99			2.48%
1/4/1982	15.50%	13.67%		-1.99			1.83%
1/11/1982	14.50%	13.72%		-1.99			0.78%
1/11/1982	17.00%	13.72%		-1.99			3.28%
1/13/1982	14.75%	13.74%		-1.98			1.01%
1/14/1982	15.75%	13.75%		-1.98			2.00%
1/15/1982	15.00%	13.76%		-1.98			1.24%
1/15/1982	16.50%	13.76%		-1.98			2.74%
1/22/1982	16.25%	13.79%		-1.98			2.46%
1/27/1982	16.84%	13.81%		-1.98			3.03%
1/28/1982	13.00%	13.81%		-1.98			-0.81%
1/29/1982	15.50%	13.82%		-1.98			1.68%
2/1/1982	15.85%	13.82%		-1.98			2.03%
2/3/1982	16.44%	13.84%		-1.98			2.60%
2/8/1982	15.50%	13.86%		-1.98			1.64%
2/11/1982	16.00%	13.88%		-1.97			2.12%
2/11/1982	16.20%	13.88%		-1.97			2.32%
2/17/1982	15.00%	13.89%		-1.97			1.11%
2/19/1982	15.17%	13.89%		-1.97			1.28%
2/26/1982	15.25%	13.89%		-1.97			1.36%
3/1/1982	15.03%	13.89%		-1.97			1.14%
3/1/1982	16.00%	13.89%		-1.97			2.11%
3/3/1982	15.00%	13.88%		-1.97			1.12%
3/8/1982	17.10%	13.88%		-1.97			3.22%
3/12/1982	16.25%	13.88%		-1.97			2.37%
3/17/1982	17.30%	13.88%		-1.97			3.42%
3/22/1982	15.10%	13.89%		-1.97			1.21%
3/27/1982	15.40%	13.89%		-1.97			1.51%
3/30/1982	15.50%	13.90%		-1.97			1.60%
3/31/1982	17.00%	13.91%		-1.97			3.09%
4/1/1982	14.70%	13.91%		-1.97			0.79%
4/1/1982	16.50%	13.91%		-1.97			2.59%
4/2/1982	15.50%	13.91%		-1.97			1.59%
4/5/1982	15.50%	13.92%		-1.97			1.58%
4/8/1982	16.40%	13.93%		-1.97			2.47%
4/13/1982	14.50%	13.94%		-1.97			0.56%
4/23/1982	15.75%	13.94%		-1.97			1.81%
4/27/1982	15.00%	13.94%		-1.97			1.06%
4/28/1982	15.75%	13.94%		-1.97			1.81%
4/30/1982	14.70%	13.94%		-1.97			0.76%
4/30/1982	15.50%	13.94%		-1.97			1.56%
5/3/1982	16.60%	13.94%		-1.97			2.66%
5/4/1982	16.00%	13.94%		-1.97			2.06%
5/14/1982	15.50%	13.92%		-1.97			1.58%
5/18/1982	15.42%	13.92%		-1.97			1.50%
5/19/1982	14.69%	13.92%		-1.97			0.77%
5/20/1982	15.00%	13.91%		-1.97			1.09%
5/20/1982	15.10%	13.91%		-1.97			1.19%
5/20/1982	15.50%	13.91%		-1.97			1.59%
5/20/1982	16.30%	13.91%		-1.97			2.39%
5/21/1982	17.75%	13.91%		-1.97			3.84%
5/27/1982	15.00%	13.89%		-1.97			1.11%
5/28/1982	15.50%	13.89%		-1.97			1.61%
5/28/1982	17.00%	13.89%		-1.97			3.11%
6/1/1982	13.75%	13.89%		-1.97			-0.14%
6/1/1982	16.60%	13.89%		-1.97			2.71%
6/9/1982	17.86%	13.88%		-1.97			3.98%
6/14/1982	15.75%	13.88%		-1.97			1.87%
6/15/1982	14.85%	13.88%		-1.97			0.97%
6/18/1982	15.50%	13.87%		-1.98			1.63%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
6/21/1982	14.90%	13.87%		-1.98			1.03%
6/23/1982	16.00%	13.86%		-1.98			2.14%
6/23/1982	16.17%	13.86%		-1.98			2.31%
6/24/1982	14.85%	13.86%		-1.98			0.99%
6/25/1982	14.70%	13.86%		-1.98			0.84%
7/1/1982	16.00%	13.84%		-1.98			2.16%
7/2/1982	15.62%	13.84%		-1.98			1.78%
7/2/1982	17.00%	13.84%		-1.98			3.16%
7/13/1982	14.00%	13.82%		-1.98			0.18%
7/13/1982	16.80%	13.82%		-1.98			2.98%
7/14/1982	15.76%	13.82%		-1.98			1.94%
7/14/1982	16.02%	13.82%		-1.98			2.20%
7/19/1982	16.50%	13.80%		-1.98			2.70%
7/22/1982	14.50%	13.77%		-1.98			0.73%
7/22/1982	17.00%	13.77%		-1.98			3.23%
7/27/1982	16.75%	13.75%		-1.98			3.00%
7/29/1982	16.50%	13.74%		-1.99			2.76%
8/11/1982	17.50%	13.68%		-1.99			3.82%
8/18/1982	17.07%	13.63%		-1.99			3.44%
8/20/1982	15.73%	13.60%		-1.99			2.13%
8/25/1982	16.00%	13.57%		-2.00			2.43%
8/26/1982	15.50%	13.56%		-2.00			1.94%
8/30/1982	15.00%	13.55%		-2.00			1.45%
9/3/1982	16.20%	13.53%		-2.00			2.67%
9/8/1982	15.00%	13.52%		-2.00			1.48%
9/15/1982	13.08%	13.50%		-2.00			-0.42%
9/15/1982	16.25%	13.50%		-2.00			2.75%
9/16/1982	16.00%	13.50%		-2.00			2.50%
9/17/1982	15.25%	13.50%		-2.00			1.75%
9/23/1982	17.17%	13.47%		-2.00			3.70%
9/24/1982	14.50%	13.46%		-2.01			1.04%
9/27/1982	15.25%	13.46%		-2.01			1.79%
10/1/1982	15.50%	13.42%		-2.01			2.08%
10/15/1982	15.90%	13.32%		-2.02			2.58%
10/22/1982	15.75%	13.24%		-2.02			2.51%
10/22/1982	17.15%	13.24%		-2.02			3.91%
10/29/1982	15.54%	13.16%		-2.03			2.38%
11/1/1982	15.50%	13.15%		-2.03			2.35%
11/3/1982	17.20%	13.13%		-2.03			4.07%
11/4/1982	16.25%	13.11%		-2.03			3.14%
11/5/1982	16.20%	13.09%		-2.03			3.11%
11/9/1982	16.00%	13.05%		-2.04			2.95%
11/23/1982	15.50%	12.89%		-2.05			2.61%
11/23/1982	15.85%	12.89%		-2.05			2.96%
11/30/1982	16.50%	12.81%		-2.06			3.69%
12/1/1982	17.04%	12.79%		-2.06			4.25%
12/6/1982	15.00%	12.73%		-2.06			2.27%
12/6/1982	16.35%	12.73%		-2.06			3.62%
12/10/1982	15.50%	12.66%		-2.07			2.84%
12/13/1982	16.00%	12.65%		-2.07			3.35%
12/14/1982	15.30%	12.63%		-2.07			2.67%
12/14/1982	16.40%	12.63%		-2.07			3.77%
12/20/1982	16.00%	12.57%		-2.07			3.43%
12/21/1982	14.75%	12.56%		-2.07			2.19%
12/21/1982	15.85%	12.56%		-2.07			3.29%
12/22/1982	16.25%	12.54%		-2.08			3.71%
12/22/1982	16.58%	12.54%		-2.08			4.04%
12/22/1982	16.75%	12.54%		-2.08			4.21%
12/29/1982	14.90%	12.48%		-2.08			2.42%
12/29/1982	16.25%	12.48%		-2.08			3.77%
12/30/1982	16.00%	12.47%		-2.08			3.53%
12/30/1982	16.35%	12.47%		-2.08			3.88%
12/30/1982	16.77%	12.47%		-2.08			4.30%
1/5/1983	17.33%	12.40%		-2.09			4.93%
1/11/1983	15.90%	12.34%		-2.09			3.56%
1/12/1983	14.63%	12.33%		-2.09			2.30%
1/12/1983	15.50%	12.33%		-2.09			3.17%
1/20/1983	17.75%	12.24%		-2.10			5.51%
1/21/1983	15.00%	12.22%		-2.10			2.78%
1/24/1983	14.50%	12.21%		-2.10			2.29%
1/24/1983	15.50%	12.21%		-2.10			3.29%
1/25/1983	15.85%	12.19%		-2.10			3.66%
1/27/1983	16.14%	12.17%		-2.11			3.97%
2/1/1983	18.50%	12.13%		-2.11			6.37%
2/4/1983	14.00%	12.10%		-2.11			1.90%
2/10/1983	15.00%	12.06%		-2.12			2.94%
2/21/1983	15.50%	11.98%		-2.12			3.52%
2/22/1983	15.50%	11.97%		-2.12			3.53%
2/23/1983	15.10%	11.96%		-2.12			3.14%
2/23/1983	16.00%	11.96%		-2.12			4.04%
3/2/1983	15.25%	11.89%		-2.13			3.36%
3/9/1983	15.20%	11.82%		-2.13			3.38%
3/15/1983	13.00%	11.77%		-2.14			1.23%
3/18/1983	15.25%	11.73%		-2.14			3.52%
3/23/1983	15.40%	11.69%		-2.15			3.71%
3/24/1983	15.00%	11.67%		-2.15			3.33%
3/29/1983	15.50%	11.63%		-2.15			3.87%
3/30/1983	16.71%	11.61%		-2.15			5.10%
3/31/1983	15.00%	11.59%		-2.15			3.41%
4/4/1983	15.20%	11.58%		-2.16			3.62%
4/8/1983	15.50%	11.51%		-2.16			3.99%
4/11/1983	14.81%	11.49%		-2.16			3.32%
4/19/1983	14.50%	11.38%		-2.17			3.12%
4/20/1983	16.00%	11.36%		-2.18			4.64%
4/29/1983	16.00%	11.24%		-2.19			4.76%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
5/1/1983	14.50%	11.24%		-2.19			3.26%
5/9/1983	15.50%	11.15%		-2.19			4.35%
5/11/1983	16.46%	11.12%		-2.20			5.34%
5/12/1983	14.14%	11.11%		-2.20			3.03%
5/18/1983	15.00%	11.05%		-2.20			3.95%
5/23/1983	14.90%	11.01%		-2.21			3.89%
5/23/1983	15.50%	11.01%		-2.21			4.49%
5/25/1983	15.50%	10.98%		-2.21			4.52%
5/27/1983	15.00%	10.96%		-2.21			4.04%
5/31/1983	14.00%	10.95%		-2.21			3.05%
5/31/1983	15.50%	10.95%		-2.21			4.55%
6/2/1983	14.50%	10.93%		-2.21			3.57%
6/17/1983	15.03%	10.84%		-2.22			4.19%
7/1/1983	14.80%	10.78%		-2.23			4.02%
7/1/1983	14.90%	10.78%		-2.23			4.12%
7/8/1983	16.25%	10.76%		-2.23			5.49%
7/13/1983	13.20%	10.75%		-2.23			2.45%
7/19/1983	15.00%	10.74%		-2.23			4.26%
7/19/1983	15.10%	10.74%		-2.23			4.36%
7/25/1983	16.25%	10.73%		-2.23			5.52%
7/28/1983	15.90%	10.74%		-2.23			5.16%
8/3/1983	16.34%	10.75%		-2.23			5.59%
8/3/1983	16.50%	10.75%		-2.23			5.75%
8/19/1983	15.00%	10.80%		-2.23			4.20%
8/22/1983	15.50%	10.80%		-2.23			4.70%
8/22/1983	16.40%	10.80%		-2.23			5.60%
8/31/1983	14.75%	10.84%		-2.22			3.91%
9/7/1983	15.00%	10.86%		-2.22			4.14%
9/14/1983	15.78%	10.89%		-2.22			4.89%
9/16/1983	15.00%	10.90%		-2.22			4.10%
9/19/1983	14.50%	10.91%		-2.22			3.59%
9/20/1983	16.50%	10.91%		-2.22			5.59%
9/28/1983	14.50%	10.94%		-2.21			3.56%
9/29/1983	15.50%	10.95%		-2.21			4.55%
9/30/1983	15.25%	10.95%		-2.21			4.30%
9/30/1983	16.15%	10.95%		-2.21			5.20%
10/4/1983	14.80%	10.96%		-2.21			3.84%
10/7/1983	16.00%	10.97%		-2.21			5.03%
10/13/1983	15.52%	10.99%		-2.21			4.53%
10/17/1983	15.50%	11.00%		-2.21			4.50%
10/18/1983	14.50%	11.00%		-2.21			3.50%
10/19/1983	16.25%	11.01%		-2.21			5.24%
10/19/1983	16.50%	11.01%		-2.21			5.49%
10/26/1983	15.00%	11.04%		-2.20			3.96%
10/27/1983	15.20%	11.04%		-2.20			4.16%
11/1/1983	16.00%	11.06%		-2.20			4.94%
11/9/1983	14.90%	11.09%		-2.20			3.81%
11/10/1983	14.35%	11.10%		-2.20			3.25%
11/23/1983	16.00%	11.13%		-2.20			4.87%
11/23/1983	16.15%	11.13%		-2.20			5.02%
11/30/1983	15.00%	11.14%		-2.19			3.86%
12/5/1983	15.25%	11.15%		-2.19			4.10%
12/6/1983	15.07%	11.15%		-2.19			3.92%
12/8/1983	15.90%	11.16%		-2.19			4.74%
12/9/1983	14.75%	11.17%		-2.19			3.58%
12/12/1983	14.50%	11.17%		-2.19			3.33%
12/15/1983	15.56%	11.19%		-2.19			4.37%
12/19/1983	14.80%	11.21%		-2.19			3.59%
12/20/1983	14.69%	11.22%		-2.19			3.47%
12/20/1983	16.00%	11.22%		-2.19			4.78%
12/20/1983	16.25%	11.22%		-2.19			5.03%
12/22/1983	14.75%	11.23%		-2.19			3.52%
12/22/1983	15.75%	11.23%		-2.19			4.52%
1/3/1984	14.75%	11.27%		-2.18			3.48%
1/10/1984	15.90%	11.30%		-2.18			4.60%
1/12/1984	15.60%	11.31%		-2.18			4.29%
1/18/1984	13.75%	11.33%		-2.18			2.42%
1/19/1984	15.90%	11.33%		-2.18			4.57%
1/30/1984	16.10%	11.37%		-2.17			4.73%
1/31/1984	15.25%	11.37%		-2.17			3.88%
2/1/1984	14.80%	11.38%		-2.17			3.42%
2/6/1984	13.75%	11.40%		-2.17			2.35%
2/6/1984	14.75%	11.40%		-2.17			3.35%
2/9/1984	15.25%	11.42%		-2.17			3.83%
2/15/1984	15.70%	11.44%		-2.17			4.26%
2/20/1984	15.00%	11.46%		-2.17			3.54%
2/20/1984	15.00%	11.46%		-2.17			3.54%
2/22/1984	14.75%	11.47%		-2.17			3.28%
2/28/1984	14.50%	11.51%		-2.16			2.99%
3/2/1984	14.25%	11.54%		-2.16			2.71%
3/20/1984	16.00%	11.64%		-2.15			4.36%
3/23/1984	15.50%	11.67%		-2.15			3.83%
3/26/1984	14.71%	11.68%		-2.15			3.03%
4/2/1984	15.50%	11.71%		-2.14			3.79%
4/6/1984	14.74%	11.75%		-2.14			2.99%
4/11/1984	15.72%	11.78%		-2.14			3.94%
4/17/1984	15.00%	11.81%		-2.14			3.19%
4/18/1984	16.20%	11.82%		-2.14			4.38%
4/25/1984	14.64%	11.85%		-2.13			2.79%
4/30/1984	14.40%	11.87%		-2.13			2.53%
5/16/1984	14.69%	11.98%		-2.12			2.71%
5/16/1984	15.00%	11.98%		-2.12			3.02%
5/22/1984	14.40%	12.02%		-2.12			2.38%
5/29/1984	15.10%	12.06%		-2.12			3.04%
6/13/1984	15.25%	12.15%		-2.11			3.10%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
6/15/1984	15.60%	12.17%		-2.11			3.43%
6/22/1984	16.25%	12.21%		-2.10			4.04%
6/29/1984	15.25%	12.26%		-2.10			2.99%
7/2/1984	13.35%	12.27%		-2.10			1.08%
7/10/1984	16.00%	12.31%		-2.09			3.69%
7/12/1984	16.50%	12.32%		-2.09			4.18%
7/13/1984	16.25%	12.33%		-2.09			3.92%
7/17/1984	14.14%	12.35%		-2.09			1.79%
7/18/1984	15.30%	12.36%		-2.09			2.94%
7/18/1984	15.50%	12.36%		-2.09			3.14%
7/19/1984	14.30%	12.37%		-2.09			1.93%
7/24/1984	16.79%	12.39%		-2.09			4.40%
7/31/1984	16.00%	12.43%		-2.09			3.57%
8/3/1984	14.25%	12.44%		-2.08			1.81%
8/17/1984	14.30%	12.49%		-2.08			1.81%
8/20/1984	15.00%	12.49%		-2.08			2.51%
8/27/1984	16.30%	12.51%		-2.08			3.79%
8/31/1984	15.55%	12.52%		-2.08			3.03%
9/6/1984	16.00%	12.53%		-2.08			3.47%
9/10/1984	14.75%	12.54%		-2.08			2.21%
9/13/1984	15.00%	12.55%		-2.08			2.45%
9/17/1984	17.38%	12.56%		-2.08			4.82%
9/26/1984	14.50%	12.57%		-2.07			1.93%
9/28/1984	15.00%	12.57%		-2.07			2.43%
9/28/1984	16.25%	12.57%		-2.07			3.68%
10/9/1984	14.75%	12.58%		-2.07			2.17%
10/12/1984	15.60%	12.59%		-2.07			3.01%
10/22/1984	15.00%	12.59%		-2.07			2.41%
10/26/1984	16.40%	12.58%		-2.07			3.82%
10/31/1984	16.25%	12.58%		-2.07			3.67%
11/7/1984	15.60%	12.58%		-2.07			3.02%
11/9/1984	16.00%	12.58%		-2.07			3.42%
11/14/1984	15.75%	12.58%		-2.07			3.17%
11/20/1984	15.25%	12.58%		-2.07			2.67%
11/20/1984	15.92%	12.58%		-2.07			3.34%
11/23/1984	15.00%	12.58%		-2.07			2.42%
11/28/1984	16.15%	12.57%		-2.07			3.58%
12/3/1984	15.80%	12.56%		-2.07			3.24%
12/4/1984	16.50%	12.56%		-2.07			3.94%
12/18/1984	16.40%	12.53%		-2.08			3.87%
12/19/1984	14.75%	12.53%		-2.08			2.22%
12/19/1984	15.00%	12.53%		-2.08			2.47%
12/20/1984	16.00%	12.53%		-2.08			3.47%
12/28/1984	16.00%	12.50%		-2.08			3.50%
1/3/1985	14.75%	12.49%		-2.08			2.26%
1/10/1985	15.75%	12.47%		-2.08			3.28%
1/11/1985	16.30%	12.46%		-2.08			3.84%
1/23/1985	15.80%	12.43%		-2.08			3.37%
1/24/1985	15.82%	12.43%		-2.09			3.39%
1/25/1985	16.75%	12.42%		-2.09			4.33%
1/30/1985	14.90%	12.40%		-2.09			2.50%
1/31/1985	14.75%	12.39%		-2.09			2.36%
2/8/1985	14.47%	12.35%		-2.09			2.12%
3/1/1985	13.84%	12.31%		-2.10			1.53%
3/8/1985	16.85%	12.28%		-2.10			4.57%
3/14/1985	15.50%	12.25%		-2.10			3.25%
3/15/1985	15.62%	12.25%		-2.10			3.37%
3/29/1985	15.62%	12.17%		-2.11			3.45%
4/3/1985	14.60%	12.14%		-2.11			2.46%
4/9/1985	15.50%	12.11%		-2.11			3.39%
4/16/1985	15.70%	12.06%		-2.12			3.64%
4/22/1985	14.00%	12.02%		-2.12			1.98%
4/26/1985	15.50%	11.98%		-2.12			3.52%
4/29/1985	15.00%	11.97%		-2.12			3.03%
5/2/1985	14.68%	11.94%		-2.13			2.74%
5/8/1985	15.62%	11.89%		-2.13			3.73%
5/10/1985	16.50%	11.87%		-2.13			4.63%
5/29/1985	14.61%	11.73%		-2.14			2.88%
5/31/1985	16.00%	11.71%		-2.14			4.29%
6/14/1985	15.50%	11.61%		-2.15			3.89%
7/9/1985	15.00%	11.45%		-2.17			3.55%
7/16/1985	14.50%	11.39%		-2.17			3.11%
7/26/1985	14.50%	11.33%		-2.18			3.17%
8/2/1985	14.80%	11.29%		-2.18			3.51%
8/7/1985	15.00%	11.27%		-2.18			3.73%
8/28/1985	14.25%	11.15%		-2.19			3.10%
8/28/1985	15.50%	11.15%		-2.19			4.35%
8/29/1985	14.50%	11.15%		-2.19			3.35%
9/9/1985	14.60%	11.11%		-2.20			3.49%
9/9/1985	14.90%	11.11%		-2.20			3.79%
9/17/1985	14.90%	11.08%		-2.20			3.82%
9/23/1985	15.00%	11.06%		-2.20			3.94%
9/27/1985	15.50%	11.05%		-2.20			4.45%
9/27/1985	15.80%	11.05%		-2.20			4.75%
10/2/1985	14.00%	11.03%		-2.20			2.97%
10/2/1985	14.75%	11.03%		-2.20			3.72%
10/3/1985	15.25%	11.03%		-2.20			4.22%
10/24/1985	15.40%	10.96%		-2.21			4.44%
10/24/1985	15.82%	10.96%		-2.21			4.86%
10/24/1985	15.85%	10.96%		-2.21			4.89%
10/28/1985	16.00%	10.95%		-2.21			5.05%
10/29/1985	16.65%	10.94%		-2.21			5.71%
10/31/1985	15.06%	10.93%		-2.21			4.13%
11/4/1985	14.50%	10.92%		-2.21			3.58%
11/7/1985	15.50%	10.90%		-2.22			4.60%



[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
11/8/1985	14.30%	10.89%		-2.22			3.41%
12/12/1985	14.75%	10.73%		-2.23			4.02%
12/18/1985	15.00%	10.69%		-2.24			4.31%
12/20/1985	14.50%	10.67%		-2.24			3.83%
12/20/1985	14.50%	10.67%		-2.24			3.83%
12/20/1985	15.00%	10.67%		-2.24			4.33%
1/24/1986	15.40%	10.41%		-2.26			4.99%
1/31/1986	15.00%	10.35%		-2.27			4.65%
2/5/1986	15.00%	10.32%		-2.27			4.68%
2/5/1986	15.75%	10.32%		-2.27			5.43%
2/10/1986	13.30%	10.29%		-2.27			3.01%
2/11/1986	12.50%	10.28%		-2.27			2.22%
2/14/1986	14.40%	10.24%		-2.28			4.16%
2/18/1986	16.00%	10.23%		-2.28			5.77%
2/24/1986	14.50%	10.18%		-2.28			4.32%
2/26/1986	14.00%	10.15%		-2.29			3.85%
3/5/1986	14.90%	10.08%		-2.29			4.82%
3/11/1986	14.50%	10.02%		-2.30			4.48%
3/12/1986	13.50%	10.00%		-2.30			3.50%
3/27/1986	14.10%	9.86%		-2.32			4.24%
3/31/1986	13.50%	9.84%		-2.32			3.66%
4/1/1986	14.00%	9.83%		-2.32			4.17%
4/2/1986	15.50%	9.81%		-2.32			5.69%
4/4/1986	15.00%	9.78%		-2.32			5.22%
4/14/1986	13.40%	9.69%		-2.33			3.71%
4/23/1986	15.00%	9.57%		-2.35			5.43%
5/16/1986	14.50%	9.32%		-2.37			5.18%
5/16/1986	14.50%	9.32%		-2.37			5.18%
5/29/1986	13.90%	9.19%		-2.39			4.71%
5/30/1986	15.10%	9.18%		-2.39			5.92%
6/2/1986	12.81%	9.17%		-2.39			3.64%
6/11/1986	14.00%	9.07%		-2.40			4.93%
6/24/1986	16.63%	8.94%		-2.41			7.69%
6/26/1986	12.00%	8.91%		-2.42			3.09%
6/26/1986	14.75%	8.91%		-2.42			5.84%
6/30/1986	13.00%	8.87%		-2.42			4.13%
7/10/1986	14.34%	8.75%		-2.44			5.59%
7/11/1986	12.75%	8.73%		-2.44			4.02%
7/14/1986	12.60%	8.71%		-2.44			3.89%
7/17/1986	12.40%	8.66%		-2.45			3.74%
7/25/1986	14.25%	8.57%		-2.46			5.68%
8/6/1986	13.50%	8.44%		-2.47			5.06%
8/14/1986	13.50%	8.35%		-2.48			5.15%
9/16/1986	12.75%	8.06%		-2.52			4.69%
9/19/1986	13.25%	8.03%		-2.52			5.22%
10/1/1986	14.00%	7.95%		-2.53			6.05%
10/3/1986	13.40%	7.93%		-2.53			5.47%
10/31/1986	13.50%	7.77%		-2.55			5.73%
11/5/1986	13.00%	7.75%		-2.56			5.25%
12/3/1986	12.90%	7.58%		-2.58			5.32%
12/4/1986	14.44%	7.58%		-2.58			6.86%
12/16/1986	13.60%	7.52%		-2.59			6.08%
12/22/1986	13.80%	7.51%		-2.59			6.29%
12/30/1986	13.00%	7.49%		-2.59			5.51%
1/2/1987	13.00%	7.49%		-2.59			5.51%
1/12/1987	12.40%	7.47%		-2.59			4.93%
1/27/1987	12.71%	7.46%		-2.60			5.25%
3/2/1987	12.47%	7.47%		-2.59			5.00%
3/3/1987	13.60%	7.47%		-2.59			6.13%
3/4/1987	12.38%	7.47%		-2.59			4.91%
3/10/1987	13.50%	7.47%		-2.59			6.03%
3/13/1987	13.00%	7.47%		-2.59			5.53%
3/31/1987	13.00%	7.46%		-2.59			5.54%
4/6/1987	13.00%	7.47%		-2.59			5.53%
4/14/1987	12.50%	7.49%		-2.59			5.01%
4/16/1987	14.50%	7.50%		-2.59			7.00%
4/27/1987	12.00%	7.54%		-2.59			4.46%
5/5/1987	12.85%	7.58%		-2.58			5.27%
5/12/1987	12.65%	7.62%		-2.57			5.03%
5/28/1987	13.50%	7.70%		-2.56			5.80%
6/15/1987	13.20%	7.78%		-2.55			5.42%
6/29/1987	15.00%	7.83%		-2.55			7.17%
6/30/1987	12.50%	7.84%		-2.55			4.66%
7/8/1987	12.00%	7.86%		-2.54			4.14%
7/10/1987	12.90%	7.86%		-2.54			5.04%
7/15/1987	13.50%	7.88%		-2.54			5.62%
7/16/1987	13.50%	7.88%		-2.54			5.62%
7/16/1987	15.00%	7.88%		-2.54			7.12%
7/27/1987	13.00%	7.92%		-2.54			5.08%
7/27/1987	13.40%	7.92%		-2.54			5.48%
7/27/1987	13.50%	7.92%		-2.54			5.58%
7/31/1987	12.98%	7.95%		-2.53			5.03%
8/26/1987	12.63%	8.06%		-2.52			4.57%
8/26/1987	12.75%	8.06%		-2.52			4.69%
8/27/1987	13.25%	8.06%		-2.52			5.19%
9/9/1987	13.00%	8.14%		-2.51			4.86%
9/30/1987	12.75%	8.31%		-2.49			4.44%
9/30/1987	13.00%	8.31%		-2.49			4.69%
10/2/1987	11.50%	8.33%		-2.49			3.17%
10/15/1987	13.00%	8.43%		-2.47			4.57%
11/2/1987	13.00%	8.55%		-2.46			4.45%
11/19/1987	13.00%	8.64%		-2.45			4.36%
11/30/1987	12.00%	8.68%		-2.44			3.32%
12/3/1987	14.20%	8.70%		-2.44			5.50%
12/15/1987	13.25%	8.77%		-2.43			4.48%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
12/16/1987	13.50%	8.78%		-2.43			4.72%
12/16/1987	13.72%	8.78%		-2.43			4.94%
12/17/1987	11.75%	8.79%		-2.43			2.96%
12/18/1987	13.50%	8.80%		-2.43			4.70%
12/21/1987	12.01%	8.81%		-2.43			3.20%
12/22/1987	12.00%	8.81%		-2.43			3.19%
12/22/1987	12.00%	8.81%		-2.43			3.19%
12/22/1987	12.75%	8.81%		-2.43			3.94%
12/22/1987	13.00%	8.81%		-2.43			4.19%
1/20/1988	13.80%	8.94%		-2.42			4.86%
1/26/1988	13.90%	8.95%		-2.41			4.95%
1/29/1988	13.20%	8.96%		-2.41			4.24%
2/4/1988	12.60%	8.96%		-2.41			3.64%
3/1/1988	11.56%	8.94%		-2.41			2.62%
3/23/1988	12.87%	8.92%		-2.42			3.95%
3/24/1988	11.24%	8.92%		-2.42			2.32%
3/30/1988	12.72%	8.92%		-2.42			3.80%
4/1/1988	12.50%	8.92%		-2.42			3.58%
4/7/1988	13.25%	8.93%		-2.42			4.32%
4/25/1988	10.96%	8.96%		-2.41			2.00%
5/3/1988	12.91%	8.97%		-2.41			3.94%
5/11/1988	13.50%	8.99%		-2.41			4.51%
5/16/1988	13.00%	8.99%		-2.41			4.01%
6/30/1988	12.75%	9.00%		-2.41			3.75%
7/1/1988	12.75%	8.99%		-2.41			3.76%
7/20/1988	13.40%	8.96%		-2.41			4.44%
8/5/1988	12.75%	8.92%		-2.42			3.83%
8/23/1988	11.70%	8.93%		-2.42			2.77%
8/29/1988	12.75%	8.94%		-2.41			3.81%
8/30/1988	13.50%	8.94%		-2.41			4.56%
9/8/1988	12.60%	8.95%		-2.41			3.65%
10/13/1988	13.10%	8.93%		-2.42			4.17%
12/19/1988	13.00%	9.02%		-2.41			3.98%
12/20/1988	12.25%	9.02%		-2.41			3.23%
12/20/1988	13.00%	9.02%		-2.41			3.98%
12/21/1988	12.90%	9.02%		-2.41			3.88%
12/27/1988	13.00%	9.03%		-2.40			3.97%
12/28/1988	13.10%	9.03%		-2.40			4.07%
12/30/1988	13.40%	9.04%		-2.40			4.36%
1/27/1989	13.00%	9.05%		-2.40			3.95%
1/31/1989	13.00%	9.05%		-2.40			3.95%
2/17/1989	13.00%	9.05%		-2.40			3.95%
2/20/1989	12.40%	9.05%		-2.40			3.35%
3/1/1989	12.76%	9.05%		-2.40			3.71%
3/8/1989	13.00%	9.05%		-2.40			3.95%
3/30/1989	14.00%	9.05%		-2.40			4.95%
4/5/1989	14.20%	9.05%		-2.40			5.15%
4/18/1989	13.00%	9.05%		-2.40			3.95%
5/5/1989	12.40%	9.05%		-2.40			3.35%
6/2/1989	13.20%	9.00%		-2.41			4.20%
6/8/1989	13.50%	8.98%		-2.41			4.52%
6/27/1989	13.25%	8.91%		-2.42			4.34%
6/30/1989	13.00%	8.90%		-2.42			4.10%
8/14/1989	12.50%	8.77%		-2.43			3.73%
9/28/1989	12.25%	8.63%		-2.45			3.62%
10/24/1989	12.50%	8.54%		-2.46			3.96%
11/9/1989	13.00%	8.49%		-2.47			4.51%
12/15/1989	13.00%	8.34%		-2.48			4.66%
12/20/1989	12.90%	8.32%		-2.49			4.58%
12/21/1989	12.90%	8.31%		-2.49			4.59%
12/27/1989	12.50%	8.29%		-2.49			4.21%
12/27/1989	13.00%	8.29%		-2.49			4.71%
1/10/1990	12.80%	8.24%		-2.50		19.95	4.56%
1/11/1990	12.90%	8.24%		-2.50		19.96	4.66%
1/17/1990	12.80%	8.22%		-2.50		21.59	4.58%
1/26/1990	12.00%	8.20%		-2.50		22.87	3.80%
2/9/1990	12.10%	8.17%		-2.50		23.58	3.93%
2/24/1990	12.86%	8.15%		-2.51		23.31	4.71%
3/30/1990	12.90%	8.16%		-2.51		22.17	4.74%
4/4/1990	15.76%	8.17%		-2.51		22.15	7.59%
4/12/1990	12.52%	8.18%		-2.50		22.04	4.34%
4/19/1990	12.75%	8.20%		-2.50		21.99	4.55%
5/21/1990	12.10%	8.28%		-2.49		21.42	3.82%
5/29/1990	12.40%	8.30%		-2.49		21.21	4.10%
5/31/1990	12.00%	8.30%		-2.49		21.14	3.70%
6/4/1990	12.90%	8.30%		-2.49		21.08	4.60%
6/6/1990	12.25%	8.31%		-2.49		21.03	3.94%
6/15/1990	13.20%	8.32%		-2.49		20.78	4.88%
6/20/1990	12.92%	8.32%		-2.49		20.67	4.60%
6/27/1990	12.90%	8.33%		-2.49		20.51	4.57%
6/29/1990	12.50%	8.33%		-2.48		20.44	4.17%
7/6/1990	12.10%	8.34%		-2.48		20.29	3.76%
7/6/1990	12.35%	8.34%		-2.48		20.29	4.01%
8/10/1990	12.55%	8.41%		-2.48		20.49	4.14%
8/16/1990	13.21%	8.43%		-2.47		20.60	4.78%
8/22/1990	13.10%	8.45%		-2.47		20.79	4.65%
8/24/1990	13.00%	8.46%		-2.47		20.96	4.54%
9/26/1990	11.45%	8.59%		-2.45		21.94	2.86%
10/2/1990	13.00%	8.61%		-2.45		22.07	4.39%
10/5/1990	12.84%	8.62%		-2.45		22.16	4.22%
10/19/1990	13.00%	8.67%		-2.45		22.66	4.33%
10/25/1990	12.30%	8.68%		-2.44		22.73	3.62%
11/21/1990	12.70%	8.69%		-2.44		22.92	4.01%
12/13/1990	12.30%	8.67%		-2.44		22.98	3.63%
12/17/1990	12.87%	8.67%		-2.45		23.02	4.20%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
12/18/1990	13.10%	8.67%		-2.45		23.03	4.43%
12/19/1990	12.00%	8.66%		-2.45		23.05	3.34%
12/20/1990	12.75%	8.66%		-2.45		23.07	4.09%
12/21/1990	12.50%	8.66%		-2.45		23.09	3.84%
12/27/1990	12.79%	8.66%		-2.45		23.18	4.13%
1/2/1991	13.10%	8.65%		-2.45		23.30	4.45%
1/4/1991	12.50%	8.65%		-2.45		23.38	3.85%
1/15/1991	12.75%	8.64%		-2.45		23.76	4.11%
1/25/1991	11.70%	8.63%		-2.45		23.95	3.07%
2/4/1991	12.50%	8.60%		-2.45		23.96	3.90%
2/7/1991	12.50%	8.59%		-2.45		24.02	3.91%
2/12/1991	13.00%	8.58%		-2.46		24.10	4.43%
2/14/1991	12.72%	8.57%		-2.46		24.12	4.15%
2/22/1991	12.80%	8.55%		-2.46		24.18	4.25%
3/6/1991	13.10%	8.53%		-2.46		24.32	4.57%
3/8/1991	12.30%	8.52%		-2.46		24.36	3.78%
3/8/1991	13.00%	8.52%		-2.46		24.36	4.48%
4/22/1991	13.00%	8.49%		-2.47		24.40	4.51%
5/7/1991	13.50%	8.47%		-2.47		24.26	5.03%
5/13/1991	13.25%	8.47%		-2.47		24.08	4.78%
5/30/1991	12.75%	8.44%		-2.47		23.34	4.31%
6/12/1991	12.00%	8.41%		-2.48		22.76	3.59%
6/25/1991	11.70%	8.39%		-2.48		22.21	3.31%
6/28/1991	12.50%	8.38%		-2.48		22.05	4.12%
7/1/1991	12.00%	8.38%		-2.48		21.99	3.62%
7/3/1991	12.50%	8.37%		-2.48		21.89	4.13%
7/19/1991	12.10%	8.34%		-2.48		21.21	3.76%
8/1/1991	12.90%	8.32%		-2.49		20.60	4.58%
8/16/1991	13.20%	8.29%		-2.49		19.80	4.91%
9/27/1991	12.50%	8.23%		-2.50		18.90	4.27%
9/30/1991	12.25%	8.23%		-2.50		18.86	4.02%
10/17/1991	13.00%	8.20%		-2.50		18.16	4.80%
10/23/1991	12.50%	8.20%		-2.50		17.80	4.30%
10/23/1991	12.55%	8.20%		-2.50		17.80	4.35%
10/31/1991	11.80%	8.19%		-2.50		17.52	3.61%
11/1/1991	12.00%	8.19%		-2.50		17.49	3.81%
11/5/1991	12.25%	8.19%		-2.50		17.42	4.06%
11/12/1991	12.50%	8.18%		-2.50		17.27	4.32%
11/12/1991	13.25%	8.18%		-2.50		17.27	5.07%
11/25/1991	12.40%	8.18%		-2.50		17.14	4.22%
11/26/1991	11.60%	8.18%		-2.50		17.14	3.42%
11/26/1991	12.50%	8.18%		-2.50		17.14	4.32%
11/27/1991	12.10%	8.18%		-2.50		17.13	3.92%
12/18/1991	12.25%	8.15%		-2.51		17.04	4.10%
12/19/1991	12.60%	8.15%		-2.51		17.05	4.45%
12/19/1991	12.80%	8.15%		-2.51		17.05	4.65%
12/20/1991	12.65%	8.14%		-2.51		17.07	4.51%
1/9/1992	12.80%	8.09%		-2.51		17.13	4.71%
1/16/1992	12.75%	8.07%		-2.52		17.12	4.68%
1/21/1992	12.00%	8.06%		-2.52		17.12	3.94%
1/22/1992	13.00%	8.06%		-2.52		17.12	4.94%
1/27/1992	12.65%	8.05%		-2.52		17.13	4.60%
1/31/1992	12.00%	8.04%		-2.52		17.14	3.96%
2/11/1992	12.40%	8.03%		-2.52		17.15	4.37%
2/25/1992	12.50%	8.01%		-2.52		17.14	4.49%
3/16/1992	11.43%	7.98%		-2.53		17.28	3.45%
3/18/1992	12.28%	7.98%		-2.53		17.27	4.30%
4/2/1992	12.10%	7.95%		-2.53		17.24	4.15%
4/9/1992	11.45%	7.94%		-2.53		17.22	3.51%
4/10/1992	11.50%	7.93%		-2.53		17.21	3.57%
4/14/1992	11.50%	7.93%		-2.53		17.18	3.57%
5/5/1992	11.50%	7.89%		-2.54		17.12	3.61%
5/12/1992	11.87%	7.88%		-2.54		17.13	3.99%
5/12/1992	12.46%	7.88%		-2.54		17.13	4.58%
6/1/1992	12.30%	7.87%		-2.54		17.02	4.43%
6/12/1992	10.90%	7.86%		-2.54		16.99	3.04%
6/26/1992	12.35%	7.85%		-2.54		16.89	4.50%
6/29/1992	11.00%	7.85%		-2.54		16.88	3.15%
6/30/1992	13.00%	7.85%		-2.55		16.86	5.15%
7/13/1992	11.90%	7.84%		-2.55		16.79	4.06%
7/13/1992	13.50%	7.84%		-2.55		16.79	5.66%
7/22/1992	11.20%	7.83%		-2.55		16.64	3.37%
8/3/1992	12.00%	7.81%		-2.55		16.54	4.19%
8/6/1992	12.50%	7.80%		-2.55		16.51	4.70%
9/22/1992	12.00%	7.71%		-2.56		15.79	4.29%
9/28/1992	11.40%	7.71%		-2.56		15.72	3.69%
9/30/1992	11.75%	7.70%		-2.56		15.71	4.05%
10/2/1992	13.00%	7.70%		-2.56		15.73	5.30%
10/12/1992	12.20%	7.70%		-2.56		15.76	4.50%
10/16/1992	13.16%	7.70%		-2.56		15.74	5.46%
10/30/1992	11.75%	7.71%		-2.56		15.70	4.04%
11/3/1992	12.00%	7.71%		-2.56		15.70	4.29%
12/3/1992	11.85%	7.68%		-2.57		15.30	4.17%
12/15/1992	11.00%	7.66%		-2.57		15.06	3.34%
12/16/1992	11.90%	7.66%		-2.57		15.03	4.24%
12/16/1992	12.40%	7.66%		-2.57		15.03	4.74%
12/17/1992	12.00%	7.66%		-2.57		14.99	4.34%
12/22/1992	12.30%	7.65%		-2.57		14.90	4.65%
12/22/1992	12.40%	7.65%		-2.57		14.90	4.75%
12/29/1992	12.25%	7.63%	8.36%	-2.57	0.73%	14.78	4.62%
12/30/1992	12.00%	7.63%	8.36%	-2.57	0.73%	14.76	4.37%
12/31/1992	11.90%	7.63%	8.36%	-2.57	0.74%	14.74	4.27%
1/12/1993	12.00%	7.61%	8.37%	-2.58	0.76%	14.61	4.39%
1/21/1993	11.25%	7.59%	8.34%	-2.58	0.75%	14.44	3.66%
2/2/1993	11.40%	7.56%	8.28%	-2.58	0.72%	14.27	3.84%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
2/15/1993	12.30%	7.52%	8.23%	-2.59	0.71%	14.12	4.78%
2/24/1993	11.90%	7.49%	8.19%	-2.59	0.70%	14.14	4.41%
2/26/1993	11.80%	7.48%	8.18%	-2.59	0.70%	14.14	4.32%
2/26/1993	12.20%	7.48%	8.18%	-2.59	0.70%	14.14	4.72%
4/23/1993	11.75%	7.29%	8.03%	-2.62	0.74%	13.84	4.46%
5/11/1993	11.75%	7.25%	8.00%	-2.62	0.75%	13.84	4.50%
5/14/1993	11.50%	7.24%	8.00%	-2.63	0.76%	13.84	4.26%
5/25/1993	11.50%	7.23%	7.99%	-2.63	0.76%	13.82	4.27%
5/28/1993	11.00%	7.22%	7.99%	-2.63	0.77%	13.80	3.78%
6/3/1993	12.00%	7.21%	7.98%	-2.63	0.77%	13.77	4.79%
6/16/1993	11.50%	7.19%	7.97%	-2.63	0.78%	13.76	4.31%
6/18/1993	12.10%	7.18%	7.96%	-2.63	0.78%	13.76	4.92%
6/25/1993	11.67%	7.17%	7.95%	-2.64	0.79%	13.71	4.50%
7/21/1993	11.38%	7.10%	7.90%	-2.65	0.81%	13.22	4.28%
7/23/1993	10.46%	7.09%	7.90%	-2.65	0.81%	13.17	3.37%
8/24/1993	11.50%	6.96%	7.83%	-2.67	0.87%	12.74	4.54%
9/21/1993	10.50%	6.81%	7.75%	-2.69	0.94%	12.73	3.69%
9/29/1993	11.47%	6.77%	7.73%	-2.69	0.96%	12.76	4.70%
9/30/1993	11.60%	6.76%	7.72%	-2.69	0.96%	12.77	4.84%
11/2/1993	10.80%	6.60%	7.60%	-2.72	0.99%	12.70	4.20%
11/12/1993	12.00%	6.57%	7.57%	-2.72	1.00%	12.77	5.43%
11/26/1993	11.00%	6.52%	7.53%	-2.73	1.01%	12.79	4.48%
12/14/1993	10.55%	6.48%	7.49%	-2.74	1.01%	12.71	4.07%
12/16/1993	10.60%	6.48%	7.49%	-2.74	1.01%	12.68	4.12%
12/21/1993	11.30%	6.47%	7.48%	-2.74	1.01%	12.62	4.83%
1/4/1994	10.07%	6.44%	7.45%	-2.74	1.01%	12.49	3.63%
1/13/1994	11.00%	6.42%	7.43%	-2.75	1.01%	12.41	4.58%
1/21/1994	11.00%	6.40%	7.41%	-2.75	1.01%	12.41	4.60%
1/28/1994	11.35%	6.39%	7.40%	-2.75	1.01%	12.37	4.96%
2/3/1994	11.40%	6.38%	7.39%	-2.75	1.01%	12.31	5.02%
2/17/1994	10.60%	6.36%	7.38%	-2.76	1.01%	12.35	4.24%
2/25/1994	11.25%	6.35%	7.37%	-2.76	1.02%	12.35	4.90%
2/25/1994	12.00%	6.35%	7.37%	-2.76	1.02%	12.35	5.65%
3/1/1994	11.00%	6.35%	7.37%	-2.76	1.02%	12.37	4.65%
3/4/1994	11.00%	6.35%	7.37%	-2.76	1.02%	12.41	4.65%
4/25/1994	11.00%	6.41%	7.42%	-2.75	1.01%	13.10	4.59%
5/10/1994	11.75%	6.45%	7.45%	-2.74	1.01%	13.27	5.30%
5/13/1994	10.50%	6.46%	7.47%	-2.74	1.01%	13.32	4.04%
6/3/1994	11.00%	6.54%	7.53%	-2.73	0.99%	13.39	4.46%
6/27/1994	11.40%	6.65%	7.63%	-2.71	0.98%	13.45	4.75%
8/5/1994	12.75%	6.88%	7.82%	-2.68	0.95%	13.50	5.87%
10/31/1994	10.00%	7.33%	8.22%	-2.61	0.90%	13.87	2.67%
11/9/1994	10.85%	7.39%	8.28%	-2.61	0.89%	14.06	3.46%
11/9/1994	10.85%	7.39%	8.28%	-2.61	0.89%	14.06	3.46%
11/18/1994	11.20%	7.45%	8.33%	-2.60	0.88%	14.14	3.75%
11/22/1994	11.60%	7.47%	8.35%	-2.59	0.88%	14.17	4.13%
11/28/1994	11.06%	7.49%	8.37%	-2.59	0.88%	14.25	3.57%
12/8/1994	11.50%	7.54%	8.43%	-2.58	0.88%	14.30	3.96%
12/8/1994	11.70%	7.54%	8.43%	-2.58	0.88%	14.30	4.16%
12/14/1994	10.95%	7.56%	8.45%	-2.58	0.89%	14.29	3.39%
12/15/1994	11.50%	7.57%	8.46%	-2.58	0.89%	14.27	3.93%
12/19/1994	11.50%	7.58%	8.47%	-2.58	0.89%	14.24	3.92%
12/28/1994	12.15%	7.61%	8.50%	-2.58	0.88%	14.20	4.54%
1/9/1995	12.28%	7.64%	8.53%	-2.57	0.89%	14.02	4.64%
1/31/1995	11.00%	7.69%	8.58%	-2.57	0.89%	13.66	3.31%
2/10/1995	12.60%	7.70%	8.59%	-2.56	0.89%	13.54	4.90%
2/17/1995	11.90%	7.70%	8.60%	-2.56	0.90%	13.45	4.20%
3/9/1995	11.50%	7.71%	8.61%	-2.56	0.90%	13.39	3.79%
3/20/1995	12.00%	7.72%	8.61%	-2.56	0.89%	13.37	4.28%
3/23/1995	12.81%	7.72%	8.61%	-2.56	0.89%	13.37	5.09%
3/29/1995	11.60%	7.72%	8.61%	-2.56	0.90%	13.32	3.88%
4/6/1995	11.10%	7.71%	8.61%	-2.56	0.90%	13.26	3.39%
4/7/1995	11.00%	7.71%	8.61%	-2.56	0.90%	13.25	3.29%
4/19/1995	11.00%	7.70%	8.61%	-2.56	0.91%	13.19	3.30%
5/12/1995	11.63%	7.68%	8.58%	-2.57	0.90%	13.25	3.95%
5/25/1995	11.20%	7.65%	8.56%	-2.57	0.91%	13.25	3.55%
6/9/1995	11.25%	7.60%	8.52%	-2.58	0.92%	13.30	3.65%
6/21/1995	12.25%	7.56%	8.48%	-2.58	0.92%	13.25	4.69%
6/30/1995	11.10%	7.52%	8.45%	-2.59	0.94%	13.18	3.58%
9/11/1995	11.30%	7.20%	8.18%	-2.63	0.97%	12.35	4.10%
9/27/1995	11.30%	7.12%	8.10%	-2.64	0.98%	12.22	4.18%
9/27/1995	11.50%	7.12%	8.10%	-2.64	0.98%	12.22	4.38%
9/27/1995	11.75%	7.12%	8.10%	-2.64	0.98%	12.22	4.63%
9/29/1995	11.00%	7.11%	8.09%	-2.64	0.98%	12.23	3.89%
11/9/1995	11.38%	6.90%	7.91%	-2.67	1.01%	12.47	4.48%
11/9/1995	12.36%	6.90%	7.91%	-2.67	1.01%	12.47	5.46%
11/17/1995	11.00%	6.86%	7.87%	-2.68	1.02%	12.52	4.14%
12/4/1995	11.35%	6.78%	7.82%	-2.69	1.04%	12.52	4.57%
12/11/1995	11.40%	6.74%	7.79%	-2.70	1.04%	12.52	4.66%
12/20/1995	11.60%	6.70%	7.75%	-2.70	1.05%	12.49	4.90%
12/27/1995	12.00%	6.66%	7.72%	-2.71	1.06%	12.48	5.34%
2/5/1996	12.25%	6.48%	7.59%	-2.74	1.11%	12.63	5.77%
3/29/1996	10.67%	6.42%	7.52%	-2.75	1.11%	13.51	4.25%
4/8/1996	11.00%	6.42%	7.53%	-2.75	1.11%	13.68	4.58%
4/11/1996	12.59%	6.43%	7.53%	-2.74	1.11%	13.78	6.16%
4/11/1996	12.59%	6.43%	7.53%	-2.74	1.11%	13.78	6.16%
4/24/1996	11.25%	6.43%	7.55%	-2.74	1.11%	13.95	4.82%
4/30/1996	11.00%	6.43%	7.55%	-2.74	1.12%	14.00	4.57%
5/13/1996	11.00%	6.44%	7.57%	-2.74	1.13%	14.14	4.56%
5/23/1996	11.25%	6.43%	7.57%	-2.74	1.14%	14.26	4.82%
6/25/1996	11.25%	6.48%	7.60%	-2.74	1.12%	14.79	4.77%
6/27/1996	11.20%	6.48%	7.60%	-2.74	1.12%	14.81	4.72%
8/12/1996	10.40%	6.57%	7.67%	-2.72	1.10%	15.38	3.83%
9/27/1996	11.00%	6.71%	7.76%	-2.70	1.05%	16.06	4.29%
10/16/1996	12.25%	6.76%	7.79%	-2.69	1.03%	16.26	5.49%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
11/5/1996	11.00%	6.81%	7.83%	-2.69	1.02%	16.52	4.19%
11/26/1996	11.30%	6.83%	7.84%	-2.68	1.01%	16.59	4.47%
12/18/1996	11.75%	6.83%	7.85%	-2.68	1.02%	16.75	4.92%
12/31/1996	11.50%	6.83%	7.85%	-2.68	1.02%	16.82	4.67%
1/3/1997	10.70%	6.83%	7.85%	-2.68	1.02%	16.85	3.87%
2/13/1997	11.80%	6.82%	7.83%	-2.68	1.01%	17.26	4.98%
2/20/1997	11.80%	6.82%	7.83%	-2.69	1.01%	17.38	4.98%
3/31/1997	10.02%	6.80%	7.81%	-2.69	1.00%	17.89	3.22%
4/2/1997	11.65%	6.80%	7.80%	-2.69	1.00%	17.95	4.85%
4/28/1997	11.50%	6.81%	7.80%	-2.69	0.99%	18.21	4.69%
4/29/1997	11.70%	6.81%	7.80%	-2.69	0.99%	18.20	4.89%
7/17/1997	12.00%	6.77%	7.75%	-2.69	0.97%	19.16	5.23%
12/12/1997	11.00%	6.60%	7.60%	-2.72	1.00%	22.66	4.40%
12/23/1997	11.12%	6.57%	7.58%	-2.72	1.01%	22.93	4.55%
2/2/1998	12.75%	6.39%	7.47%	-2.75	1.08%	23.59	6.36%
3/2/1998	11.25%	6.29%	7.39%	-2.77	1.10%	23.58	4.96%
3/6/1998	10.75%	6.27%	7.38%	-2.77	1.11%	23.59	4.48%
3/20/1998	10.50%	6.22%	7.34%	-2.78	1.12%	23.55	4.28%
4/30/1998	12.20%	6.12%	7.26%	-2.79	1.14%	23.81	6.08%
7/10/1998	11.40%	5.94%	7.16%	-2.82	1.23%	23.19	5.46%
9/15/1998	11.90%	5.78%	7.09%	-2.85	1.31%	23.83	6.12%
11/30/1998	12.60%	5.58%	7.05%	-2.89	1.47%	26.16	7.02%
12/10/1998	12.20%	5.54%	7.05%	-2.89	1.50%	26.43	6.66%
12/17/1998	12.10%	5.52%	7.04%	-2.90	1.52%	26.68	6.58%
2/5/1999	10.30%	5.38%	7.01%	-2.92	1.63%	27.62	4.92%
3/4/1999	10.50%	5.34%	7.01%	-2.93	1.67%	28.37	5.16%
4/6/1999	10.94%	5.32%	7.03%	-2.93	1.70%	28.67	5.62%
7/29/1999	10.75%	5.52%	7.25%	-2.90	1.74%	25.43	5.23%
9/23/1999	10.75%	5.70%	7.43%	-2.86	1.73%	24.82	5.05%
11/17/1999	11.10%	5.90%	7.63%	-2.83	1.73%	24.18	5.20%
1/7/2000	11.50%	6.05%	7.79%	-2.81	1.75%	23.47	5.45%
1/7/2000	11.50%	6.05%	7.79%	-2.81	1.75%	23.47	5.45%
2/17/2000	10.60%	6.17%	7.94%	-2.78	1.77%	23.25	4.43%
3/28/2000	11.25%	6.20%	8.04%	-2.78	1.85%	22.96	5.05%
5/24/2000	11.00%	6.18%	8.19%	-2.78	2.00%	23.84	4.82%
7/18/2000	12.20%	6.16%	8.27%	-2.79	2.11%	23.38	6.04%
9/29/2000	11.16%	6.03%	8.31%	-2.81	2.28%	22.46	5.13%
11/28/2000	12.90%	5.89%	8.28%	-2.83	2.40%	22.95	7.01%
11/30/2000	12.10%	5.88%	8.28%	-2.83	2.40%	22.99	6.22%
1/23/2001	11.25%	5.79%	8.20%	-2.85	2.41%	23.36	5.46%
2/8/2001	11.50%	5.77%	8.18%	-2.85	2.40%	23.05	5.73%
5/8/2001	10.75%	5.62%	7.97%	-2.88	2.35%	24.55	5.13%
6/26/2001	11.00%	5.62%	7.93%	-2.88	2.31%	25.13	5.38%
7/25/2001	11.02%	5.60%	7.89%	-2.88	2.29%	24.97	5.42%
7/25/2001	11.02%	5.60%	7.89%	-2.88	2.29%	24.97	5.42%
7/31/2001	11.00%	5.59%	7.88%	-2.88	2.29%	24.93	5.41%
8/31/2001	10.50%	5.56%	7.82%	-2.89	2.26%	24.44	4.94%
9/7/2001	10.75%	5.55%	7.81%	-2.89	2.25%	24.43	5.20%
9/10/2001	11.00%	5.55%	7.80%	-2.89	2.25%	24.45	5.45%
9/20/2001	10.00%	5.55%	7.79%	-2.89	2.25%	25.04	4.45%
10/24/2001	10.30%	5.54%	7.78%	-2.89	2.24%	25.81	4.76%
11/28/2001	10.60%	5.49%	7.75%	-2.90	2.26%	26.46	5.11%
12/3/2001	12.88%	5.49%	7.75%	-2.90	2.26%	26.44	7.39%
12/20/2001	12.50%	5.50%	7.76%	-2.90	2.26%	26.24	7.00%
1/22/2002	10.00%	5.50%	7.76%	-2.90	2.27%	25.40	4.50%
3/27/2002	10.10%	5.45%	7.69%	-2.91	2.24%	24.99	4.65%
4/22/2002	11.80%	5.45%	7.67%	-2.91	2.22%	24.82	6.35%
5/28/2002	10.17%	5.46%	7.64%	-2.91	2.17%	24.60	4.71%
6/10/2002	12.00%	5.47%	7.63%	-2.91	2.16%	24.58	6.53%
6/18/2002	11.16%	5.48%	7.62%	-2.90	2.15%	24.42	5.68%
6/20/2002	11.00%	5.48%	7.62%	-2.90	2.15%	24.32	5.52%
6/20/2002	12.30%	5.48%	7.62%	-2.90	2.15%	24.32	6.82%
7/15/2002	11.00%	5.48%	7.60%	-2.90	2.13%	23.73	5.52%
9/12/2002	12.30%	5.45%	7.51%	-2.91	2.06%	25.13	6.85%
9/26/2002	10.45%	5.41%	7.48%	-2.92	2.07%	25.82	5.04%
12/4/2002	11.55%	5.29%	7.36%	-2.94	2.07%	28.10	6.26%
12/13/2002	11.75%	5.27%	7.34%	-2.94	2.08%	28.40	6.48%
12/20/2002	11.40%	5.25%	7.33%	-2.95	2.08%	28.60	6.15%
1/8/2003	11.10%	5.19%	7.29%	-2.96	2.10%	29.15	5.91%
1/31/2003	12.45%	5.13%	7.24%	-2.97	2.11%	29.86	7.32%
2/28/2003	12.30%	5.05%	7.19%	-2.99	2.14%	31.05	7.25%
3/6/2003	10.75%	5.03%	7.17%	-2.99	2.14%	31.26	5.72%
3/7/2003	9.96%	5.02%	7.17%	-2.99	2.14%	31.32	4.94%
3/20/2003	12.00%	4.98%	7.13%	-3.00	2.15%	31.68	7.02%
4/3/2003	12.00%	4.96%	7.10%	-3.00	2.14%	31.78	7.04%
4/15/2003	11.15%	4.94%	7.07%	-3.01	2.13%	31.70	6.21%
6/25/2003	10.75%	4.79%	6.85%	-3.04	2.06%	27.93	5.96%
6/26/2003	10.75%	4.79%	6.84%	-3.04	2.05%	27.82	5.96%
7/9/2003	9.75%	4.79%	6.82%	-3.04	2.03%	27.00	4.96%
7/16/2003	9.75%	4.79%	6.80%	-3.04	2.01%	26.47	4.96%
7/25/2003	9.50%	4.80%	6.79%	-3.04	1.99%	25.90	4.70%
8/26/2003	10.50%	4.83%	6.74%	-3.03	1.90%	24.64	5.67%
12/17/2003	9.85%	4.94%	6.51%	-3.01	1.57%	20.20	4.91%
12/17/2003	10.70%	4.94%	6.51%	-3.01	1.57%	20.20	5.76%
12/18/2003	11.50%	4.94%	6.51%	-3.01	1.57%	20.12	6.56%
12/19/2003	12.00%	4.94%	6.50%	-3.01	1.56%	20.04	7.06%
12/19/2003	12.00%	4.94%	6.50%	-3.01	1.56%	20.04	7.06%
12/23/2003	10.50%	4.94%	6.50%	-3.01	1.56%	19.90	5.56%
1/13/2004	12.00%	4.95%	6.46%	-3.01	1.51%	19.03	7.05%
3/2/2004	10.75%	4.99%	6.38%	-3.00	1.39%	18.08	5.76%
3/26/2004	10.25%	5.02%	6.35%	-2.99	1.33%	17.88	5.23%
4/5/2004	11.25%	5.03%	6.35%	-2.99	1.32%	17.76	6.22%
5/18/2004	10.50%	5.07%	6.36%	-2.98	1.28%	17.32	5.43%
5/25/2004	10.25%	5.08%	6.35%	-2.98	1.28%	17.31	5.17%
5/27/2004	10.25%	5.08%	6.35%	-2.98	1.28%	17.29	5.17%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
6/2/2004	11.22%	5.08%	6.35%	-2.98	1.27%	17.22	6.14%
6/30/2004	10.50%	5.10%	6.32%	-2.98	1.22%	16.86	5.40%
6/30/2004	10.50%	5.10%	6.32%	-2.98	1.22%	16.86	5.40%
7/16/2004	11.60%	5.11%	6.30%	-2.97	1.19%	16.55	6.49%
8/25/2004	10.25%	5.10%	6.27%	-2.98	1.17%	16.46	5.15%
9/9/2004	10.40%	5.10%	6.25%	-2.98	1.16%	16.32	5.30%
11/9/2004	10.50%	5.07%	6.20%	-2.98	1.13%	15.90	5.43%
11/23/2004	11.00%	5.06%	6.19%	-2.98	1.13%	15.75	5.94%
12/14/2004	10.97%	5.07%	6.18%	-2.98	1.11%	15.58	5.90%
12/21/2004	11.25%	5.07%	6.17%	-2.98	1.10%	15.38	6.18%
12/21/2004	11.50%	5.07%	6.17%	-2.98	1.10%	15.38	6.43%
12/22/2004	10.70%	5.07%	6.17%	-2.98	1.10%	15.35	5.63%
12/22/2004	11.50%	5.07%	6.17%	-2.98	1.10%	15.35	6.43%
12/29/2004	9.85%	5.07%	6.17%	-2.98	1.10%	15.14	4.78%
1/6/2005	10.70%	5.08%	6.17%	-2.98	1.09%	15.04	5.62%
2/18/2005	10.30%	4.98%	6.08%	-3.00	1.11%	14.45	5.32%
2/25/2005	10.50%	4.96%	6.07%	-3.00	1.11%	14.27	5.54%
3/10/2005	11.00%	4.93%	6.03%	-3.01	1.10%	14.10	6.07%
3/24/2005	10.30%	4.90%	5.99%	-3.02	1.09%	14.00	5.40%
4/4/2005	10.00%	4.88%	5.97%	-3.02	1.09%	13.96	5.12%
4/7/2005	10.25%	4.87%	5.96%	-3.02	1.09%	13.93	5.38%
5/18/2005	10.25%	4.78%	5.86%	-3.04	1.08%	13.74	5.47%
5/25/2005	10.75%	4.76%	5.84%	-3.04	1.07%	13.62	5.99%
5/26/2005	9.75%	4.76%	5.83%	-3.04	1.07%	13.60	4.99%
6/1/2005	9.75%	4.75%	5.82%	-3.05	1.07%	13.54	5.00%
7/19/2005	11.50%	4.64%	5.73%	-3.07	1.08%	13.10	6.86%
8/5/2005	11.75%	4.62%	5.70%	-3.07	1.07%	12.83	7.13%
8/15/2005	10.13%	4.61%	5.68%	-3.08	1.07%	12.77	5.52%
9/28/2005	10.00%	4.54%	5.61%	-3.09	1.07%	12.79	5.46%
10/4/2005	10.75%	4.54%	5.61%	-3.09	1.07%	12.80	6.21%
12/12/2005	11.00%	4.55%	5.63%	-3.09	1.08%	12.96	6.45%
12/13/2005	10.75%	4.55%	5.63%	-3.09	1.08%	12.96	6.20%
12/21/2005	10.29%	4.54%	5.63%	-3.09	1.09%	12.90	5.75%
12/21/2005	10.40%	4.54%	5.63%	-3.09	1.09%	12.90	5.86%
12/22/2005	11.00%	4.54%	5.63%	-3.09	1.09%	12.88	6.46%
12/22/2005	11.15%	4.54%	5.63%	-3.09	1.09%	12.88	6.61%
12/28/2005	10.00%	4.54%	5.63%	-3.09	1.09%	12.83	5.46%
12/28/2005	10.00%	4.54%	5.63%	-3.09	1.09%	12.83	5.46%
1/5/2006	11.00%	4.53%	5.62%	-3.09	1.09%	12.76	6.47%
1/27/2006	9.75%	4.52%	5.62%	-3.10	1.10%	12.59	5.23%
3/3/2006	10.39%	4.53%	5.65%	-3.09	1.12%	12.36	5.86%
4/17/2006	10.20%	4.61%	5.75%	-3.08	1.14%	12.34	5.59%
4/26/2006	10.60%	4.64%	5.78%	-3.07	1.14%	12.38	5.96%
5/17/2006	11.60%	4.69%	5.85%	-3.06	1.15%	12.45	6.91%
6/6/2006	10.00%	4.74%	5.90%	-3.05	1.16%	12.68	5.26%
6/27/2006	10.75%	4.80%	5.98%	-3.04	1.18%	13.07	5.95%
7/6/2006	10.20%	4.83%	6.00%	-3.03	1.18%	13.10	5.37%
7/24/2006	9.60%	4.86%	6.05%	-3.02	1.19%	13.18	4.74%
7/26/2006	10.50%	4.86%	6.06%	-3.02	1.20%	13.19	5.64%
7/28/2006	10.05%	4.86%	6.06%	-3.02	1.20%	13.17	5.19%
8/23/2006	9.55%	4.89%	6.09%	-3.02	1.21%	13.20	4.66%
9/1/2006	10.54%	4.90%	6.10%	-3.02	1.21%	13.24	5.64%
9/14/2006	10.00%	4.91%	6.11%	-3.01	1.21%	13.28	5.09%
10/6/2006	9.67%	4.92%	6.12%	-3.01	1.20%	13.35	4.75%
11/21/2006	10.08%	4.95%	6.15%	-3.01	1.19%	13.13	5.13%
11/21/2006	10.08%	4.95%	6.15%	-3.01	1.19%	13.13	5.13%
11/21/2006	10.12%	4.95%	6.15%	-3.01	1.19%	13.13	5.17%
12/1/2006	10.25%	4.95%	6.14%	-3.00	1.19%	13.09	5.30%
12/1/2006	10.50%	4.95%	6.14%	-3.00	1.19%	13.09	5.55%
12/7/2006	10.75%	4.95%	6.14%	-3.00	1.19%	13.09	5.80%
12/21/2006	10.90%	4.95%	6.14%	-3.01	1.18%	13.02	5.95%
12/21/2006	11.25%	4.95%	6.14%	-3.01	1.18%	13.02	6.30%
12/22/2006	10.25%	4.95%	6.14%	-3.01	1.18%	13.01	5.30%
1/5/2007	10.00%	4.95%	6.13%	-3.01	1.18%	13.02	5.05%
1/11/2007	10.10%	4.95%	6.13%	-3.01	1.18%	13.02	5.15%
1/11/2007	10.10%	4.95%	6.13%	-3.01	1.18%	13.02	5.15%
1/11/2007	10.90%	4.95%	6.13%	-3.01	1.18%	13.02	5.95%
1/12/2007	10.10%	4.95%	6.13%	-3.01	1.18%	13.01	5.15%
1/13/2007	10.40%	4.95%	6.13%	-3.01	1.18%	13.01	5.45%
1/19/2007	10.80%	4.94%	6.13%	-3.01	1.18%	12.96	5.86%
3/21/2007	11.35%	4.87%	6.03%	-3.02	1.16%	12.51	6.48%
3/22/2007	9.75%	4.86%	6.03%	-3.02	1.16%	12.50	4.89%
5/15/2007	10.00%	4.81%	5.94%	-3.03	1.14%	12.10	5.19%
5/17/2007	10.25%	4.81%	5.94%	-3.04	1.13%	12.09	5.44%
5/17/2007	10.25%	4.81%	5.94%	-3.04	1.13%	12.09	5.44%
5/22/2007	10.20%	4.80%	5.94%	-3.04	1.13%	12.07	5.40%
5/22/2007	10.50%	4.80%	5.94%	-3.04	1.13%	12.07	5.70%
5/23/2007	10.70%	4.80%	5.94%	-3.04	1.13%	12.08	5.90%
5/25/2007	9.67%	4.80%	5.94%	-3.04	1.13%	12.09	4.87%
6/15/2007	9.90%	4.82%	5.94%	-3.03	1.12%	12.22	5.08%
6/21/2007	10.20%	4.83%	5.94%	-3.03	1.12%	12.26	5.37%
6/22/2007	10.50%	4.83%	5.95%	-3.03	1.12%	12.28	5.67%
6/28/2007	10.75%	4.84%	5.95%	-3.03	1.11%	12.37	5.91%
7/12/2007	9.67%	4.86%	5.96%	-3.02	1.11%	12.56	4.81%
7/19/2007	10.00%	4.87%	5.97%	-3.02	1.11%	12.66	5.13%
7/19/2007	10.00%	4.87%	5.97%	-3.02	1.11%	12.66	5.13%
8/15/2007	10.40%	4.88%	5.99%	-3.02	1.11%	13.79	5.52%
10/9/2007	10.00%	4.91%	6.07%	-3.01	1.16%	16.01	5.09%
10/17/2007	9.10%	4.91%	6.08%	-3.01	1.17%	16.21	4.19%
10/31/2007	9.96%	4.90%	6.08%	-3.02	1.18%	16.70	5.06%
11/29/2007	10.90%	4.87%	6.08%	-3.02	1.21%	18.30	6.03%
12/6/2007	10.75%	4.86%	6.08%	-3.02	1.22%	18.51	5.89%
12/13/2007	9.96%	4.86%	6.09%	-3.02	1.24%	18.64	5.10%
12/14/2007	10.70%	4.86%	6.10%	-3.02	1.24%	18.69	5.84%
12/14/2007	10.80%	4.86%	6.10%	-3.02	1.24%	18.69	5.94%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
12/19/2007	10.20%	4.86%	6.10%	-3.03	1.25%	18.79	5.34%
12/20/2007	10.20%	4.85%	6.10%	-3.03	1.25%	18.81	5.35%
12/20/2007	11.00%	4.85%	6.10%	-3.03	1.25%	18.81	6.15%
12/28/2007	10.25%	4.85%	6.12%	-3.03	1.26%	18.97	5.40%
12/31/2007	11.25%	4.85%	6.12%	-3.03	1.27%	19.02	6.40%
1/8/2008	10.75%	4.83%	6.12%	-3.03	1.29%	19.29	5.92%
1/17/2008	10.75%	4.81%	6.12%	-3.03	1.31%	19.69	5.94%
1/28/2008	9.40%	4.80%	6.12%	-3.04	1.33%	20.26	4.60%
1/30/2008	10.00%	4.79%	6.12%	-3.04	1.33%	20.40	5.21%
1/31/2008	10.71%	4.79%	6.12%	-3.04	1.34%	20.47	5.92%
2/29/2008	10.25%	4.75%	6.15%	-3.05	1.40%	21.74	5.50%
3/12/2008	10.25%	4.73%	6.16%	-3.05	1.43%	22.28	5.52%
3/25/2008	9.10%	4.68%	6.16%	-3.06	1.48%	22.87	4.42%
4/22/2008	10.25%	4.60%	6.16%	-3.08	1.56%	23.58	5.65%
4/24/2008	10.10%	4.60%	6.16%	-3.08	1.56%	23.63	5.50%
5/1/2008	10.70%	4.59%	6.16%	-3.08	1.57%	23.67	6.11%
5/19/2008	11.00%	4.56%	6.16%	-3.09	1.60%	23.32	6.44%
5/27/2008	10.00%	4.55%	6.16%	-3.09	1.61%	23.04	5.45%
6/10/2008	10.70%	4.54%	6.17%	-3.09	1.62%	22.89	6.16%
6/27/2008	10.50%	4.54%	6.18%	-3.09	1.64%	22.80	5.96%
6/27/2008	11.04%	4.54%	6.18%	-3.09	1.64%	22.80	6.50%
7/10/2008	10.43%	4.52%	6.19%	-3.10	1.66%	23.10	5.91%
7/16/2008	9.40%	4.52%	6.19%	-3.10	1.67%	23.31	4.88%
7/30/2008	10.80%	4.51%	6.20%	-3.10	1.69%	23.46	6.29%
7/31/2008	10.70%	4.51%	6.20%	-3.10	1.70%	23.47	6.19%
8/11/2008	10.25%	4.51%	6.22%	-3.10	1.71%	23.47	5.74%
8/26/2008	10.18%	4.50%	6.24%	-3.10	1.74%	23.15	5.68%
9/10/2008	10.30%	4.50%	6.25%	-3.10	1.75%	23.00	5.80%
9/24/2008	10.65%	4.48%	6.28%	-3.11	1.79%	23.48	6.17%
9/24/2008	10.65%	4.48%	6.28%	-3.11	1.79%	23.48	6.17%
9/24/2008	10.65%	4.48%	6.28%	-3.11	1.79%	23.48	6.17%
9/30/2008	10.20%	4.48%	6.29%	-3.11	1.81%	23.86	5.72%
10/8/2008	10.15%	4.46%	6.31%	-3.11	1.85%	24.69	5.69%
11/13/2008	10.55%	4.45%	6.52%	-3.11	2.08%	29.46	6.10%
11/17/2008	10.20%	4.44%	6.54%	-3.11	2.09%	29.86	5.76%
12/1/2008	10.25%	4.40%	6.59%	-3.12	2.20%	31.89	5.85%
12/23/2008	11.00%	4.27%	6.62%	-3.15	2.35%	34.12	6.73%
12/29/2008	10.00%	4.24%	6.62%	-3.16	2.38%	34.45	5.76%
12/29/2008	10.20%	4.24%	6.62%	-3.16	2.38%	34.45	5.96%
12/31/2008	10.75%	4.22%	6.62%	-3.17	2.40%	34.60	6.53%
1/14/2009	10.50%	4.15%	6.63%	-3.18	2.48%	35.54	6.35%
1/21/2009	10.50%	4.12%	6.63%	-3.19	2.51%	36.23	6.38%
1/21/2009	10.50%	4.12%	6.63%	-3.19	2.51%	36.23	6.38%
1/27/2009	10.76%	4.09%	6.63%	-3.20	2.54%	36.73	6.67%
1/30/2009	10.50%	4.08%	6.63%	-3.20	2.56%	37.07	6.42%
2/4/2009	8.75%	4.06%	6.64%	-3.20	2.57%	37.43	4.69%
3/4/2009	10.50%	3.96%	6.64%	-3.23	2.67%	40.24	6.54%
3/12/2009	11.50%	3.93%	6.64%	-3.24	2.71%	41.05	7.57%
4/2/2009	11.10%	3.85%	6.65%	-3.26	2.80%	42.57	7.25%
4/21/2009	10.61%	3.80%	6.65%	-3.27	2.85%	43.37	6.81%
4/24/2009	10.00%	3.79%	6.66%	-3.27	2.87%	43.56	6.21%
4/30/2009	11.25%	3.78%	6.66%	-3.28	2.89%	43.86	7.47%
5/4/2009	10.74%	3.77%	6.66%	-3.28	2.89%	43.97	6.97%
5/20/2009	10.25%	3.74%	6.66%	-3.29	2.92%	44.59	6.51%
5/28/2009	10.50%	3.74%	6.67%	-3.29	2.92%	44.93	6.76%
6/22/2009	10.00%	3.76%	6.66%	-3.28	2.90%	45.53	6.24%
6/24/2009	10.80%	3.77%	6.66%	-3.28	2.89%	45.50	7.03%
7/8/2009	10.63%	3.77%	6.64%	-3.28	2.88%	45.07	6.86%
7/17/2009	10.50%	3.78%	6.62%	-3.28	2.84%	44.06	6.72%
8/31/2009	10.25%	3.82%	6.34%	-3.27	2.52%	37.95	6.43%
10/14/2009	10.70%	4.01%	6.13%	-3.22	2.12%	33.83	6.69%
10/23/2009	10.88%	4.06%	6.10%	-3.20	2.05%	32.98	6.82%
11/2/2009	10.70%	4.09%	6.08%	-3.20	1.99%	32.32	6.61%
11/3/2009	10.70%	4.10%	6.08%	-3.20	1.99%	32.25	6.60%
11/24/2009	10.25%	4.15%	6.03%	-3.18	1.87%	30.69	6.10%
11/25/2009	10.75%	4.16%	6.02%	-3.18	1.86%	30.55	6.59%
11/30/2009	10.35%	4.17%	6.02%	-3.18	1.85%	30.16	6.18%
12/3/2009	10.50%	4.18%	6.01%	-3.18	1.83%	29.82	6.32%
12/7/2009	10.70%	4.18%	6.00%	-3.17	1.82%	29.54	6.52%
12/16/2009	10.90%	4.21%	5.98%	-3.17	1.77%	28.63	6.69%
12/16/2009	11.00%	4.21%	5.98%	-3.17	1.77%	28.63	6.79%
12/18/2009	10.40%	4.22%	5.98%	-3.16	1.75%	28.43	6.18%
12/18/2009	10.40%	4.22%	5.98%	-3.16	1.75%	28.43	6.18%
12/22/2009	10.20%	4.23%	5.97%	-3.16	1.74%	28.21	5.97%
12/22/2009	10.40%	4.23%	5.97%	-3.16	1.74%	28.21	6.17%
12/22/2009	10.40%	4.23%	5.97%	-3.16	1.74%	28.21	6.17%
12/30/2009	10.00%	4.26%	5.96%	-3.16	1.70%	27.51	5.74%
1/4/2010	10.80%	4.28%	5.95%	-3.15	1.68%	27.19	6.52%
1/11/2010	11.00%	4.30%	5.94%	-3.15	1.64%	26.61	6.70%
1/26/2010	10.13%	4.35%	5.90%	-3.13	1.55%	25.68	5.78%
1/27/2010	10.40%	4.35%	5.90%	-3.13	1.54%	25.61	6.05%
1/27/2010	10.40%	4.35%	5.90%	-3.13	1.54%	25.61	6.05%
1/27/2010	10.70%	4.35%	5.90%	-3.13	1.54%	25.61	6.35%
2/9/2010	9.80%	4.38%	5.87%	-3.13	1.49%	25.07	5.42%
2/18/2010	10.60%	4.40%	5.85%	-3.12	1.45%	24.73	6.20%
2/24/2010	10.18%	4.41%	5.84%	-3.12	1.43%	24.53	5.77%
3/2/2010	9.63%	4.41%	5.82%	-3.12	1.41%	24.29	5.22%
3/4/2010	10.50%	4.41%	5.82%	-3.12	1.41%	24.16	6.09%
3/5/2010	10.50%	4.41%	5.82%	-3.12	1.40%	24.10	6.09%
3/11/2010	11.90%	4.42%	5.80%	-3.12	1.39%	23.86	7.48%
3/17/2010	10.00%	4.41%	5.79%	-3.12	1.37%	23.63	5.59%
3/25/2010	10.15%	4.42%	5.77%	-3.12	1.36%	23.23	5.73%
4/2/2010	10.10%	4.43%	5.76%	-3.12	1.33%	22.90	5.67%
4/27/2010	10.00%	4.46%	5.74%	-3.11	1.29%	22.04	5.54%

[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
4/29/2010	9.90%	4.46%	5.74%	-3.11	1.28%	22.00	5.44%
4/29/2010	10.06%	4.46%	5.74%	-3.11	1.28%	22.00	5.60%
4/29/2010	10.26%	4.46%	5.74%	-3.11	1.28%	22.00	5.80%
5/12/2010	10.30%	4.45%	5.72%	-3.11	1.27%	22.12	5.85%
5/12/2010	10.30%	4.45%	5.72%	-3.11	1.27%	22.12	5.85%
5/28/2010	10.10%	4.44%	5.70%	-3.11	1.26%	22.65	5.66%
5/28/2010	10.20%	4.44%	5.70%	-3.11	1.26%	22.65	5.76%
6/7/2010	10.30%	4.44%	5.69%	-3.11	1.25%	22.90	5.86%
6/16/2010	10.00%	4.44%	5.69%	-3.11	1.25%	23.01	5.56%
6/28/2010	9.67%	4.43%	5.68%	-3.12	1.25%	23.13	5.24%
6/28/2010	10.50%	4.43%	5.68%	-3.12	1.25%	23.13	6.07%
6/30/2010	9.40%	4.43%	5.68%	-3.12	1.25%	23.24	4.97%
7/1/2010	10.25%	4.43%	5.68%	-3.12	1.25%	23.28	5.82%
7/15/2010	10.53%	4.43%	5.67%	-3.12	1.24%	23.32	6.10%
7/15/2010	10.70%	4.43%	5.67%	-3.12	1.24%	23.32	6.27%
7/30/2010	10.70%	4.41%	5.66%	-3.12	1.24%	23.44	6.29%
8/4/2010	10.50%	4.41%	5.65%	-3.12	1.24%	23.39	6.09%
8/6/2010	9.83%	4.41%	5.65%	-3.12	1.24%	23.33	5.42%
8/25/2010	9.90%	4.37%	5.60%	-3.13	1.23%	23.38	5.53%
9/3/2010	10.60%	4.35%	5.58%	-3.14	1.23%	23.47	6.25%
9/14/2010	10.70%	4.33%	5.56%	-3.14	1.23%	23.48	6.37%
9/16/2010	10.00%	4.33%	5.56%	-3.14	1.23%	23.47	5.67%
9/16/2010	10.00%	4.33%	5.56%	-3.14	1.23%	23.47	5.67%
9/30/2010	9.75%	4.29%	5.52%	-3.15	1.23%	23.56	5.46%
10/14/2010	10.35%	4.24%	5.48%	-3.16	1.24%	23.60	6.11%
10/28/2010	10.70%	4.21%	5.45%	-3.17	1.24%	23.68	6.49%
11/2/2010	10.38%	4.20%	5.44%	-3.17	1.24%	23.61	6.18%
11/4/2010	10.70%	4.20%	5.44%	-3.17	1.24%	23.57	6.50%
11/19/2010	10.20%	4.18%	5.42%	-3.18	1.24%	23.31	6.02%
11/22/2010	10.00%	4.18%	5.41%	-3.18	1.24%	23.29	5.82%
12/1/2010	10.13%	4.16%	5.40%	-3.18	1.24%	23.30	5.97%
12/6/2010	9.86%	4.15%	5.39%	-3.18	1.24%	23.29	5.71%
12/9/2010	10.25%	4.15%	5.39%	-3.18	1.23%	23.27	6.10%
12/13/2010	10.70%	4.15%	5.38%	-3.18	1.24%	23.27	6.55%
12/14/2010	10.13%	4.15%	5.38%	-3.18	1.24%	23.27	5.98%
12/15/2010	10.44%	4.15%	5.38%	-3.18	1.24%	23.26	6.29%
12/17/2010	10.00%	4.15%	5.38%	-3.18	1.24%	23.25	5.85%
12/20/2010	10.60%	4.15%	5.38%	-3.18	1.23%	23.24	6.45%
12/21/2010	10.30%	4.14%	5.38%	-3.18	1.23%	23.24	6.16%
12/27/2010	9.90%	4.14%	5.37%	-3.18	1.23%	23.23	5.76%
12/29/2010	11.15%	4.14%	5.37%	-3.18	1.23%	23.24	7.01%
1/5/2011	10.15%	4.13%	5.37%	-3.19	1.23%	23.23	6.02%
1/12/2011	10.30%	4.12%	5.36%	-3.19	1.23%	23.24	6.18%
1/13/2011	10.30%	4.12%	5.35%	-3.19	1.23%	23.24	6.18%
1/18/2011	10.00%	4.12%	5.35%	-3.19	1.23%	23.23	5.88%
1/20/2011	9.30%	4.12%	5.35%	-3.19	1.23%	23.25	5.18%
1/20/2011	10.13%	4.12%	5.35%	-3.19	1.23%	23.25	6.01%
1/31/2011	9.60%	4.12%	5.34%	-3.19	1.22%	23.29	5.48%
2/3/2011	10.00%	4.12%	5.33%	-3.19	1.22%	23.24	5.88%
2/25/2011	10.00%	4.14%	5.34%	-3.18	1.20%	22.18	5.86%
3/25/2011	9.80%	4.18%	5.35%	-3.18	1.17%	21.16	5.62%
3/30/2011	10.00%	4.18%	5.35%	-3.17	1.16%	21.04	5.82%
4/12/2011	10.00%	4.21%	5.35%	-3.17	1.14%	20.42	5.79%
4/25/2011	10.74%	4.23%	5.37%	-3.16	1.13%	19.99	6.51%
4/26/2011	9.67%	4.23%	5.37%	-3.16	1.13%	19.95	5.44%
4/27/2011	10.40%	4.24%	5.37%	-3.16	1.13%	19.90	6.16%
5/4/2011	10.00%	4.24%	5.37%	-3.16	1.13%	19.70	5.76%
5/4/2011	10.00%	4.24%	5.37%	-3.16	1.13%	19.70	5.76%
5/24/2011	10.50%	4.27%	5.38%	-3.15	1.11%	19.25	6.23%
6/8/2011	10.75%	4.30%	5.39%	-3.15	1.09%	18.77	6.45%
6/16/2011	9.20%	4.32%	5.40%	-3.14	1.09%	18.68	4.88%
6/17/2011	9.95%	4.32%	5.40%	-3.14	1.09%	18.68	5.63%
7/13/2011	10.20%	4.36%	5.43%	-3.13	1.06%	18.30	5.84%
8/1/2011	9.20%	4.39%	5.44%	-3.13	1.05%	18.37	4.81%
8/8/2011	10.00%	4.38%	5.43%	-3.13	1.05%	18.65	5.62%
8/11/2011	10.00%	4.38%	5.42%	-3.13	1.05%	18.93	5.62%
8/12/2011	10.35%	4.37%	5.42%	-3.13	1.05%	19.02	5.98%
8/19/2011	10.25%	4.36%	5.41%	-3.13	1.05%	19.46	5.89%
9/2/2011	12.88%	4.32%	5.37%	-3.14	1.05%	20.21	8.56%
9/22/2011	10.00%	4.24%	5.31%	-3.16	1.07%	21.37	5.76%
10/12/2011	10.30%	4.14%	5.23%	-3.18	1.09%	22.86	6.16%
10/20/2011	10.50%	4.10%	5.20%	-3.19	1.10%	23.31	6.40%
11/30/2011	10.90%	3.87%	5.03%	-3.25	1.15%	25.36	7.03%
11/30/2011	10.90%	3.87%	5.03%	-3.25	1.15%	25.36	7.03%
12/14/2011	10.00%	3.80%	4.97%	-3.27	1.17%	25.73	6.20%
12/14/2011	10.30%	3.80%	4.97%	-3.27	1.17%	25.73	6.50%
12/20/2011	10.20%	3.76%	4.94%	-3.28	1.17%	25.78	6.44%
12/21/2011	10.20%	3.76%	4.93%	-3.28	1.17%	25.74	6.44%
12/22/2011	9.90%	3.75%	4.92%	-3.28	1.17%	25.71	6.15%
12/22/2011	10.40%	3.75%	4.92%	-3.28	1.17%	25.71	6.65%
12/23/2011	10.19%	3.74%	4.92%	-3.28	1.17%	25.69	6.45%
1/25/2012	10.50%	3.57%	4.80%	-3.33	1.23%	26.11	6.93%
1/27/2012	10.50%	3.56%	4.78%	-3.34	1.23%	26.15	6.94%
2/15/2012	10.20%	3.47%	4.71%	-3.36	1.23%	26.31	6.73%
2/23/2012	9.90%	3.44%	4.68%	-3.37	1.24%	26.35	6.46%
2/27/2012	10.25%	3.43%	4.67%	-3.37	1.24%	26.35	6.82%
2/29/2012	10.40%	3.41%	4.66%	-3.38	1.25%	26.35	6.99%
3/29/2012	10.37%	3.32%	4.58%	-3.41	1.26%	26.11	7.05%
4/4/2012	10.00%	3.30%	4.56%	-3.41	1.27%	26.03	6.70%
4/26/2012	10.00%	3.21%	4.49%	-3.44	1.28%	26.06	6.79%
5/2/2012	10.00%	3.18%	4.47%	-3.45	1.29%	25.99	6.82%
5/7/2012	9.80%	3.17%	4.46%	-3.45	1.29%	25.91	6.63%
5/15/2012	10.00%	3.14%	4.43%	-3.46	1.28%	25.54	6.86%
5/29/2012	10.05%	3.11%	4.40%	-3.47	1.29%	24.77	6.94%
6/7/2012	10.30%	3.08%	4.38%	-3.48	1.30%	24.41	7.22%







[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Date of Electric Rate Case	Return on Equity (%)	30 Year Treasury (%)	Moody's Utility A Yield	LN(30-Year Treasury)	Moody's Utility A Credit Spread	VIX	Risk Premium
9/22/2017	9.60%	2.93%	4.07%	-3.53	1.14%	11.45	6.67%
9/28/2017	9.80%	2.92%	4.07%	-3.53	1.14%	11.42	6.88%
10/20/2017	9.50%	2.91%	4.04%	-3.54	1.13%	11.24	6.59%
10/26/2017	10.20%	2.91%	4.03%	-3.54	1.12%	11.22	7.29%
10/26/2017	10.25%	2.91%	4.03%	-3.54	1.12%	11.22	7.34%
10/26/2017	10.30%	2.91%	4.03%	-3.54	1.12%	11.22	7.39%
11/6/2017	10.25%	2.90%	4.03%	-3.54	1.12%	11.17	7.35%
11/15/2017	11.95%	2.89%	4.02%	-3.54	1.12%	11.16	9.06%
11/30/2017	10.00%	2.88%	4.00%	-3.55	1.12%	11.11	7.12%
11/30/2017	10.00%	2.88%	4.00%	-3.55	1.12%	11.11	7.12%
12/5/2017	9.50%	2.88%	3.99%	-3.55	1.11%	11.10	6.62%
12/6/2017	8.40%	2.87%	3.99%	-3.55	1.11%	11.09	5.53%
12/6/2017	8.40%	2.87%	3.99%	-3.55	1.11%	11.09	5.53%
12/7/2017	9.80%	2.87%	3.99%	-3.55	1.11%	11.08	6.93%
12/14/2017	9.60%	2.86%	3.98%	-3.55	1.11%	11.04	6.74%
12/14/2017	9.65%	2.86%	3.98%	-3.55	1.11%	11.04	6.79%
12/18/2017	9.50%	2.86%	3.97%	-3.55	1.11%	11.02	6.64%
12/20/2017	9.58%	2.86%	3.97%	-3.56	1.11%	11.00	6.72%
12/21/2017	9.10%	2.85%	3.97%	-3.56	1.11%	10.99	6.25%
12/28/2017	9.50%	2.85%	3.96%	-3.56	1.11%	10.94	6.65%
12/29/2017	9.40%	2.85%	3.95%	-3.56	1.11%	10.93	6.55%
1/18/2018	9.70%	2.84%	3.93%	-3.56	1.10%	10.74	6.86%
1/31/2018	9.30%	2.84%	3.92%	-3.56	1.08%	10.68	6.46%
2/2/2018	9.98%	2.84%	3.92%	-3.56	1.08%	10.73	7.14%
2/23/2018	9.90%	2.85%	3.92%	-3.56	1.07%	11.70	7.05%
3/12/2018	9.25%	2.86%	3.92%	-3.55	1.05%	12.14	6.39%
3/15/2018	9.00%	2.87%	3.92%	-3.55	1.05%	12.23	6.13%

Average: 4.62%  
# of Rate Cases: 1,547



Notes:

*Note: Texas electric T&D-only, and Georgia and Ohio gas utilities do not have provider of last resort obligations, therefore fuel/power/gas cost recovery is not applicable. A mechanism may cover one or more cost categories; therefore, designations may not indicate separate mechanisms for each category.*

[1] Full or partial decoupling (such as Straight-Fixed Variable rate design, weather normalization clauses, and recovery of lost revenues as a result of Energy Efficiency programs).

[2] Includes recovery of costs related to targeted new generation projects, infrastructure replacement, system integrity/hardening, Smart Grid, AMI metering, and other capital expenditures.

[3] Utility-sponsored conservation, energy efficiency, load control, or other demand side management programs.

[4] Recovers costs associated with renewable energy projects, clean energy, Distributed Energy Resources, REC purchases, net metering, RPS expense, and renewable PPAs.

[5] EPA upgrade costs, emissions control & allowance purchase costs, nuclear decommissioning, and other costs to comply with state and federal environmental mandates.

[6] Pension expenses, bad debt costs, storm costs, vegetation management, RTO/Transmission Expense, capacity costs, transmission costs, government & franchise fees and taxes, economic development, and low income programs.

Sources: Company SEC Form 10-Ks; Operating company tariffs; Regulatory Research Associates, *Alternative Regulation/Incentive Plans: A State-by-State Overview*, November 19, 2013; Regulatory Research Associates, *Adjustment Clauses: A State-by-State Overview*, August 22, 2016.

Kansas City Power & Light Company  
Capitalization  
June 30, 2018 Projected

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN	AFTER-TAX 25.74% WEIGHTED RETURN
KCP&L Long-Term Debt [1]	\$2,549,380	50.25%	4.96%	2.4939%	1.8520%
KCP&L Common Equity	2,524,510	49.75%	9.85%	4.9009%	4.9009%
Total KCP&L Capital	<u>\$5,073,890</u>	<u>100.00%</u>		<u>7.3948%</u>	<u>6.7529%</u>

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

Kansas City Power & Light Company  
Capitalization  
December 31, 2017 Actual

(\$ in 000's)

CAPITAL COMPONENT	AMOUNT	PERCENT	REQUIRED RETURN	WEIGHTED RETURN	AFTER-TAX 38.90% WEIGHTED RETURN
KCP&L Long-Term Debt [1]	\$2,599,380	50.84%	5.35%	2.7196%	1.6617%
KCP&L Common Equity	2,513,719	49.16%	9.30%	4.5721%	4.5721%
Total KCP&L Capital	<u>\$5,113,099</u>	<u>100.00%</u>		<u>7.2917%</u>	<u>6.2338%</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 (Projected)

Line	Issue	[a] Initial Offering	[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
<b>Pledged General Mortgage Bonds</b>										
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	\$0	2/23/1994	9/1/2035	\$0	4.65%	\$0	\$0	\$0	\$0
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
<b>Unsecured Notes</b>										
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 2041 - 5.30% Coupon (3)	\$400,000,000	9/20/2011	10/1/2041	\$400,000,000	5.30%	\$129,595	\$85,471	\$400,000,000	\$21,415,066
8	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
9	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
10	2018 Series Due 2048 - 4.20% Coupon	\$300,000,000	3/1/2018	3/15/2048	\$300,000,000	4.20%	\$98,077	\$8,700	\$300,000,000	\$12,706,777
<b>Environmental Improvement Revenue Refunding Bonds</b>										
11	2007 Series A Due 2035	\$73,250,000	9/19/2007	9/1/2035	\$73,250,000	2.70%	\$6,651	\$0	\$73,250,000	\$1,984,401
12	2007 Series B Due 2035	\$73,250,000	9/19/2007	9/1/2035	\$73,250,000	2.70%	\$6,651	\$0	\$73,250,000	\$1,984,401
13	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
<b>Other Long-Term Debt</b>										
14	Reacquired Bond Cost Amortizations									\$500,771
15	Interest Rate Hedging Expense Amortizations									\$4,922,884
16	<b>Total KCP&amp;L Long-Term Debt Capital</b>								<b>\$2,549,380,000</b>	<b>\$126,538,988</b>
17	<b>KCP&amp;L Weighted Avg. Cost of Long-Term Debt Capital</b>								<b>4.96%</b>	

**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.
- (3) Expenses associated with the Senior Notes are being amortized over a 30 year period.



Cost of Long-Term Debt Comparison

Line	Issue	Initial Offering	Date of Offering	Date of Maturity	Years to Maturity	Bloomberg Fair Value Curve			
						Coupon	BFV Term	A-Rated	BBB-Rated
<b>Pledged General Mortgage Bonds</b>									
1	MATES Series 1993-A	\$40,000,000	12/7/1993	12/1/2023	30	2.95%	30	6.81%	7.23%
2	MATES Series 1993-B	\$39,480,000	12/7/1993	12/1/2023	30	2.95%	30	6.81%	7.23%
3	EIRR La Cygne 2005 Series - 4.65% Coupon	\$0	2/23/1994	9/1/2035	42	4.65%	30	7.24%	7.57%
4	Mortgage Bonds Series 2009A - 7.15%	\$400,000,000	3/24/2009	4/1/2019	10	7.15%	10	5.38%	6.67%
<b>Unsecured Notes</b>									
5	Senior Notes Due 2047 - 4.20% Coupon	\$300,000,000	6/15/2017	6/15/2047	30	4.20%	30	3.95%	4.28%
6	Senior Notes Due 2035 - 6.05% Coupon	\$250,000,000	11/17/2005	11/15/2035	30	6.05%	30	5.57%	6.02%
7	Senior Notes Due 2041 - 5.30% Coupon	\$400,000,000	9/20/2011	10/1/2041	30	5.30%	30	4.44%	5.07%
8	Senior Notes Due 2023 - 3.15% Coupon	\$300,000,000	3/14/2013	3/15/2023	10	3.15%	10	3.05%	3.65%
9	Senior Notes Due 2023 - 3.65% Coupon	\$350,000,000	8/13/2015	8/15/2025	10	3.65%	10	3.45%	3.83%
10	2018 Series Due 2028 - 4.20% Coupon	\$300,000,000	3/1/2018	3/15/2048	30	4.20%	30	4.09%	4.39%
<b>Environmental Improvement Revenue Refunding Bonds</b>									
11	2007 Series A Due 2035	\$73,250,000	9/19/2007	9/1/2035	28	2.70%	30	6.31%	6.44%
12	2007 Series B Due 2035	\$73,250,000	9/19/2007	9/1/2035	28	2.70%	30	6.31%	6.44%
13	2008 Series Due 2038	\$23,400,000	5/28/2008	5/1/2038	30	2.88%	30	6.13%	6.47%
<b>TOTAL</b>		\$2,549,380,000				Weighted Average 4.68%		4.49%	5.06%

Sources: Schedule RBH-9 and Bloomberg Professional  
 [1] Date of Offering in the future.

Proxy Group Capital Structure

Company	Ticker	% Common Equity								
		2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	Average
ALLETE, Inc.	ALE	61.03%	60.62%	60.28%	59.02%	59.28%	59.08%	58.83%	58.04%	59.52%
Alliant Energy Corporation	LNT	52.09%	51.23%	50.84%	50.73%	50.68%	51.22%	51.65%	51.24%	51.21%
Ameren Corporation	AEE	53.56%	53.11%	52.77%	52.62%	53.99%	53.11%	52.82%	52.22%	53.03%
American Electric Power Company, Inc.	AEP	49.16%	49.40%	49.71%	49.90%	49.81%	49.66%	49.13%	48.82%	49.45%
Black Hills Corporation	BKH	54.75%	53.84%	53.20%	52.81%	52.73%	52.55%	52.57%	52.51%	53.12%
CMS Energy Corporation	CMS	53.25%	52.97%	52.10%	51.24%	51.30%	52.32%	51.42%	50.63%	51.90%
DTE Energy Company	DTE	50.50%	50.63%	50.50%	50.50%	50.13%	49.35%	50.53%	50.39%	50.31%
Duke Energy Corporation	DUK	53.78%	54.62%	54.37%	54.66%	54.58%	54.85%	56.18%	56.81%	54.98%
El Paso Electric Company	EE	49.81%	48.01%	47.48%	47.73%	47.73%	46.22%	45.95%	49.86%	47.85%
Hawaiian Electric Industries, Inc.	HE	58.11%	57.76%	57.71%	57.70%	58.00%	57.67%	57.51%	57.48%	57.74%
IDACORP, Inc.	IDA	54.22%	53.48%	53.22%	53.15%	53.15%	52.46%	50.70%	52.34%	52.84%
NorthWestern Corporation	NWE	48.86%	48.61%	48.61%	48.13%	47.72%	47.66%	47.54%	47.31%	48.05%
OGE Energy Corp.	OGE	53.05%	52.75%	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.57%
Otter Tail Corporation	OTTR	57.24%	55.31%	55.31%	55.06%	54.80%	54.15%	53.10%	52.75%	54.71%
Pinnacle West Capital Corporation	PNW	53.05%	53.32%	53.20%	54.59%	54.70%	53.13%	55.54%	55.50%	54.13%
PNM Resources, Inc.	PNM	47.58%	46.89%	46.38%	46.01%	46.07%	44.88%	45.35%	45.32%	46.06%
Portland General Electric Company	POR	50.17%	50.32%	50.28%	49.82%	49.72%	49.64%	50.89%	50.61%	50.18%
Southern Company	SO	50.14%	49.99%	51.41%	51.10%	49.85%	49.21%	47.54%	49.11%	49.79%
WEC Energy Group, Inc.	WEC	55.82%	55.48%	54.80%	56.26%	56.21%	55.88%	55.80%	55.39%	55.71%
Xcel Energy Inc.	XEL	53.93%	54.37%	54.94%	54.37%	53.45%	54.17%	54.68%	54.43%	54.29%
Mean		53.01%	52.64%	52.53%	52.57%	52.51%	52.14%	52.14%	52.25%	52.47%

Operating Company Capital Structure

Operating Company	Parent	% Common Equity								
		2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	Average
ALLETE (Minnesota Power)	ALE	59.73%	59.16%	58.71%	56.92%	56.90%	56.63%	56.60%	55.86%	57.57%
Superior Water, Light and Power Company	ALE	62.33%	62.08%	61.85%	61.12%	61.65%	61.52%	61.06%	60.23%	61.48%
Interstate Power and Light Company	LNT	51.79%	50.89%	50.23%	50.24%	48.99%	50.54%	51.52%	50.91%	50.64%
Wisconsin Power and Light Company	LNT	52.39%	51.56%	51.45%	51.22%	52.38%	51.89%	51.78%	51.56%	51.78%
Ameren Illinois Company	AEE	54.98%	54.55%	54.09%	53.44%	55.82%	55.11%	53.67%	53.42%	54.38%
Union Electric Company	AEE	52.14%	51.68%	51.45%	51.80%	52.15%	51.10%	51.97%	51.03%	51.67%
AEP Texas Central Company	AEP	NA	NA	NA	46.01%	45.44%	45.01%	44.18%	43.63%	44.85%
AEP Texas North Company	AEP	NA	NA	NA	43.29%	43.17%	42.84%	42.64%	42.36%	42.86%
Appalachian Power Company	AEP	48.30%	47.85%	48.17%	46.89%	46.68%	46.41%	47.20%	46.77%	47.28%
Indiana Michigan Power Company	AEP	46.65%	46.27%	49.54%	49.11%	49.03%	48.50%	48.26%	52.65%	48.75%
Kentucky Power Company	AEP	43.22%	43.30%	43.57%	43.45%	43.52%	43.50%	43.58%	43.26%	43.43%
Kingsport Power Company	AEP	45.88%	50.58%	48.98%	65.24%	65.24%	64.34%	65.21%	59.70%	58.14%
Ohio Power Company	AEP	57.64%	56.72%	56.75%	56.51%	56.08%	54.87%	50.03%	50.09%	54.84%
Public Service Company of Oklahoma	AEP	48.85%	48.26%	48.20%	48.47%	48.52%	47.42%	46.80%	46.45%	47.87%
Southwestern Electric Power Company	AEP	48.66%	48.14%	48.33%	45.95%	46.12%	49.66%	49.51%	49.59%	48.24%
Wheeling Power Company	AEP	54.13%	54.10%	54.10%	54.12%	54.31%	54.08%	53.90%	53.73%	54.06%
Black Hills Colorado Electric Utility Company, LP	BKH	54.96%	55.01%	53.08%	52.20%	51.85%	51.39%	51.06%	50.85%	52.55%
Black Hills Power, Inc.	BKH	56.14%	53.26%	53.24%	52.88%	53.13%	53.13%	53.27%	53.35%	53.55%
Cheyenne Light, Fuel and Power Company	BKH	53.16%	53.27%	53.29%	53.35%	53.22%	53.14%	53.36%	53.32%	53.26%
Consumers Energy Company	CMS	53.25%	52.97%	52.10%	51.24%	51.30%	52.32%	51.42%	50.63%	51.90%
DTE Electric Company	DTE	50.50%	50.63%	50.50%	50.50%	50.13%	49.35%	50.53%	50.39%	50.31%
Duke Energy Carolinas, LLC	DUK	53.98%	53.49%	53.32%	52.81%	53.59%	53.84%	54.59%	58.07%	54.21%
Duke Energy Florida, LLC	DUK	49.46%	47.74%	46.95%	50.83%	50.52%	53.43%	55.81%	55.28%	51.25%
Duke Energy Indiana, LLC	DUK	51.71%	51.89%	52.15%	51.59%	51.14%	49.35%	50.89%	50.27%	51.12%
Duke Energy Kentucky, Inc.	DUK	50.69%	55.74%	55.43%	54.74%	54.87%	54.14%	53.94%	56.11%	54.46%
Duke Energy Ohio, Inc.	DUK	65.79%	65.38%	65.36%	66.39%	65.96%	65.21%	69.15%	68.71%	66.49%
Duke Energy Progress, LLC	DUK	51.06%	53.51%	52.99%	51.58%	51.37%	53.15%	52.70%	52.40%	52.35%
El Paso Electric Company	EE	49.81%	48.01%	47.48%	47.73%	47.73%	46.22%	45.95%	49.86%	47.85%
Hawaii Electric Light Company, Inc.	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaiian Electric Company, Inc.	HE	58.11%	57.76%	57.71%	57.70%	58.00%	57.67%	57.51%	57.48%	57.74%
Maui Electric Company, Limited	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho Power Co.	IDA	54.22%	53.48%	53.22%	53.15%	53.15%	52.46%	50.70%	52.34%	52.84%

NorthWestern Corporation	NWE	48.86%	48.61%	48.61%	48.13%	47.72%	47.66%	47.54%	47.31%	48.05%
Oklahoma Gas and Electric Company	OGE	53.05%	52.75%	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.57%
Otter Tail Power Company	OTTR	57.24%	55.31%	55.31%	55.06%	54.80%	54.15%	53.10%	52.75%	54.71%
Arizona Public Service Company	PNW	53.05%	53.32%	53.20%	54.59%	54.70%	53.13%	55.54%	55.50%	54.13%
Public Service Company of New Mexico	PNM	47.58%	46.89%	46.38%	46.01%	46.07%	44.88%	45.35%	45.32%	46.06%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portland General Electric Company	POR	50.17%	50.32%	50.28%	49.82%	49.72%	49.64%	50.89%	50.61%	50.18%
Alabama Power Company	SO	47.93%	47.25%	47.00%	46.97%	47.29%	46.58%	46.48%	46.50%	47.00%
Georgia Power Company	SO	50.35%	51.55%	50.36%	51.63%	51.71%	50.48%	50.50%	51.08%	50.96%
Gulf Power Company	SO	54.97%	54.41%	58.80%	56.16%	53.63%	53.29%	50.74%	50.77%	54.10%
Mississippi Power Company	SO	47.32%	46.76%	49.50%	49.62%	46.78%	46.51%	42.44%	48.09%	47.13%
Wisconsin Electric Power Company	WEC	55.97%	55.76%	55.58%	56.74%	57.27%	57.15%	56.95%	57.25%	56.58%
Wisconsin Public Service Corporation	WEC	55.68%	55.21%	54.02%	55.78%	55.15%	54.61%	54.65%	53.53%	54.83%
Northern States Power Company - MN	XEL	52.22%	52.78%	52.62%	52.31%	52.08%	51.86%	53.68%	53.26%	52.60%
Northern States Power Company - WI	XEL	55.57%	55.22%	55.66%	54.93%	54.89%	54.57%	54.43%	54.27%	54.94%
Public Service Company of Colorado	XEL	55.64%	54.88%	57.00%	56.32%	56.37%	55.93%	56.49%	56.34%	56.12%
Southwestern Public Service Company	XEL	52.29%	54.61%	54.48%	53.93%	50.45%	54.30%	54.13%	53.83%	53.50%
Mean		52.67%	52.57%	52.60%	52.49%	52.32%	52.14%	52.11%	52.20%	52.24%

Source: S&P Global Market Intelligence

Proxy Group Capital Structure

Company	Ticker	% Long-Term Debt								
		2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	Average
ALLETE, Inc.	ALE	38.97%	39.38%	39.72%	40.98%	40.72%	40.92%	41.17%	41.96%	40.48%
Alliant Energy Corporation	LNT	47.91%	48.77%	49.16%	49.27%	49.32%	48.78%	48.35%	48.76%	48.79%
Ameren Corporation	AEE	46.44%	46.89%	47.23%	47.38%	46.01%	46.89%	47.18%	47.78%	46.97%
American Electric Power Company, Inc.	AEP	50.84%	50.60%	50.29%	50.10%	50.19%	50.34%	50.87%	51.18%	50.55%
Black Hills Corporation	BKH	45.25%	46.16%	46.80%	47.19%	47.27%	47.45%	47.43%	47.49%	46.88%
CMS Energy Corporation	CMS	46.75%	47.03%	47.90%	48.76%	48.70%	47.68%	48.58%	49.37%	48.10%
DTE Energy Company	DTE	49.50%	49.37%	49.50%	49.50%	49.87%	50.65%	49.47%	49.61%	49.69%
Duke Energy Corporation	DUK	46.22%	45.38%	45.63%	45.34%	45.42%	45.15%	43.82%	43.19%	45.02%
El Paso Electric Company	EE	50.19%	51.99%	52.52%	52.27%	52.27%	53.78%	54.05%	50.14%	52.15%
Hawaiian Electric Industries, Inc.	HE	41.89%	42.24%	42.29%	42.30%	42.00%	42.33%	42.49%	42.52%	42.26%
IDACORP, Inc.	IDA	45.78%	46.52%	46.78%	46.85%	46.85%	47.54%	49.30%	47.66%	47.16%
NorthWestern Corporation	NWE	51.14%	51.39%	51.39%	51.87%	52.28%	52.34%	52.46%	52.69%	51.95%
OGE Energy Corp.	OGE	46.95%	47.25%	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.43%
Otter Tail Corporation	OTTR	42.76%	44.69%	44.69%	44.94%	45.20%	45.85%	46.90%	47.25%	45.29%
Pinnacle West Capital Corporation	PNW	46.95%	46.68%	46.80%	45.41%	45.30%	46.87%	44.46%	44.50%	45.87%
PNM Resources, Inc.	PNM	52.42%	53.11%	53.62%	53.99%	53.93%	55.12%	54.65%	54.68%	53.94%
Portland General Electric Company	POR	49.83%	49.68%	49.72%	50.18%	50.28%	50.36%	49.11%	49.39%	49.82%
Southern Company	SO	49.86%	50.01%	48.59%	48.90%	50.15%	50.79%	52.46%	50.89%	50.21%
WEC Energy Group, Inc.	WEC	44.18%	44.52%	45.20%	43.74%	43.79%	44.12%	44.20%	44.61%	44.29%
Xcel Energy Inc.	XEL	46.07%	45.63%	45.06%	45.63%	46.55%	45.83%	45.32%	45.57%	45.71%
Mean		46.99%	47.36%	47.47%	47.43%	47.49%	47.86%	47.86%	47.75%	47.53%

Operating Company Capital Structure

Operating Company	Parent	% Long Term Debt								
		2017Q3	2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	Average
ALLETE (Minnesota Power)	ALE	40.27%	40.84%	41.29%	43.08%	43.10%	43.37%	43.40%	44.14%	42.43%
Superior Water, Light and Power Company	ALE	37.67%	37.92%	38.15%	38.88%	38.35%	38.48%	38.94%	39.77%	38.52%
Interstate Power and Light Company	LNT	48.21%	49.11%	49.77%	49.76%	51.01%	49.46%	48.48%	49.09%	49.36%
Wisconsin Power and Light Company	LNT	47.61%	48.44%	48.55%	48.78%	47.62%	48.11%	48.22%	48.44%	48.22%
Ameren Illinois Company	AEE	45.02%	45.45%	45.91%	46.56%	44.18%	44.89%	46.33%	46.58%	45.62%
Union Electric Company	AEE	47.86%	48.32%	48.55%	48.20%	47.85%	48.90%	48.03%	48.97%	48.33%
AEP Texas Central Company	AEP	NA	NA	NA	53.99%	54.56%	54.99%	55.82%	56.37%	55.15%
AEP Texas North Company	AEP	NA	NA	NA	56.71%	56.83%	57.16%	57.36%	57.64%	57.14%
Appalachian Power Company	AEP	51.70%	52.15%	51.83%	53.11%	53.32%	53.59%	52.80%	53.23%	52.72%
Indiana Michigan Power Company	AEP	53.35%	53.73%	50.46%	50.89%	50.97%	51.50%	51.74%	47.35%	51.25%
Kentucky Power Company	AEP	56.78%	56.70%	56.43%	56.55%	56.48%	56.50%	56.42%	56.74%	56.57%
Kingsport Power Company	AEP	54.12%	49.42%	51.02%	34.76%	34.76%	35.66%	34.79%	40.30%	41.86%
Ohio Power Company	AEP	42.36%	43.28%	43.25%	43.49%	43.92%	45.13%	49.97%	49.91%	45.16%
Public Service Company of Oklahoma	AEP	51.15%	51.74%	51.80%	51.53%	51.48%	52.58%	53.20%	53.55%	52.13%
Southwestern Electric Power Company	AEP	51.34%	51.86%	51.67%	54.05%	53.88%	50.34%	50.49%	50.41%	51.76%
Wheeling Power Company	AEP	45.87%	45.90%	45.90%	45.88%	45.69%	45.92%	46.10%	46.27%	45.94%
Black Hills Colorado Electric Utility Company, LP	BKH	45.04%	44.99%	46.92%	47.80%	48.15%	48.61%	48.94%	49.15%	47.45%
Black Hills Power, Inc.	BKH	43.86%	46.74%	46.76%	47.12%	46.87%	46.87%	46.73%	46.65%	46.45%
Cheyenne Light, Fuel and Power Company	BKH	46.84%	46.73%	46.71%	46.65%	46.78%	46.86%	46.64%	46.68%	46.74%
Consumers Energy Company	CMS	46.75%	47.03%	47.90%	48.76%	48.70%	47.68%	48.58%	49.37%	48.10%
DTE Electric Company	DTE	49.50%	49.37%	49.50%	49.50%	49.87%	50.65%	49.47%	49.61%	49.69%
Duke Energy Carolinas, LLC	DUK	46.02%	46.51%	46.68%	47.19%	46.41%	46.16%	45.41%	41.93%	45.79%
Duke Energy Florida, LLC	DUK	50.54%	52.26%	53.05%	49.17%	49.48%	46.57%	44.19%	44.72%	48.75%
Duke Energy Indiana, LLC	DUK	48.29%	48.11%	47.85%	48.41%	48.86%	50.65%	49.11%	49.73%	48.88%
Duke Energy Kentucky, Inc.	DUK	49.31%	44.26%	44.57%	45.26%	45.13%	45.86%	46.06%	43.89%	45.54%
Duke Energy Ohio, Inc.	DUK	34.21%	34.62%	34.64%	33.61%	34.04%	34.79%	30.85%	31.29%	33.51%
Duke Energy Progress, LLC	DUK	48.94%	46.49%	47.01%	48.42%	48.63%	46.85%	47.30%	47.60%	47.65%
El Paso Electric Company	EE	50.19%	51.99%	52.52%	52.27%	52.27%	53.78%	54.05%	50.14%	52.15%
Hawaii Electric Light Company, Inc.	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hawaiian Electric Company, Inc.	HE	41.89%	42.24%	42.29%	42.30%	42.00%	42.33%	42.49%	42.52%	42.26%
Maui Electric Company, Limited	HE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Idaho Power Co.	IDA	45.78%	46.52%	46.78%	46.85%	46.85%	47.54%	49.30%	47.66%	47.16%

NorthWestern Corporation	NWE	51.14%	51.39%	51.39%	51.87%	52.28%	52.34%	52.46%	52.69%	51.95%
Oklahoma Gas and Electric Company	OGE	46.95%	47.25%	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.43%
Otter Tail Power Company	OTTR	42.76%	44.69%	44.69%	44.94%	45.20%	45.85%	46.90%	47.25%	45.29%
Arizona Public Service Company	PNW	46.95%	46.68%	46.80%	45.41%	45.30%	46.87%	44.46%	44.50%	45.87%
Public Service Company of New Mexico	PNM	52.42%	53.11%	53.62%	53.99%	53.93%	55.12%	54.65%	54.68%	53.94%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portland General Electric Company	POR	49.83%	49.68%	49.72%	50.18%	50.28%	50.36%	49.11%	49.39%	49.82%
Alabama Power Company	SO	52.07%	52.75%	53.00%	53.03%	52.71%	53.42%	53.52%	53.50%	53.00%
Georgia Power Company	SO	49.65%	48.45%	49.64%	48.37%	48.29%	49.52%	49.50%	48.92%	49.04%
Gulf Power Company	SO	45.03%	45.59%	41.20%	43.84%	46.37%	46.71%	49.26%	49.23%	45.90%
Mississippi Power Company	SO	52.68%	53.24%	50.50%	50.38%	53.22%	53.49%	57.56%	51.91%	52.87%
Wisconsin Electric Power Company	WEC	44.03%	44.24%	44.42%	43.26%	42.73%	42.85%	43.05%	42.75%	43.42%
Wisconsin Public Service Corporation	WEC	44.32%	44.79%	45.98%	44.22%	44.85%	45.39%	45.35%	46.47%	45.17%
Northern States Power Company - MN	XEL	47.78%	47.22%	47.38%	47.69%	47.92%	48.14%	46.32%	46.74%	47.40%
Northern States Power Company - WI	XEL	44.43%	44.78%	44.34%	45.07%	45.11%	45.43%	45.57%	45.73%	45.06%
Public Service Company of Colorado	XEL	44.36%	45.12%	43.00%	43.68%	43.63%	44.07%	43.51%	43.66%	43.88%
Southwestern Public Service Company	XEL	47.71%	45.39%	45.52%	46.07%	49.55%	45.70%	45.87%	46.17%	46.50%
Mean		47.33%	47.43%	47.40%	47.51%	47.68%	47.86%	47.89%	47.80%	47.76%