

Before the South Dakota Public Utilities Commission
State of South Dakota

In the Matter of the Application of Otter Tail Power Company
For Authority to Increase Rates for Electric Utility
Service in South Dakota

Docket No. EL18-____
Exhibit____(RBH-1)

RETURN ON EQUITY

DIRECT TESTIMONY AND SCHEDULES OF
ROBERT B. HEVERT

April 20, 2018

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I. WITNESS IDENTIFICATION AND QUALIFICATIONS

1 Q. PLEASE STATE YOUR NAME, AFFILIATION, AND BUSINESS ADDRESS.

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

4 Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

5 A. I am submitting this direct testimony (“Direct Testimony”) before the South Dakota
6 Public Utilities Commission (“Commission”) on behalf of Otter Tail Power Company
7 (“OTP” or the “Company”), a wholly-owned subsidiary of Otter Tail Corporation
8 (“OTTR”).

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 also
12 hold the Chartered Financial Analyst designation.

13 Q. PLEASE DESCRIBE YOUR EXPERIENCE IN THE ENERGY AND UTILITY
14 INDUSTRIES.

15 A. I have worked in regulated industries for over thirty years, having served as an executive
16 and manager with consulting firms, a financial officer of a publicly-traded natural gas
17 utility (at the time, Bay State Gas Company), and an analyst at a telecommunications
18 utility. In my role as a consultant, I have advised numerous energy and utility clients on
19 a wide range of financial and economic issues, including corporate and asset-based
20 transactions, asset and enterprise valuation, transaction due diligence, and strategic
21 matters. As an expert witness, I have provided testimony in more than 200 proceedings
22 regarding various financial and regulatory matters before numerous state utility
23 regulatory agencies, the Federal Energy Regulatory Commission, and the Alberta
24 Utilities Commission. A summary of my professional and educational background,
25 including a list of my testimony in prior proceedings, is included in Attachment A to my
26 Direct Testimony.

II. PURPOSE AND OVERVIEW OF TESTIMONY

1 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

2 A. My Direct Testimony presents evidence and a determination as to OTP's current Cost of
3 Equity and provides a recommendation as to OTP's Return on Equity ("ROE").¹ My
4 analysis and conclusions are supported by the data presented in Exhibit__(RBH-1),
5 Schedules 1 through 12, which have been prepared by me or under my supervision.

6 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE ROE AND
7 CAPITAL STRUCTURE FOR OTP?

8 A. My analyses indicate that OTP's Cost of Equity currently is in the range of 10.00 percent
9 to 10.60 percent. Based on the quantitative and qualitative analyses discussed throughout
10 my Direct Testimony, including an assessment of the Company's relative risk, it is my
11 view that 10.30 percent would be the appropriate ROE in this proceeding. Based on the
12 analyses described in Section IX, I believe a capital structure including 53.10 percent
13 common equity and 46.90 percent long-term debt is appropriate.

14 Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT LED TO
15 YOUR ROE DETERMINATION.

16 A. Because all financial models are subject to various assumptions and constraints, equity
17 analysts and investors tend to use multiple methods to develop their return requirements.
18 I therefore relied on three widely accepted approaches to develop my ROE
19 recommendation: (1) the Discounted Cash Flow ("DCF") model, including the Constant
20 Growth and Multi-Stage forms; (2) the Capital Asset Pricing Model ("CAPM"); and (3)
21 the Bond Yield Plus Risk Premium approach.

22

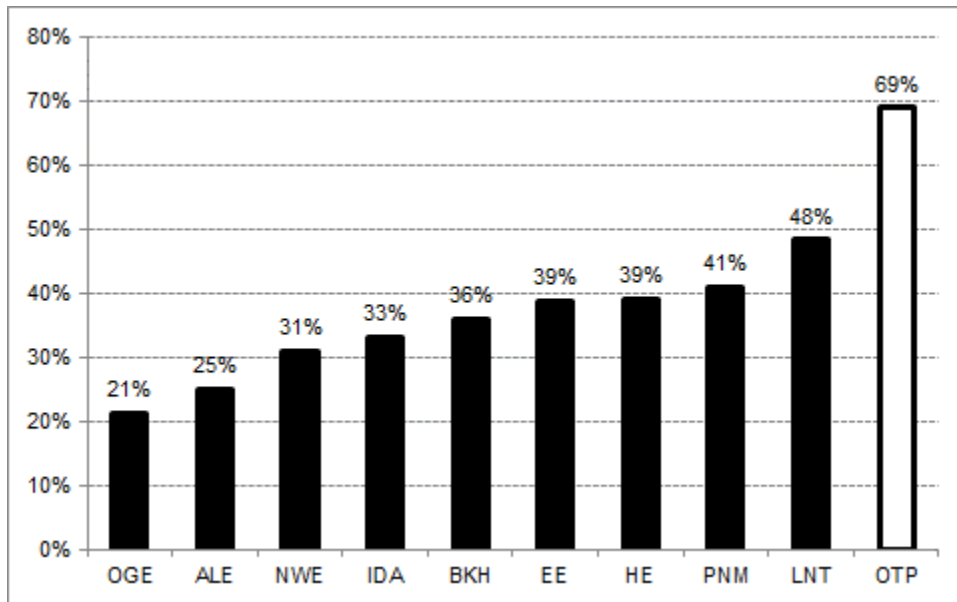
23 In addition to the methods noted above, my recommendation also takes into
24 consideration: (1) OTP's extensive planned capital investment program (that is,
25 significantly higher than any of my proxy companies); (2) OTP's small size, which is

¹ Throughout my Direct Testimony, I interchangeably use the terms "ROE" and "Cost of Equity" to refer to the market-required rate of return.

1 related to OTTR's low level of institutional ownership and low common stock trading
2 volume; and (3) OTP's customer concentration.

3
4 OTP's planned capital expenditures in 2018 – 2022 represent approximately 69.00
5 percent of its net plant in service, higher than all the proxy companies, and over 20.00
6 percentage points above the highest in the proxy group (see Chart 1, below):

7 **Chart 1: Capital Expenditures**



8
9
10 OTP also is substantially smaller than other utilities in my proxy group: OTP's implied
11 market capitalization is only about 2.00 percent of the proxy group median level market
12 capitalization, and only 4.00 percent of the smallest of the proxy companies. Moreover,
13 OTTR's 43.00 percent institutional ownership is the lowest of any company in my proxy
14 group, and approximately 38.00 percent lower than the proxy group average. In terms of
15 trading volume, OTTR's average is very low, at approximately 17.50 percent of the
16 proxy group average. OTP also has a substantial concentration of revenues in its
17 commercial and industrial customers. The combination of those factors indicates a
18 heightened degree of business risk relative to the proxy companies, suggesting an ROE
19 toward the upper end of the range to account for that greater risk.

1 Given OTP's substantial capital investment plan, and in light of the additional risks the
2 Company faces, it will be important to set a return that will support and enhance its
3 internally generated funds, and enable access to capital markets at reasonable terms. The
4 costs at which OTP can obtain capital to fund its capital expenditures will influence
5 customer costs over an extended period (i.e., ten to 30 years).

6
7 The need to support internal fund generation and efficient capital market access becomes
8 increasingly important as Federal Reserve monetary policy continues its process of
9 "normalization." As discussed later in my Direct Testimony, coincident with monetary
10 policy normalization, economists and market data indicate expectations for increasing
11 interest rates throughout 2018. In addition, the effects of the recent reduction in the
12 federal income tax rate on OTP's cash flow also should be considered in setting the
13 Company's ROE, especially if the Commission adjusts its rates to reflect the reduction in
14 tax rates in this proceeding.

15
16 Lastly, it is appropriate to consider OTP's low rates to customers, its very high levels of
17 customer satisfaction (as explained by OTP witness Mr. Bruce Gerhardson), and the
18 customer savings resulting from OTP's under-budget completion of recent capital
19 projects (as explained by OTP witness Mr. Stuart Tommerdahl). As Mr. Tommerdahl
20 explains, by completing its largest capital project approximately \$125 million (Total
21 Project) below budget, OTP has produced South Dakota customer savings of
22 approximately \$300,000 in the 2017 Test Year, approximately \$2.9 million in the first ten
23 years, and approximately \$5.4 million over project's 30-year life. Setting an ROE that
24 recognizes overall performance in reducing costs and providing high quality of service is
25 an appropriate element of the Commission's regulatory discretion. The combination of
26 OTP's cost savings and its high quality of service merits consideration by the
27 Commission in determining OTP's ROE.

28
29 Q. DO THE ROE DECISIONS OF OTHER JURISDICTIONS ALSO PROVIDE
30 RELEVANT INFORMATION?

1 A. Yes, I believe so. Investors have many options available to them and will allocate their
2 capital based on expected risks and returns associated with those alternatives. Although I
3 am not suggesting the Commission should be bound by decisions in other regulatory
4 jurisdictions, the regulatory environment is one of the most important factors considered
5 by debt and equity investors in assessing the risks and prospects of utility companies.
6 ROEs awarded by regulatory commissions are important to the financial community's
7 view of the regulatory environment and, therefore, a utility's risk profile.² For example,
8 if a company in a given jurisdiction is authorized a significantly lower ROE than a
9 company of equivalent risk is authorized in another jurisdiction, capital will flow from
10 the lower return to the higher return.

11 Q. PLEASE SUMMARIZE RECENT RETURNS FROM OTHER JURISDICTIONS.

12 A. Between January 2017 and February 2018, there were 32 regulatory decisions
13 establishing ROEs for vertically integrated electric utilities. Across those cases, the
14 average was 9.79 percent, with nine cases at or above 10.00 percent. In 2016, there were
15 20 regulatory decisions establishing allowed ROEs for vertically integrated electric
16 utilities; the average of those cases was 9.77 percent, including five at or above 10.00
17 percent.³

18 Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

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

- 20 • Section III – provides a summary of the results of analytical models;
- 21 • Section IV – provides a summary of issues regarding Cost of Equity estimation in
22 regulatory proceedings and discusses the regulatory guidelines pertinent to the
23 development of the cost of capital;

² For example, S&P recently revised its outlook on ALLETE Inc. to negative from stable due in part to the company's regulatory risk after the Minnesota Public Utilities Commission issued an order in Minnesota Power's (a subsidiary of ALLETE Inc.) rate case, which S&P viewed as unfavorable. Nephele Kirong, *S&P Changes Outlook on ALLETE to Negative*, S&P Global Market Intelligence, February 8, 2018.

³ Source: Regulatory Research Associates.

- 1 • Section V – explains my selection of the proxy group used to develop my
- 2 analytical results;
- 3 • Section VI – explains my analyses and the analytical bases for my ROE
- 4 determination;
- 5 • Section VII – provides a discussion of specific business risks and other
- 6 considerations that have a direct bearing on OTP’s Cost of Equity;
- 7 • Section VIII – highlights the current capital market conditions and their effect on
- 8 OTP’s Cost of Equity;
- 9 • Section IX – provides my analysis of OTP’s capital structure; and
- 10 • Section X – summarizes my conclusions.

III.SUMMARY OF ANALYTICAL RESULTS

11 Q. WHAT ARE THE RESULTS OF YOUR ANALYTICAL MODELS?

12 A. The analytical results are summarized in Tables 1a and 1b:

Table 1a: Summary of Discounted Cash Flow Results

Discounted Cash Flow	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
<i>Constant Growth DCF – Including Flotation Costs⁴</i>			
30-Day Constant Growth DCF	8.22%	9.33%	10.70%
90-Day Constant Growth DCF	7.97%	9.08%	10.44%
180-Day Constant Growth DCF	7.91%	9.02%	10.39%
<i>Multi-Stage DCF – Including Flotation Costs</i>			
30-Day Multi-Stage DCF	8.79%	9.42%	10.22%
90-Day Multi-Stage DCF	8.07%	8.69%	9.49%
180-Day Multi-Stage DCF	7.97%	8.59%	9.39%

14

⁴ Constant Growth DCF results exclude El Paso Electric Company, IDACORP, Inc., and Northwestern Corporation, as explained at page 24 of my Direct Testimony..

Table 1b: Summary of Risk Premium Results

CAPM Results	<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 (3.05%)	10.52%	10.97%
Near Term Projected 30-Year Treasury (3.42%)	10.89%	11.33%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (3.05%)	12.22%	12.76%
Near Term Projected 30-Year Treasury (3.42%)	12.58%	13.13%
<i>Bond Yield Plus Risk Premium Approach</i>		
Current 30-Year Treasury (3.05%)	9.97%	
Near Term Projected 30-Year Treasury (3.42%)	10.03%	
Long Term Projected 30-Year Treasury (4.20%)	10.25%	

Based on the analytical results presented in Tables 1a and 1b, and in light of the considerations discussed throughout the balance of my Direct Testimony (among them, the Company’s business risks relative to the proxy group), it is my view that an ROE of 10.30 percent is reasonable and appropriate.

IV. SUMMARY OF ISSUES SURROUNDING COST OF EQUITY ESTIMATION IN REGULATORY PROCEEDINGS

Q. PLEASE PROVIDE AN OVERVIEW OF THE ISSUES SURROUNDING THE COST OF EQUITY IN REGULATORY PROCEEDINGS, GENERALLY.

A. In very general terms, the Cost of Equity is the return that investors require to make an equity investment in a firm. That is, investors will provide funds to a firm only if the return that they *expect* is equal to, or greater than, the return that they *require* to accept the risk of providing funds to the firm. From the firm’s perspective, that required return, whether it is provided to debt or equity investors, has a cost. Individually, we speak of the “Cost of Debt” and the “Cost of Equity” as measures of those costs; together, they are referred to as the “Cost of Capital.”

1
2 The Cost of Capital (including the costs of both debt and equity) is based on the
3 economic principle of “opportunity costs.” Investing in any asset, whether debt or equity
4 securities, implies a forgone opportunity to invest in alternative assets. For any
5 investment to be sensible, its expected return must be at least equal to the return expected
6 on alternative, comparable risk investment opportunities. Because investments with like
7 risks should offer similar returns, the opportunity cost of an investment should equal the
8 return available on an investment of comparable risk.

9
10 Although both debt and equity have required costs, they differ in certain fundamental
11 ways. Most noticeably, the cost of debt is contractually defined and can be directly
12 observed as the interest rate, or yield, on debt securities.⁵ The Cost of Equity, on the
13 other hand, is neither directly observable nor a contractual obligation. Rather, equity
14 investors have a claim on cash flows only after debt holders are paid; the uncertainty (or
15 risk) associated with those residual cash flows determines the Cost of Equity. Because
16 equity investors assume “residual risk” in perpetuity, they require higher returns than
17 those provided to debt holders. In that basic sense, equity and debt investors invest in
18 different securities, face different risks, and require different returns.

19
20 Whereas the cost of debt can be directly observed, the Cost of Equity must be estimated,
21 or inferred, based on market data and various financial models. As discussed throughout
22 my Direct Testimony, each of those models is subject to certain assumptions, which may
23 become more, or less, applicable with changing market conditions. Because the Cost of
24 Equity is premised on the economic principle of opportunity costs, those models typically
25 are applied to a group of “comparable”, or “proxy”, companies. The choice of models
26 (including their inputs), the selection of proxy companies, and the interpretation of model
27 results all require the application of reasoned judgment. That judgment should consider
28 data and information not necessarily included in the models, themselves. In the end, the

⁵ The observed interest rate may be adjusted to reflect issuance or other directly observable costs.

1 estimated Cost of Equity should reflect the return investors require in light of the subject
2 company's risks, and the returns available on comparable investments.

3 Q. PLEASE PROVIDE A SUMMARY OF THE GUIDELINES FOR THE PURPOSE OF
4 DETERMINING THE RETURN ON EQUITY.

5 A. The United States Supreme Court (the "Court") established the guiding principles for
6 establishing a fair return for capital in two cases: (1) *Bluefield Water Works and*
7 *Improvement Co. v. Public Service Comm'n.* ("Bluefield");⁶ and (2) *Federal Power*
8 *Comm'n v. Hope Natural Gas Co.* ("Hope").⁷ In *Bluefield*, the Court recognized that: (1)
9 a regulated public utility cannot remain financially sound unless the return it is allowed to
10 earn on its invested capital is at least equal to the Cost of Capital (the principle relating
11 to the demand for capital); and (2) a regulated public utility will not be able to attract
12 capital if it does not offer investors an opportunity to earn a return on their investment
13 equal to the return they expect to earn on other investments of similar risk (the principle
14 relating to the supply of capital).⁸ In *Hope*, the Court reiterated the financial integrity
15 and capital attraction principles of *Bluefield*.⁹

16
17 In summary, the Court clearly has recognized that the fair rate of return on equity should
18 be: (1) comparable to returns investors expect to earn on other investments of similar

⁶ See *Bluefield Water Works and Improvement Co. v. Public Service Comm'n.* 262 U.S. 679, 692 (1923).

⁷ See *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

⁸ *Bluefield*, 262 U.S. at 692:

"A public utility is entitled to such rates as will permit it to earn a return upon the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties."

⁹ *Hope*, 320 U.S. at 603:

"From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock... By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital."

1 risk; (2) sufficient to assure confidence in the company's financial integrity; and (3)
2 adequate to maintain and support the company's credit and to attract capital.

3 Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY
4 TO EARN A RETURN ADEQUATE TO ATTRACT CAPITAL AT REASONABLE
5 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. The ability to attract capital is
8 particularly important when a utility is engaged in an extensive capital expenditure
9 program, such as OTP is at this time. As discussed above, and in keeping with the *Hope*
10 and *Bluefield* standards, that return should be commensurate with the returns expected
11 elsewhere in the market for investments of equivalent risk. Based on those standards, the
12 Commission's decision in this case should provide the Company with the opportunity to
13 earn an ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to
14 ensure its financial integrity; and (3) commensurate with returns on investments in
15 enterprises having corresponding risks. The allowed ROE should enable the Company to
16 finance capital expenditures at reasonable cost rates and maintain its financial flexibility
17 over the period during which rates are expected to remain in effect. To the extent OTP is
18 provided a reasonable opportunity to earn its market-based Cost of Equity, neither
19 customers nor shareholders should be disadvantaged. In fact, a return that is adequate to
20 attract capital at reasonable terms enables OTP to provide safe, reliable electric utility
21 service while maintaining its financial integrity.

22 Q. HOW IS THE COST OF EQUITY ESTIMATED IN REGULATORY PROCEEDINGS?

23 A. As noted earlier (and as discussed in more detail later in my Direct Testimony), the Cost
24 of Equity is estimated by the use of various financial models. By their nature, those
25 models produce a range of results from which the ROE is determined. That
26 determination must be based on a comprehensive review of relevant data and
27 information; it does not necessarily lend itself to a strict mathematical solution. The key
28 consideration in determining the ROE is to ensure that the overall analysis reasonably

1 reflects investors' view of the financial markets in general, and the subject company (in
2 the context of the proxy companies) in particular.

3
4 Practitioners and academics alike recognize that financial models are tools to be used in
5 the ROE estimation process, and that strict adherence to any single approach, or to the
6 specific results of any single approach, can lead to flawed or misleading conclusions.
7 That position is consistent with the *Hope* and *Bluefield* principle that it is the analytical
8 result, as opposed to the methodology employed that is controlling in arriving at ROE
9 determinations. A reasonable ROE estimate therefore appropriately considers alternative
10 methods, and the reasonableness of their individual and collective results in the context of
11 observable, relevant market information.

V. PROXY GROUP SELECTION

12 Q. AS A PRELIMINARY MATTER, WHY IS IT NECESSARY TO SELECT A GROUP
13 OF PROXY COMPANIES TO DETERMINE THE COST OF EQUITY FOR OTP?

14 A. The ROE is a market-based concept and OTP is not a publicly traded entity. Rather, it is
15 a subsidiary of OTTR. Accordingly, it is necessary to establish a group of comparable,
16 publicly traded companies to serve as its "proxy." Even if OTP were publicly traded,
17 short-term events could bias its market value during a given period of time. A significant
18 benefit of using a proxy group is that it moderates the effects of anomalous, short-term
19 events associated with any one company. At the same time, the subject company's risk
20 relative to its peers should be considered when determining the appropriate ROE.

21 Q. DOES THE SELECTION OF A PROXY GROUP SUGGEST THAT ANALYTICAL
22 RESULTS WILL BE TIGHTLY CLUSTERED AROUND AVERAGE (I.E., MEAN)
23 RESULTS?

24 A. No. For example, the Constant Growth DCF approach defines the Cost of Equity as the
25 sum of the expected dividend yield and projected long-term growth. Despite the care
26 taken to ensure risk comparability, market expectations with respect to future risks and
27 growth opportunities will vary from company to company. Therefore, even within a
28 group of similarly situated companies it is common for analytical results to reflect a

1 seemingly wide range. At issue is how to estimate the Cost of Equity from within that
2 range. That determination necessarily must consider a wide range of both quantitative
3 and qualitative information, including the risk profile of the subject company (*i.e.* OTP).

4 Q. PLEASE PROVIDE A SUMMARY PROFILE OF OTP.

5 A. OTP provides electric production, transmission, and distribution services to
6 approximately 11,600 customers in South Dakota.¹⁰ OTP is engaged in an extensive
7 capital expenditure plan that began in 2012 and is expected to continue through 2021.
8 OTP currently has long-term issuer credit ratings of BBB from S&P, A3 from Moody's
9 Investor Service, and BBB from Fitch Ratings.¹¹ The following table provides summary
10 financial and operating statistics for OTP for the past three years.

11 **Table 2: OTP Operating and Financial Results 2015-2017**¹²

<i>(in thousands)</i>	2015	2016	2017
Electric Operations			
SD Electric Customers	11.46	11.69	11.60
Total Electric Customers	129.99	132.94	132.15
Electric Revenues	\$407,131	\$427,383	\$434,537
Electric Net Income	\$48,370	\$49,829	\$49,446
Electric Net Plant	\$1,292,879	\$1,387,697	\$1,451,143
Electric Capital Expenditures	\$135,572	\$149,648	\$118,444

12
13 Q. WHAT ARE THE IMPLICATIONS OF THE COMPANY'S BUSINESS RISKS FOR
14 OTP'S COST OF EQUITY?

15 A. Consistent with the principles established in *Hope*¹³, and to provide a return to equity
16 holders that is risk appropriate, it is reasonable to consider a proxy group of companies
17 with a commensurate level of risk. Compared to other investor-owned electric utilities,

¹⁰ Company website.

¹¹ Otter Tail Corporation, *Williams Capital West Coast Utilities Conference*, Investor Presentation, March 22, 2018, at 32.

¹² S&P Global Market Intelligence, Otter Tail Corporation SEC Form 10-K for year ending December 31, 2017, at 78-79, and 109, Company provided data.

¹³ *Hope*, 320 U.S. at 603. See *Bluefield*, 262 U.S. at 692.

1 no company has the same service territory and risk profile as OTP. Consequently,
2 selecting a proxy group without regard to OTP's size and service territory would be
3 inconsistent with the principles set forth in *Hope*, and would lead to an inaccurate
4 conclusion regarding the Company's Cost of Equity. As such, I have included screening
5 criteria that account for OTP's profile relative to its service territory and other operating
6 risk factors.

7 Q. HOW DID YOU SELECT THE COMPANIES INCLUDED IN YOUR PROXY
8 GROUP?

9 A. A proxy group should consist of companies with risk profiles reasonably comparable to
10 the subject company. In developing the proxy group, my objective is to select companies
11 that are highly representative of the risks and prospects faced by OTP, while including a
12 reasonably large number of companies in the group. Based on those two considerations, I
13 began with the universe of companies that Value Line classifies as Electric Utilities, and
14 applied the following screening criteria:

- 15 • I excluded companies that do not consistently pay quarterly cash dividends;
- 16 • I excluded companies that were not covered by at least two utility industry equity
17 analysts;
- 18 • I excluded companies that do not have investment grade senior unsecured bond
19 and/or corporate credit ratings from S&P;
- 20 • I excluded companies that were not vertically-integrated, *i.e.* utilities that own and
21 operate regulated generation, transmission and distribution assets;
- 22 • I excluded companies whose regulated operating income over the three most
23 recently reported fiscal years comprised less than 60.00 percent of the respective
24 totals for that company;
- 25 • I excluded companies whose regulated electric operating income over the three
26 most recently reported fiscal years represented less than 60.00 percent of total
27 regulated operating income;
- 28 • I excluded companies with a market capitalization greater than \$10.00 billion, or
29 "large cap" companies (OTTR is a "small cap" company);

- 1 • I excluded companies with more than 250 customers per square mile (OTP has
- 2 approximately four customers per square mile) to eliminate companies with
- 3 service territories primarily located in densely populated, or urban areas;¹⁴
- 4 • I eliminated companies that are currently known to be party to a merger or other
- 5 significant transaction;

6 Q. DID YOU INCLUDE OTTR IN YOUR ANALYSIS?

7 A. No. To avoid the circular logic that otherwise would occur, it is my practice to exclude

8 the subject company, or its parent holding company, from the proxy group.

9 Q. WHAT COMPANIES MET THOSE SCREENING CRITERIA?

10 A. The criteria discussed above resulted in a proxy group of the following nine companies:

11 **Table 3: Proxy Group Screening Results**

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Black Hills Corporation	BKH
El Paso Electric Company	EE
Hawaiian Electric Industries, Inc.	HE
IDACORP, Inc.	IDA
NorthWestern Corporation	NWE
OGE Energy Corp.	OGE
PNM Resources, Inc.	PNM

12

13 Q. DO YOU BELIEVE THAT A PROXY GROUP OF NINE COMPANIES IS

14 SUFFICIENTLY LARGE?

15 A. Yes, I do. As discussed above, the analyses performed in estimating the ROE are more

16 likely to be representative of the subject utility's Cost of Equity to the extent that the

17 chosen proxy companies are fundamentally comparable to the subject utility. Because all

¹⁴ See Exhibit___(RBH-1), Schedule 9. OTP's aggregate service area has a population of approximately 230,000, of which only approximately 126,000 residents live in communities with a population of at least 1,000. See Otter Tail Corporation, SEC Form 10-K for the Period Ending December 31, 2017, at 6.

1 analysts use some form of screening process to arrive at a proxy group, the group, by
2 definition, is not randomly drawn from a larger population. Consequently, there is no
3 reason to place more reliance on the quantitative results of a larger proxy group simply
4 by virtue of the resulting larger number of observations.

VI. COST OF EQUITY ESTIMATION

5 Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE REGULATED
6 RATE OF RETURN.

7 A. Regulated utilities primarily use common stock and long-term debt to finance their
8 permanent property, plant, and equipment. The overall rate of return (“ROR”) for a
9 regulated utility is based on its weighted average Cost of Capital, in which the costs of
10 the individual sources of capital are weighted by their respective book values. As noted
11 above, the ROE is market-based and, therefore, must be estimated based on observable
12 market information.

13 Q. HOW IS THE REQUIRED ROE DETERMINED?

14 A. I estimated the ROE using analyses based on market data to quantify a range of investor
15 expectations of required equity returns. By their very nature, quantitative models
16 produce a range of results from which the market required ROE must be estimated. As
17 discussed throughout my Direct Testimony, that estimation must be based on a
18 comprehensive review of relevant data and information and does not necessarily lend
19 itself to a strict mathematical solution. Consequently, the key consideration in
20 determining the ROE is to ensure the overall analysis reasonably reflects investors’ views
21 of the financial markets in general, and the subject company (in the context of the proxy
22 group) in particular.

23
24 Because the Cost of Equity is not directly observable, it must be estimated based on both
25 quantitative and qualitative information. Although a number of empirical models have
26 been developed for that purpose, all are subject to limiting assumptions or other

1 constraints. Consequently, many finance texts recommend using multiple approaches to
2 estimate the Cost of Equity.¹⁵ When faced with the task of estimating the Cost of Equity,
3 analysts and investors are inclined to gather and evaluate as much relevant data as
4 reasonably can be analyzed and, therefore, rely on multiple analytical approaches.

5
6 I also note that as a practical matter, no individual model is more reliable than all others
7 under all market conditions. Therefore, it is both prudent and appropriate to use multiple
8 methodologies to mitigate the effects of assumptions and inputs associated with any
9 single approach. As such, I have considered the results of the Constant Growth and
10 Multi-Stage forms of the DCF model; the CAPM; and the Bond Yield Plus Risk Premium
11 approach.

12 ***Constant Growth DCF Model***

13 Q. PLEASE DESCRIBE THE CONSTANT GROWTH DCF APPROACH.

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

$$18 \quad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad \text{Equation [1]}$$

19 where P_0 represents the current stock price, $D_1 \dots D_\infty$ represent expected future
20 dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present
21 value calculation that can be simplified and rearranged into the familiar form:

$$22 \quad k = \frac{D(1+g)}{P_0} + g \quad \text{Equation [2]}$$

¹⁵ 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 Equation [2] is often referred to as the “Constant Growth DCF” model in which the first
2 term is the expected dividend yield and the second term is the expected long-term growth
3 rate.

4 Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF
5 MODEL?

6 A. The Constant Growth DCF model assumes: (1) earnings, book value, and dividends all
7 grow at the same, constant rate in perpetuity; (2) the dividend payout ratio remains
8 constant; (3) a Price to Earnings (“P/E”) multiple remains constant in perpetuity; and (4)
9 the discount rate is greater than the expected growth rate.

10 Q. WHAT MARKET DATA DID YOU USE TO CALCULATE THE DIVIDEND YIELD
11 IN YOUR DCF MODEL?

12 A. The dividend yield is based on the proxy companies’ current annualized dividend and
13 average closing stock prices over the 30-, 90-, and 180-trading day periods as of February
14 28, 2018.

15 Q. WHY DID YOU USE THREE AVERAGING PERIODS TO CALCULATE AN
16 AVERAGE STOCK PRICE?

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

22 Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO ACCOUNT
23 FOR PERIODIC GROWTH IN DIVIDENDS?

24 A. Yes, I did. Since utility companies tend to increase their quarterly dividends at different
25 times throughout the year, it is reasonable to assume that dividend increases will be
26 evenly distributed over calendar quarters. Given that assumption, it is appropriate to
27 calculate the expected dividend yield by applying one-half of the long-term growth rate
28 to the current dividend yield. That adjustment ensures that the expected dividend yield is,

1 on average, representative of the coming twelve-month period, and does not overstate the
2 dividends to be paid during that time.

3 Q. IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-TERM
4 GROWTH IN APPLYING THE DCF MODEL?

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

18 Q. PLEASE SUMMARIZE THE FINDINGS OF ACADEMIC RESEARCH ON THE
19 APPROPRIATE MEASURE FOR ESTIMATING EQUITY RETURNS USING THE
20 DCF MODEL.

21 A. The relationship between various growth rates and stock valuation metrics has been the
22 subject of much academic research.¹⁶ As noted over 40 years ago by Charles Phillips in
23 The Economics of Regulation:

24 For many years, it was thought that investors bought utility stocks largely
25 on the basis of dividends. More recently, however, studies indicate that
26 the market is valuing utility stocks with reference to total per share
27 earnings, so that the earnings-price ratio has assumed increased emphasis

¹⁶ See Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

1 in rate cases.¹⁷

2 Phillips' conclusion continues to hold true. Subsequent academic research has clearly
3 and consistently indicated that measures of earnings and cash flow are strongly related to
4 returns, and that analysts' forecasts of growth are superior to other measures of growth in
5 predicting stock prices.¹⁸ For example, Vander Weide and Carleton state that "[our]
6 results ... are consistent with the hypothesis that investors use analysts' forecasts, rather
7 than historically oriented growth calculations, in making stock buy-and-sell decisions."¹⁹
8 Other research specifically notes the importance of analysts' growth estimates in
9 determining the Cost of Equity, and in the valuation of equity securities. Dr. Robert
10 Harris noted that "a growing body of knowledge shows that analysts' earnings forecasts
11 are indeed reflected in stock prices." Citing Cragg and Malkiel, Dr. Harris notes that
12 those authors "found that the evaluations of companies that analysts make are the sorts of
13 ones on which market valuation is based."²⁰ Similarly, Brigham, Shome, and Vinson
14 noted that "evidence in the current literature indicates that (i) analysts' forecasts are
15 superior to forecasts based solely on time series data, and (ii) investors do rely on
16 analysts' forecasts."²¹

17
18 To that point, the research of Carleton and Vander Weide demonstrates that earnings
19 growth projections have a statistically significant relationship to stock valuation levels,
20 while dividend growth rates do not.²² Those findings suggest that investors form their

¹⁷ Charles F. Phillips, Jr., The Economics of Regulation, at 285 (Rev. ed. 1969).

¹⁸ 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).

¹⁹ Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988) at 81. The Vander Weide and Carleton study was updated in 2004 under the direction of Dr. Vander Weide. The results of the updated study were consistent with the original study's conclusions.

²⁰ Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986) at 59.

²¹ 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) at 36.

²² See Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of

1 investment decisions based on expectations of growth in earnings, not dividends.
2 Consequently, earnings growth, not dividend growth, is the appropriate estimate for the
3 purpose of the Constant Growth DCF model.

4 Q. PLEASE SUMMARIZE YOUR INPUTS TO THE CONSTANT GROWTH DCF
5 MODEL.

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

- 8 • The average daily closing prices for the 30-trading days, 90-trading days, and
9 180-trading days ended February 28, 2018 for the term P_0 ; and
- 10 • The annualized dividend per share as of February 28, 2018 for the term D_0 .

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

- 12 • The Zack's consensus long-term EPS growth estimates;
- 13 • The First Call consensus long-term EPS growth estimates; and
- 14 • The Value Line EPS growth estimates.

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

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

Q. DID YOU MAKE ANY ADJUSTMENTS AS PART OF YOUR DCF ANALYSIS?

A. Yes, I made an adjustment for flotation costs.

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These include out-of-pocket expenditures for preparation, filing, underwriting, and other costs of issuance.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED ROE?

A. To attract and retain new investors, a regulated utility must have the opportunity to earn a return that is both competitive and compensatory. To the extent a company is denied the opportunity to recover prudently-incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diminishing its ability to attract adequate capital on reasonable terms.

Q. ARE FLOTATION COSTS PART OF THE UTILITY’S INVESTED COSTS OR PART OF THE UTILITY’S EXPENSES?

A. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet under “paid in capital.” They are not current expenses, and therefore are not reflected on the income statement. Rather, like investments in rate base or the issuance costs of long-term debt, flotation costs are incurred over time. As a result, the great majority of a utility’s flotation cost is incurred prior to the test year but remains part

1 of the cost structure that exists during the test year and beyond, and as such, should be
2 recognized for ratemaking purposes. Therefore, even if no new issuances were planned
3 in the near future, recovery of flotation costs would be appropriate because failure to
4 allow such cost recovery could deny OTP the opportunity to earn its required rate of
5 return in the future. In this case, new issuances, as described in the Direct Testimony of
6 OTP witness Mr. Kevin G. Moug, further support the need for flotation cost recovery.

7 Q. DOES THE FACT THAT OTP IS A WHOLLY OWNED SUBSIDIARY OF OTTR
8 AFFECT THE NEED TO INCLUDE FLOTATION COSTS?

9 A. No. Although the Company is a wholly owned subsidiary of OTTR, it is appropriate to
10 consider flotation costs because wholly owned subsidiaries receive equity capital from
11 their parents and provide returns on the capital that roll up to the parent, which is
12 designated to attract and raise capital based on the returns of those subsidiaries. This is
13 important for companies such as OTP that are planning continued capital expenditures in
14 the near term, and for which access to capital (at reasonable cost rates) to fund such
15 required expenditures will be critical.

16 Q. DO THE DCF AND CAPM MODELS ALREADY INCORPORATE INVESTOR
17 EXPECTATIONS OF A RETURN TO COMPENSATE FOR FLOTATION COSTS?

18 A. No. The models used to estimate the appropriate ROE assume no “friction” or
19 transaction costs, as these costs are not reflected in the market price (in the case of the
20 DCF model) or risk premium (in the case of the CAPM and the Bond Yield Plus Risk
21 Premium model).

22 Q. IS THE NEED TO CONSIDER FLOTATION COSTS RECOGNIZED BY THE
23 ACADEMIC AND FINANCIAL COMMUNITIES?

24 A. Yes. The need to reimburse investors for equity issuance costs is recognized by the
25 academic and financial communities in the same spirit that investors are reimbursed for
26 the costs of issuing debt. That treatment is consistent with the philosophy of a fair rate of
27 return. As explained by Dr. Shannon Pratt:

28 Flotation costs occur when a company issues new stock. The business
29 usually incurs several kinds of flotation or transaction costs, which reduce

1 the actual proceeds received by the business. Some of these are direct out-
2 of-pocket outlays, such as fees paid to underwriters, legal expenses, and
3 prospectus preparation costs. Because of this reduction in proceeds, the
4 business's required returns must be greater to compensate for the
5 additional costs. Flotation costs can be accounted for either by amortizing
6 the cost, thus reducing the net cash flow to discount, or by incorporating
7 the cost into the cost of equity capital. Since flotation costs typically are
8 not applied to operating cash flow, they must be incorporated into the cost
9 of equity capital.²³

10 Q. HAS OTTR RECENTLY ISSUED COMMON EQUITY?

11 A. Yes. As stated in the Direct Testimony of Mr. Moug, OTTR has had issuances of
12 common stock in 2014 through 2017, including issuances under OTTR's "At the Market
13 Program" and under OTTR's Employee Stock Purchase Plan and Dividend Reinvestment
14 Plan.²⁴ Mr. Moug further explains that these OTTR common stock issuances are directly
15 related to the Company's current and planned capital expenditures.²⁵ OTTR also plans to
16 issue common stock equity to assist OTP in maintaining a balance of equity (including
17 OTP retained earnings) and debt in funding its \$901 million capital expenditure plan for
18 2018-2022.

19 Q. DID YOU CALCULATE A FLOTATION COST RECOVERY ADJUSTMENT?

20 A. Yes, I have. I modified the DCF calculation to derive the dividend yield that would
21 reimburse investors for direct issuance costs. Based on the weighted average issuance
22 costs shown in Exhibit___(RBH-1), Schedule 2, a reasonable estimate of flotation costs is
23 approximately 0.13 percent (13 basis points).

24 Q. DID YOU CONSIDER ANY OTHER INFORMATION TO ESTIMATE THE
25 RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

26 A. It is important to review the extent of model results within the context of the current
27 capital market environment. That is especially true with DCF-based models, which
28 assume that the conditions prevailing at the time the model is applied will remain in place

²³ Shannon P. Pratt, Roger J. Grabowski, *Cost of Capital: Applications and Examples*, 4th ed. (John Wiley & Sons, Inc., 2010), page 588.

²⁴ Exhibit ___ Moug Direct, at 19, Exhibit___(KGM-1), Schedule 7.

²⁵ *Ibid.*

1 in perpetuity. In the short-run, prices may be influenced by temporary demand, with
2 utility stocks subject to the type of “risk-on/risk-off” dynamics that cause investors to
3 move into or out of securities for reasons other than long-term, fundamental valuation.
4 Because DCF-based models assume current prices measure long-term, fundamental
5 value, it is extremely important to interpret their results in the context of other observable
6 data. Failing to do so could produce results that fall far from investors’ required returns,
7 putting the Company at a significant disadvantage in its ability to raise capital.

8 Q. DID YOU MAKE ANY ADJUSTMENTS TO YOUR CONSTANT GROWTH DCF
9 RESULTS BECAUSE OF THOSE CONSIDERATIONS?

10 A. Yes, I did. I first estimated the Constant Growth DCF results of each of the proxy
11 companies. Three companies, El Paso Electric Company, IDACORP, Inc., and
12 Northwestern Corporation, had Constant Growth DCF results of 6.43 percent to 7.81
13 percent using the 30-day average stock price. Those results are approximately 187 to 325
14 basis points below the average authorized return for all electric utilities in 2017, and
15 approximately 119 to 257 basis points below the lowest authorized return ever for a
16 vertically integrated electric utility. As such, I believe it is more reasonable to consider
17 the Constant Growth DCF results excluding those companies. These results also
18 underscore the need to consider the results of approaches other than the Constant Growth
19 DCF under current market conditions.

20 Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSES?

21 A. My Constant Growth DCF results, excluding the three companies noted above, are
22 summarized in Table 4 below (*see* also Exhibit __ (RBH-1), Schedule 1).

23 **Table 4: Constant Growth DCF Results²⁶**

²⁶ Results include flotation costs. *See also* Exhibit __ (RBH-1), Schedule 1.

	Mean Low	Mean	Mean High
30-Day Average	8.22%	9.33%	10.70%
90-Day Average	7.97%	9.08%	10.44%
180-Day Average	7.91%	9.02%	10.39%

1
2 As noted above, current market conditions are incompatible with the underlying
3 assumptions of the Constant Growth DCF model. Considering the results of the other
4 analytical models and the higher business risks faced by the Company (including
5 extensive capital expenditures, small size which is related to low institutional ownership
6 and low trading volume, and customer concentration), the Mean High results in Table 4
7 represent a more reasonable estimate of the Company's ROE.

8 ***Multi-Stage Discounted Cash Flow Model***

9 Q. WHAT OTHER FORMS OF THE DCF MODEL HAVE YOU USED?

10 A. To address certain limiting assumptions underlying the Constant Growth form of the
11 DCF model, I also applied the Multi-Stage (three-stage) Discounted Cash Flow Model.
12 The Multi-Stage model, which is an extension of the Constant Growth form and has been
13 applied in regulatory proceedings, enables the analyst to specify growth rates over three
14 distinct stages. As with the Constant Growth form of the DCF model, the Multi-Stage
15 form defines the Cost of Equity as the discount rate setting the current price equal to the
16 discounted value of future cash flows. Unlike the Constant Growth form, however, the
17 Multi-Stage model must be solved in an iterative fashion.

18 Q. PLEASE SUMMARIZE WHY YOU HAVE INCLUDED THE MULTI-STAGE DCF
19 MODEL AMONG THOSE USED TO ESTIMATE THE COST OF EQUITY.

20 A. First, it is both prudent and appropriate to use multiple methodologies to mitigate the
21 effects of assumptions and inputs associated with any single approach. Second, the
22 Constant Growth DCF model assumes earnings, dividends, and book value will grow at
23 the same, constant rate in perpetuity; that the payout ratio will remain constant in
24 perpetuity; and that the P/E ratio will remain constant. The Constant Growth DCF model
25 further assumes that the return required today will be the same return required every year

1 in the future. Those assumptions, however, are not likely to hold. In particular, it is
 2 likely that over time, payout ratios will increase from their current levels and, to the
 3 extent long-term interest rates increase over the next few years, it is likely the Cost of
 4 Equity also will increase. In my view, the Multi-Stage DCF model enables analysts to
 5 consider those issues, and to address the limiting and likely unrealistic assumptions
 6 underlying the Constant Growth form of the model.

7 Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-STAGE
 8 MODEL.

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

20 **Table 5: Multi-Stage DCF Structure**

Stage	0	1	2	3
Cash Flow Component	Initial Stock Price	Expected Dividend	Expected Dividend	Expected Dividend + Terminal Value
Inputs	Stock Price; 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

21

1 Q. WHAT ARE THE ANALYTICAL BENEFITS OF YOUR THREE-STAGE MODEL?

2 A. The principal benefits relate to the flexibility provided by the model's formulation.
3 Because it provides the ability to specify near-term, intermediate, and long-term growth
4 rates, for example, the multi-stage structure avoids the sometimes-limiting assumption
5 that the subject company will grow at the same, constant rate in perpetuity. In addition,
6 by calculating the dividend as the product of earnings and the payout ratio, the model
7 enables analysts to reflect assumptions regarding the timing and extent of changes in the
8 payout ratio to reflect, for example, increases or decreases in expected capital spending,
9 or transition from current payout levels to long-term expected levels. In that regard,
10 because the model is not limited to a single provider, such as Value Line, for all inputs, it
11 mitigates the potential bias associated with relying on a single source of growth rate
12 projections.²⁷

13
14 The Multi-Stage model also enables the analyst to assess the reasonableness of the inputs
15 and results by reference to certain market-based metrics. For example, the terminal stock
16 price can be divided by the expected earnings per share in the terminal year to calculate
17 the expected P/E ratio. Similarly, the terminal P/E ratio can be divided by the terminal
18 growth rate to develop a Price to Earnings Growth ("PEG") ratio. To the extent the
19 projected P/E or PEG ratios are inconsistent with historical experience, it may indicate
20 incorrect or inconsistent assumptions within the balance of the model.

21 Q. PLEASE SUMMARIZE YOUR INPUTS TO THE MULTI-STAGE DCF MODEL.

22 A. I applied the Multi-Stage model to the proxy group described earlier in my Direct
23 Testimony. My assumptions with respect to the various model inputs are described in
24 Table 6 (below).

²⁷ See, for example, Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, 21 (Summer 1992).

1

Table 6: Multi-Stage DCF Model Assumptions

Stage	Initial	First	Transition	Terminal
Stock Price	30-, 90-, and 180-day average stock price as of February 28, 2018			
Earnings Growth	2016 actual EPS escalated by Period 1 growth rate	EPS growth as average of: (1) Value Line; (2) Zacks; (3) First Call	Transition to Long-term GDP growth	Long-term GDP growth
Payout Ratio		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

3 Q. HOW DID YOU CALCULATE THE LONG-TERM GDP GROWTH RATE?

4 A. The long-term growth rate of 5.45 percent is based on the real GDP growth rate of 3.21
5 percent from 1929 through 2017, and an inflation rate of 2.16 percent. The GDP growth
6 rate is calculated as the compound growth rate in the chain-weighted GDP for the period
7 from 1929 through 2017.²⁸ The rate of inflation of 2.16 percent is an average of two
8 components: (1) the compound annual forward rate starting in ten years (*i.e.*, 2028, which
9 is the beginning of the terminal period) based on the 30-day average spread between
10 yields on long-term nominal Treasury Securities and long-term Treasury Inflation
11 Protected Securities, known as the “TIPS spread” of 2.13 percent;²⁹ and (2) and the
12 projected Blue Chip Financial Forecast of the CPI for 2024 – 2028 of 2.20 percent.³⁰

13

14 The real GDP growth rate projection assumes that absent specific knowledge to the
15 contrary, real GDP growth will revert to its long-term mean. Because estimating the Cost

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

²⁹ See Board of Governors of the Federal Reserve System, “Table H.15 Selected Interest Rates.”

³⁰ *Blue Chip Financial Forecasts*, December 1, 2017, at 14.

1 of Equity is a market-based exercise, it is important to reflect, to the extent possible, the
2 sentiments and expectations of investors; those expectations are directly captured in the
3 market-based measure of inflation. In that important respect, the TIPS spread represents
4 the collective views of investors regarding long-term inflation expectations. Equally
5 important, by using forward yields, we can infer the level of long-term inflation expected
6 by investors as of the terminal period of the Multi-Stage model (that is, ten years in the
7 future).

8 Q. WHAT WERE YOUR SPECIFIC ASSUMPTIONS WITH RESPECT TO THE
9 PAYOUT RATIO?

10 A. As noted in Table 6, for the first two periods I relied on the first year and long-term
11 projected payout ratios reported by Value Line³¹ for each of the proxy group companies.
12 I then assumed that, by the end of the second period (*i.e.*, the end of year 10), the payout
13 ratio will converge to the long-term industry average of 65.91 percent.³²

14 Q. WHAT WAS YOUR PRINCIPAL ASSUMPTION REGARDING THE TERMINAL
15 VALUE?

16 A. Although I performed a series of analyses in which the terminal value is calculated based
17 on the assumed long-term nominal GDP growth rate,³³ I also performed a series of
18 analyses in which the terminal value is based on the current P/E ratio.³⁴ The results of
19 that analysis are shown in Table 7, below (*see* also Exhibit __ (RBH-1), Schedule 3).

³¹ As reported in the Value Line Investment Survey as “All Div’ds to Net Prof.”

³² Source: Bloomberg Professional. The assumption of mean reversion in payout ratios is consistent with published texts. As noted by Morin, “Most firms, including utilities, tend to maintain a fixed payout ratio when it is averaged over several years.” See Roger A. Morin, PhD, New Regulatory Finance, Public Utilities Reports, June 2006, at 258.

³³ See Exhibit __ (RBH-1), Schedule 3.

³⁴ Defined as the 30-day average of the proxy group P/E ratio, calculated as an Index.

1 **Table 7: Multi-Stage DCF Results, Terminal P/E Method³⁵**

	<i>Low</i>	<i>Mean</i>	<i>High</i>
30-Day Average	8.79%	9.42%	10.22%
90-Day Average	8.07%	8.69%	9.49%
180-Day Average	7.97%	8.59%	9.39%

2
3 Q. DID YOU UNDERTAKE ANY ADDITIONAL ANALYSES TO SUPPORT YOUR
4 RECOMMENDATION?

5 A. Yes, I also applied the CAPM and Risk Premium approaches.

6
7 ***CAPM Analysis***

8 Q. PLEASE BRIEFLY DESCRIBE THE GENERAL FORM OF THE CAPM.

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

14
$$K_e = r_f + \beta(r_m - r_f) \text{ Equation [3]}$$

15 where:

16 K_e = the required market ROE;

17 β = Beta of an individual security;

18 r_f = the risk-free rate of return; and

19 r_m = the required return on the market as a whole.
20

³⁵ Results include flotation costs. See Exhibit __ (RBH-1), Schedule 3.

1 In Equation [3], the term $(r_m - r_f)$ represents the Market Risk Premium.³⁶ According to
2 the theory underlying the CAPM, since unsystematic risk can be diversified away by
3 adding securities to investment portfolios, investors should be concerned only with
4 systematic or non-diversifiable risk. Non-diversifiable risk is measured by the Beta
5 coefficient, which is defined as:

$$\beta = \frac{\sigma_j}{\sigma_m} \times \rho_{j,m} \quad \text{Equation [4]}$$

6
7 Where σ_j is the standard deviation of returns for company “j,” σ_m is the standard deviation
8 of returns for the broad market (as measured, for example, by the S&P 500 Index), and
9 $\rho_{j,m}$ is the correlation of returns in between company j and the broad market. The Beta
10 coefficient therefore represents both relative volatility (*i.e.*, the standard deviation) of
11 returns and the correlation in returns between the subject company and the overall
12 market. Intuitively, higher Beta coefficients indicate that the subject company’s returns
13 have moved in tandem with the overall market. Consequently, if a company has a Beta
14 coefficient of 1.00, it is as risky as the market and does not provide any diversification
15 benefit.

16 Q. WHAT ASSUMPTIONS DID YOU INCLUDE IN YOUR CAPM ANALYSIS?

17 A. Since utility equity is a long duration investment, I used two different measures of the
18 risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds (*i.e.*, 3.05
19 percent); and (2) the near-term projected 30-year Treasury yield (*i.e.*, 3.42 percent).

³⁶ The Market Risk Premium is defined as the incremental return of the market portfolio over the risk-free rate.

1 Q. WHY HAVE YOU RELIED ON THE 30-YEAR TREASURY YIELD FOR YOUR
2 CAPM ANALYSIS?

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

7 Q. PLEASE DESCRIBE YOUR *EX-ANTE* APPROACH TO ESTIMATING THE
8 MARKET RISK PREMIUM.

9 A. The approach is based on the market-required return, less the current 30-year Treasury
10 yield. To estimate the market required return, I calculated the market capitalization
11 weighted average total return based on the Constant Growth DCF model. To do so, I
12 relied on data from Bloomberg and Value Line, respectively. With respect to
13 Bloomberg-derived growth estimates, I calculated the expected dividend yield (using the
14 same one-half growth rate assumption described earlier) and combined that amount with
15 the projected earnings growth rate to arrive at the market capitalization weighted average
16 DCF result. I performed that calculation for each S&P 500 company for which
17 Bloomberg provided consensus growth rates. I then subtracted the current 30-year
18 Treasury yield from that amount to arrive at the market DCF-derived *ex-ante* market risk
19 premium estimate. In the case of Value Line, I performed the same calculation, again
20 using all companies for which earnings growth rates were available. The results of those
21 calculations are provided in Exhibit __ (RBH-1), Schedule 4.

22 Q. HOW DID YOU APPLY YOUR EXPECTED MARKET RISK PREMIUM AND RISK-
23 FREE RATE ESTIMATES?

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

26 Q. WHAT BETA COEFFICIENT DID YOU USE IN YOUR CAPM MODEL?

27 A. As shown in Exhibit __ (RBH-1), Schedule 5, I considered the Beta coefficients reported
28 by Bloomberg and Value Line. Both services adjust their calculated (or “raw”) Beta

1 coefficients to reflect the tendency of the Beta coefficient to regress to the market mean
2 of 1.00, although Value Line calculates the Beta coefficient over a five-year period,
3 whereas Bloomberg's calculation is based on two years of data.

4 Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSES?

5 A. As shown in Table 8 (below) the CAPM analyses suggest an ROE range of 10.52 percent
6 to 13.13 percent (*see* also Exhibit __ (RBH-1), Schedule 6).

7 **Table 8: Summary of CAPM Results³⁷**

	Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
<i>Average Bloomberg Beta Coefficient</i>		
Current 30-Year Treasury (3.05%)	10.52%	10.97%
Near Term Projected 30-Year Treasury (3.42%)	10.89%	11.33%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (3.05%)	12.22%	12.76%
Near Term Projected 30-Year Treasury (3.42%)	12.58%	13.13%

8
9 ***Bond Yield Plus Risk Premium Analysis***

10 Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.

11 A. This approach is based on the basic financial tenet that equity investors bear the residual
12 risk associated with ownership and therefore require a premium over the return they
13 would have earned as a bondholder. That is, because returns to equity holders are riskier
14 than returns to bondholders, equity investors must be compensated for bearing that
15 additional risk. Risk premium approaches, therefore, estimate the Cost of Equity as the
16 sum of the equity risk premium and the yield on a particular class of bonds. Because the
17 equity risk premium is not directly observable, it typically is estimated using a variety of
18 approaches, some of which incorporate *ex-ante*, or forward-looking estimates of the Cost
19 of Equity, and others that consider historical, or *ex-post*, estimates. An alternative

³⁷ See Exhibit __ (RBH-1), Schedule 6.

1 approach is to use actual authorized returns for electric utilities to estimate the Equity
2 Risk Premium.

3 Q. PLEASE EXPLAIN HOW YOU PERFORMED YOUR BOND YIELD PLUS RISK
4 PREMIUM ANALYSIS.

5 A. As suggested above, I first defined the Risk Premium as the difference between the
6 authorized ROE and the then-prevailing level of long-term (*i.e.*, 30-year) Treasury yield.
7 I used the current and near-term 30-year Treasury yield discussed earlier and a long-term
8 projected 30-year Treasury yield as well. I then gathered data for 1,545 electric utility
9 rate proceedings between January 1980 and February 28, 2018. In addition to the
10 authorized ROE, I also calculated the average period between the filing of the case and
11 the date of the final order (the “lag period”). To reflect the prevailing level of interest
12 rates during the pendency of the proceedings, I calculated the average 30-year Treasury
13 yield over the average lag period (approximately 200 days).

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

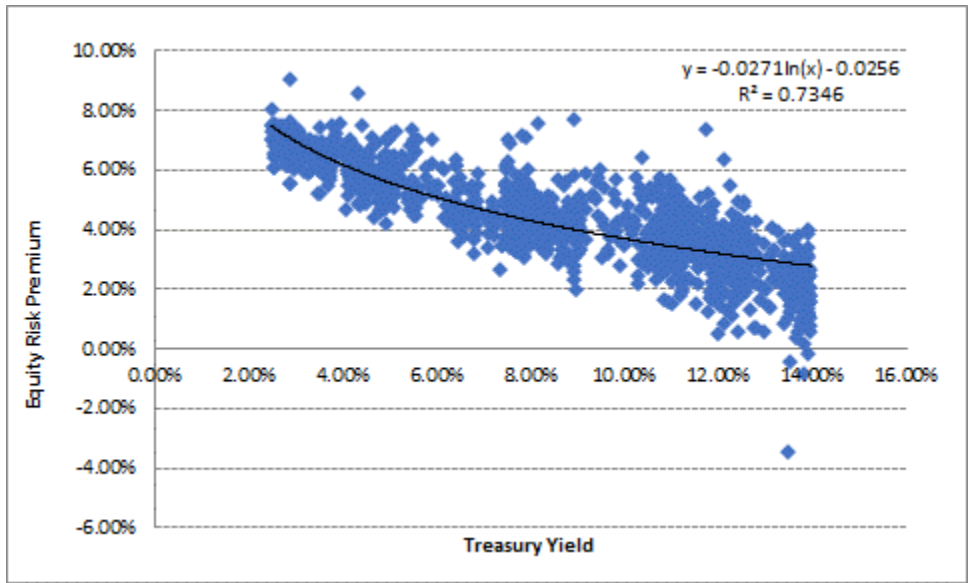
20 Q. HOW DID YOU ANALYZE THE RELATIONSHIP BETWEEN INTEREST RATES
21 AND THE EQUITY RISK PREMIUM?

22 A. The basic method used was regression analysis, in which the observed Equity Risk
23 Premium is the dependent variable, and the average 30-year Treasury yield is the
24 independent variable. Relative to the long-term historical average, the analytical period
25 includes interest rates and authorized ROEs that are quite high during one period (*i.e.*, the
26 1980s) and that are quite low during another (*i.e.*, the post-Lehman bankruptcy period).
27 To account for that variability, I used the semi-log regression, in which the Equity Risk
28 Premium is expressed as a function of the natural log of the 30-year Treasury yield
29 (“T₃₀”):

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

2 As shown on Chart 2 (below), the semi-log form is useful when measuring an absolute
3 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 2: Equity Risk Premium³⁸**



6
7 As Chart 2 illustrates, over time there has been a statistically significant, negative
8 relationship between the 30-year Treasury yield and the Equity Risk Premium.
9 Consequently, simply applying the long-term average Equity Risk Premium of 4.62
10 percent would significantly understate the Cost of Equity and produce results well below
11 any reasonable estimate. Based on the regression coefficients in Chart 2, however, the
12 implied ROE is between 9.97 percent and 10.25 percent (*see* Table 9 and Exhibit
13 __ (RBH-1), Schedule 7).

³⁸ See Exhibit __ (RBH-1), Schedule 7.

1 **Table 9: Summary of Bond Yield Plus Risk Premium Results³⁹**

	Return on Equity
Current 30-Year Treasury (3.05%)	9.97%
Near Term Projected 30-Year Treasury (3.42%)	10.03%
Long-Term Projected 30-Year Treasury (4.20%)	10.25%

2

VII. BUSINESS RISKS AND OTHER CONSIDERATIONS

3 Q. WHAT ADDITIONAL INFORMATION DID YOU CONSIDER IN ASSESSING THE
4 ANALYTICAL RESULTS NOTED ABOVE?

5 A. Because the analytical methods discussed above provide a range of estimates, there are
6 several additional factors that should be taken into consideration when establishing a
7 reasonable range for the Company's Cost of Equity. Those factors include OTP's
8 planned capital investment program, small size, degree of customer concentration, other
9 market data, including institutional ownership, trading volumes and liquidity, and relative
10 Beta coefficients. As noted earlier, given the Company's substantial capital investment
11 plan, it will be important to set a return that will enable access to capital markets at
12 reasonable terms. OTP's combination of low customer rates, cost savings, and high
13 quality of service also merit some consideration. Doing so is consistent with the long-
14 standing discretion of regulatory commissions to recognize low cost, efficient service
15 when setting the authorized return.

16

17 ***Capital Expenditures***

18 Q. PLEASE SUMMARIZE OTP'S CAPITAL EXPENDITURE PLANS.

19 A. As discussed in more detail below, the Company's capital investment plan is substantial,
20 and represents a significant increase over its existing net plant. That is the case whether
21 viewed in isolation, or relative to the proxy group.

³⁹ See Exhibit __ (RBH-1), Schedule 7.

1 Q. HOW DO OTP'S EXPECTED CAPITAL EXPENDITURES COMPARE TO THE
2 PROXY GROUP?

3 A. OTP currently plans to invest approximately \$901 million of additional capital over the
4 five-year period spanning 2018-2022.⁴⁰ To reasonably compare that level of investment
5 to the proxy companies, I calculated the ratio of expected capital expenditures to net plant
6 for each of the companies in the proxy group. For the period 2018-2022, I performed that
7 calculation using the Company's projected capital expenditures relative to its total net
8 plant as of December 31, 2016. As shown in Exhibit __ (RBH-1), Schedule 8, and Chart
9 1 in Section II, relative to the proxy group, OTP's ratio of projected capital expenditures
10 to net plant is 68.92 percent.

11
12 As a further point of reference, I compared OTP's ratio of projected capital expenditures
13 to net plant to the comparable ratio for the other utilities in South Dakota. OTP's 68.92
14 percent projected capital expenditure ratio is higher than Northern States Power
15 Company's 58.79 percent ratio, MDU Resources Group Inc.'s ("MDU") 59.09 percent
16 ratio, Black Hills Corporation's ("BKH") 35.86 percent ratio, and Northwestern
17 Corporation's ("NWE") 30.96 percent ratio. As explained below, comparatively high
18 levels of capital expenditures place downward pressure on credit metrics.

19 Q. DO CREDIT RATING AGENCIES RECOGNIZE RISK ASSOCIATED WITH
20 INCREASED CAPITAL EXPENDITURES?

21 A. Yes, they do. From the perspective of debt investors, the additional pressure on cash
22 flows associated with high levels of capital expenditures exerts corresponding pressure
23 on credit metrics and, therefore, credit ratings. S&P has noted that:

24 For regulated utilities, infrastructure spending leads to rate-base growth.
25 But for a company to preserve its financial strength, it must be able to
26 quickly begin recovering this spending.

27 ***

⁴⁰ Exhibit __ Moug Direct at 2.

1 To retain critical access to the debt markets, utilities will need to continue
2 to seek and receive supportive cost recovery from regulators.⁴¹

3
4 The rating agency views noted above also are consistent with certain observations
5 discussed earlier in my testimony: (1) the benefits of maintaining a strong financial
6 profile are significant when capital access is required, and become particularly acute
7 during periods of market instability; and (2) the Commission's decision in this
8 proceeding will have a direct bearing on the Company's credit profile, and its ability to
9 access the capital needed to fund its investments.

10 Q. DO SUBSTANTIAL CAPITAL EXPENDITURES DIRECTLY RELATE TO A
11 UTILITY TO BEING ALLOWED THE OPPORTUNITY TO EARN A RETURN
12 ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

13 A. Yes, they do. The allowed ROE should enable the subject utility to finance capital
14 expenditures and working capital requirements at reasonable rates, and to maintain its
15 financial integrity in a variety of economic and capital market conditions. As discussed
16 throughout my Direct Testimony, a return that is adequate to attract capital at reasonable
17 terms enables the utility to provide safe, reliable service while maintaining its financial
18 soundness. To the extent a utility is provided the opportunity to earn its market-based
19 cost of capital, neither customers nor shareholders should be disadvantaged. These
20 requirements are of particular importance to a utility when it is engaged in a substantial
21 capital expenditure program.

22
23 The ratemaking process is based on the principle that, for investors and companies to
24 commit the capital needed to provide safe and reliable utility services, the utility must
25 have the opportunity to recover the return of, and the market-required return on, invested
26 capital. Regulatory commissions recognize that since utility operations are capital
27 intensive, regulatory decisions should enable the utility to attract capital at reasonable
28 terms; doing so balances the long-term interests of the utility and its ratepayers.

⁴¹ Standard & Poor's, *U.S. Utilities' Capital Spending is Rising, and Cost-Recovery is Vital*, RatingsDirect, May 14, 2012, at 6.

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Further, the financial community carefully monitors the current and expected financial condition of utility companies, as well as the regulatory environment in which those companies operate. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' assessments of risk. That is especially important during periods in which the utility expects to make significant capital investments and, therefore, may require access to capital markets.

Q. WILL OTP NEED CONTINUED ACCESS TO THE CAPITAL MARKETS TO FINANCE ITS CAPITAL EXPENDITURE PLAN?

A. Yes. As discussed by Mr. Moug, although OTP has been retaining a significant portion of its earnings to finance its capital expenditures, it will require continued access to the capital markets, at reasonable terms, to finance its capital expenditure plan.⁴²

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF OTP'S CAPITAL INVESTMENT PLAN ON ITS RISK PROFILE AND COST OF CAPITAL?

A. It is clear that OTP's five-year capital investment plan will require continued access to capital markets. It also is clear that equity investors and credit rating agencies recognize the additional risks associated with substantial capital expenditures. These additional risk factors suggest that an ROE toward the upper end of the reasonable range of returns would be appropriate. As such, the Commission's decision in this proceeding will have a direct bearing on OTP's ability to maintain its financial profile, and its ability to access the capital market at reasonable cost rates.

Q. HAVE YOU CONSIDERED OTP'S EXTENSIVE CAPITAL EXPENDITURES IN YOUR RECOMMENDED RETURN ON EQUITY FOR OTP?

A. Yes, I have. Although I have not quantified the effect of OTP's extensive capital expenditures, or proposed a specific premium, I have considered OTP's relative level of capital expenditures in my assessment of business risks to determine where, within a reasonable range of returns, OTP's required ROE appropriately falls.

⁴² Exhibit __ Moug Direct at 9.

1 ***Small Size***

2 Q. PLEASE EXPLAIN THE RISK ASSOCIATED WITH SMALL SIZE.

3 A. Both the financial and academic communities have long accepted the proposition that the
4 Cost of Equity for small firms is subject to a “size effect”.⁴³ Although empirical evidence
5 of the size effect often is based on studies of industries beyond regulated utilities, utility
6 analysts also have noted the risks associated with small market capitalizations.
7 Specifically, Ibbotson Associates noted:

8 For small utilities, investors face additional obstacles, such as smaller
9 customer base, limited financial resources, and a lack of diversification
10 across customers, energy sources, and geography. These obstacles imply
11 a higher investor return.⁴⁴

12 Small size, therefore, leads to two categories of increased risk for investors: (1) liquidity
13 risk (*i.e.*, the risk of not being able to sell one’s shares in a timely manner due to the
14 relatively thin market for the securities); and (2) fundamental business risks.

15 Q. HOW DOES OTP COMPARE IN SIZE TO THE PROXY COMPANIES?

16 A. OTP is substantially smaller than the average for the proxy group companies both in
17 terms of numbers of customers and annual revenues. Exhibit__(RBH-1), Schedule 9
18 estimates the implied market capitalization for OTP (*i.e.*, the implied market
19 capitalization if the Company were a stand-alone, publicly traded entity). That is,
20 because OTP is a subsidiary of OTTR, an estimated stand-alone market capitalization for
21 OTP must be calculated. To do so, I applied the median market to book ratio for the nine
22 member proxy group to OTP’s implied equity of \$45 million in South Dakota.⁴⁵ The
23 implied market capitalization based on that calculation is \$78 million, which is
24 approximately 2.00 percent of the median level of the proxy group and approximately

⁴³ See Mario Levis, *The record on small companies: A review of the evidence*, *Journal of Asset Management*, March 2002, at 368-397, for a review of literature relating to the size effect.

⁴⁴ Michael Annin, *Equity and the Small-Stock Effect*, *Public Utilities Fortnightly*, October 15, 1995 at 42.

⁴⁵ The implied equity was calculated by applying the proposed equity ratio of 53.10 percent to the proposed South Dakota rate base for the Company (*i.e.*, \$84 million).

1 4.00 percent of the smallest of the proxy companies. I also note that OTTR's market
2 capitalization of \$1.68 billion is smaller than any of the proxy companies.⁴⁶

3 Q. HOW DOES THE SMALLER SIZE OF OTP AFFECT ITS BUSINESS RISKS
4 RELATIVE TO THE PROXY GROUP OF COMPANIES?

5 A. In general, smaller companies are less able to withstand adverse events that affect their
6 revenues and expenses. The effect of weather variability, the loss of large customers to
7 bypass opportunities, or the destruction of demand as a result of general macroeconomic
8 conditions or fuel price volatility will have a proportionately greater impact on the
9 earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for
10 non-revenue producing investments such as system maintenance and replacements will
11 put proportionately greater pressure on customer costs, potentially leading to customer
12 attrition or demand reduction. Taken together, these risks affect the return required by
13 investors for smaller companies.

⁴⁶ Source: S&P Global Market Intelligence, as of February 28, 2018.

1 Q. IS THERE SUPPORT IN THE FINANCIAL COMMUNITY FOR THE USE OF A
2 SMALL SIZE PREMIUM?

3 A. Yes, there have been several studies conducted that demonstrate the size premium. One
4 of the earliest works in this area found that over a period of 40 years “the common stock
5 of small firms had, on average, higher risk-adjusted returns than the common stock of
6 large firms.”⁴⁷ The author, who referred to that finding as the “size effect,” suggested
7 that the CAPM was mis-specified in that on average, smaller firms had significantly
8 larger risk-adjusted returns than larger firms. The author also concluded that the size
9 effect was “most pronounced for the smallest firms in the sample.”⁴⁸ Since then,
10 additional empirical research has focused on explaining the size effect as a function of
11 lower trading volume and other factors, but the proposition that Beta fails to reflect the
12 risks of smaller firms persists.⁴⁹

13

14 In 1994, Fama and French also focused on the issue of whether the CAPM adequately
15 explained security returns and proposed a "three factor" model for expected security
16 returns. Those factors include: (1) the covariance with the market; (2) size; and (3)
17 financial risk as determined by the book-to-market ratio. As explained by Morningstar,
18 Fama and French “found that the returns on stocks are better explained as a function of
19 size and book-to-market value in addition to the single market factor of the CAPM, with
20 the company’s size capturing the size effect and its book-to-market ratio capturing the
21 financial distress of a firm.”⁵⁰

22 Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR OTP?

23 A. In its *2017 Valuation Handbook*, Duff & Phelps presents its calculation of the size
24 premium for deciles of market capitalizations relative to the S&P 500 Index. An
25 additional estimate of the size premium associated with OTP, therefore, is the difference

⁴⁷ R. W. Banz, *The Relationship Between Return and Market Value of Common Stocks*, Journal of Financial Economics, 9, 1981 at 3-4.

⁴⁸ *Ibid.* at 16.

⁴⁹ See, for example, Mario Levis, *The record on small companies: A review of the evidence*, Journal of Asset Management, March, 2002.

⁵⁰ Morningstar, Ibbotson SBBI 2013 Valuation Yearbook, at 109.

1 in the Duff & Phelps size risk premiums for the proxy group median market
2 capitalization relative to the implied market capitalization for OTP.

3
4 As shown on Exhibit__(RBH-1), Schedule 9, based on recent market data, the median
5 market capitalization of the proxy group was approximately \$3.60 billion, which
6 corresponds to the fourth decile of Duff & Phelps's market capitalization data. Based on
7 the Duff & Phelps analysis, that decile has a size premium of 0.98 percent (or 98 basis
8 points). The implied market capitalization for OTP is approximately \$78 million, which
9 falls within the tenth decile and corresponds to a size premium of 5.59 percent (or 559
10 basis points). The difference between those size premiums is 461 basis points (5.59
11 percent – 0.98 percent).

12 Q. HAVE YOU CONSIDERED THE SMALLER SIZE OF OTP IN YOUR
13 RECOMMENDED RETURN ON EQUITY FOR OTP?

14 A. Yes. Although I have quantified the small size effect, rather than proposing a specific
15 premium, I have considered the small size of OTP in my assessment of business risks to
16 determine where, within a reasonable range of returns, OTP's required ROE
17 appropriately falls.

18 ***Customer Concentration***

19 Q. HOW DOES OTP'S CUSTOMER CONCENTRATION AFFECT ITS BUSINESS
20 RISK?

21 A. OTP's customer base is largely comprised of commercial and industrial customers.
22 Approximately 69.50 percent of OTP's total revenues, and 74.30 percent of its total sales
23 volume are attributable to sales to commercial and industrial customers.⁵¹ Relative to
24 the proxy group, OTP has the second highest commercial customer concentration by
25 percent of revenues, and the second highest commercial customer concentration by
26 percent of volume (in kilowatt-hours) (*see* Exhibit__(RBH-1), Schedule 10). OTP's
27 dependence on sales to commercial users subjects its operations to greater cash flow

⁵¹ Estimated as total sales less residential sales based on 2016 data.

1 volatility, and risk of demand destruction and bypass. Although OTP currently believes
2 its rates are sufficiently competitive to retain its commercial customers, the Company
3 remains highly exposed to such risks.

4 Q. DOES THE ABSENCE OF ECONOMIC DIVERSITY IN OTP'S SERVICE
5 TERRITORY AFFECT THE COMPANY'S RISK PROFILE?

6 A. Yes. OTP's service territory is predominantly agricultural.⁵² It generally is understood
7 that diversity is an important factor in the economic stability of a given market area. That
8 is, a diversified economy is less susceptible to the economic cycles of, or shocks
9 associated with a single industry. Consequently, a relatively undiversified market, such
10 as that served by OTP, represents meaningful financial risks to the host utility.

11 Q. HAVE YOU CONSIDERED THE LACK OF CUSTOMER AND ECONOMIC
12 DIVERSIFICATION OF OTP IN YOUR RECOMMENDED RETURN ON EQUITY
13 FOR OTP?

14 A. Yes. Although I have not proposed a specific premium, I have considered OTP's higher
15 level of risk due to its lack of customer diversification in my assessment of business risks
16 to determine where, within a reasonable range of returns, OTP's required ROE
17 appropriately falls.

18 ***Other Evidence of OTP's Relatively Higher Cost of Equity***

19 Q. ARE THERE OTHER OBSERVABLE FACTORS THAT SUPPORT YOUR
20 POSITION THAT OTP'S COST OF EQUITY FALLS IN THE UPPER END OF THE
21 RANGE OF ROE ESTIMATES?

22 A. Yes, there are. The Company's relatively low degree of institutional ownership and the
23 low trading volume of its common stock indicate that investors require a "liquidity
24 premium". Although that premium is difficult to quantify, it does support the position
25 that OTP's ROE should be set toward the upper end of the range of results. The position
26 that the ROE falls in the upper end of the range also is supported by OTTR's relative risk

⁵² Otter Tail Corporation, SEC Form 10-K for the Period Ending December 31, 2017, at 6.

1 as measured by Beta coefficients. Those issues, and their implications for the Company's
2 Cost of Equity, are discussed in more detail below.

3 **Institutional Ownership**

4 Q. AS A PRELIMINARY MATTER, WHAT IS "INSTITUTIONAL OWNERSHIP" AS IT
5 RELATES TO COMMON EQUITY?

6 A. Institutional ownership refers to the extent to which a given company's common stock is
7 owned by large financial institutions, mutual funds, insurance companies, and
8 endowments.⁵³ Because they tend to have more resources than retail investors,
9 institutional investors are able to perform more in-depth research, and tend to take larger
10 positions in a given company's stock. A significant benefit of institutional investors to
11 capital-intensive companies such as OTP is that they tend to be an efficient source of
12 equity capital. In addition, because they buy and sell large stock positions based on their
13 individual research and portfolio objectives, institutional investors provide a significant
14 source of liquidity. As discussed below, a more liquid market means that an investor can
15 sell stocks without the risk of losing value.

16
17 There is little question that institutional ownership is important to equity investors. Value
18 Line, for example provides institutional buy and sell decisions (by quarter) as well as
19 total institutional ownership. Similarly, Yahoo! Finance reports institutional ownership
20 as a percentage of float and shares held. Because access to this efficient source of equity
21 capital and market liquidity is diminished, companies with lower levels of institutional
22 ownership are at a competitive disadvantage, and their investors face greater liquidity
23 risk. Those companies therefore must provide higher returns to compensate investors for
24 that disadvantaged position and incremental risk. As discussed below, that higher return
25 has been referred to as the "liquidity premium".

26 Q. HOW DOES OTTR'S PERCENTAGE OF INSTITUTIONAL OWNERSHIP
27 COMPARE TO THE UTILITIES INCLUDED IN THE PROXY GROUP?

⁵³ As opposed to institutional ownership, "retail" ownership refers to ownership by individual investors.

1 A. OTTR’s 43.10 percent institutional ownership is significantly lower than any of the proxy
2 companies. More specifically, OTTR’s institutional ownership is significantly below the
3 81.22 percent average institutional ownership of my proxy group. OTTR’s institutional
4 ownership is also below that of MDU, BKH, NWE, and Xcel Energy, Inc. (“Xcel
5 Energy”), 64.77 percent, 99.03 percent, 99.56 percent, and 74.51 percent, respectively.
6 The relative portions of institutional ownership are provided in Exhibit__(RBH-1),
7 Schedule 11. Because OTTR’s level of institutional ownership is significantly below its
8 peers, there is a lower level of equity capital available from institutional investors to
9 OTTR and OTP.

10 **Trading Volume and Liquidity Risk**

11 Q. DOES THE TRADING VOLUME OF A COMPANY AFFECT A LARGE
12 INVESTOR’S ABILITY TO SELL ITS STAKE IN THE COMPANY?

13 A. Yes. Smaller companies (such as OTTR) typically have fewer shares outstanding, and
14 fewer shares traded than their larger counterparts. This is significant to institutional
15 investors, who typically hold larger numbers of shares in each of their investments as a
16 matter of management efficiency. In other words, institutional investors tend to have
17 minimum dollar amounts for individual investments, which lead to positions involving
18 larger numbers of shares. If an institutional investor holds a relatively large portion of
19 the shares of a company, its ability to sell its position (without adversely affecting the
20 market price of shares) may be limited by the volume of shares traded each day. That
21 uncertainty, which often is referred to as “liquidity risk”, requires a higher expected
22 return (that is, the “liquidity premium” noted earlier). As noted by Amihud and
23 Mendelson:

24 ...investors prefer to commit capital to liquid investments, which can be
25 traded quickly and at low cost whenever the need arises. Investments with
26 less liquidity must offer higher expected returns to attract investors.⁵⁴

⁵⁴ Yakov Amihud, Haim Mendelson, *Liquidity, Asset Prices and Financial Policy*, Financial Analysts Journal, Vol. 47, No. 6 (Nov-Dec 1991), at 56.

1 Q. HOW DOES THE DAILY TRADING VOLUME OF OTTR SHARES COMPARE TO
 2 OTHER UTILITIES IN YOUR PROXY GROUP?

3 A. The daily trading volume of OTTR shares is far below the average volume of my proxy
 4 group. As Table 10 (below) indicates, OTTR’s average daily volume has been only
 5 about 17.00 to 18.00 percent of the average daily volume for the Proxy Group. Again,
 6 that low volume indicates low liquidity and the corresponding requirement for a liquidity
 7 premium.

8 **Table 10: Average Daily Trading Volumes**

Group	Jan 2013 – Feb 2018	Jan 2014 – Feb 2018	Jan 2015 – Feb 2018	Jan 2016 – Feb 2018	Jan 2017 – Feb 2018
OTTR	94,878	96,401	95,424	100,875	93,062
Proxy Group	519,892	547,046	559,974	568,667	549,902
OTTR Volume as a % of:					
Proxy Group	18.25%	17.62%	17.04%	17.74%	16.92%

9 OTTR’s average daily trading volume is also significantly lower than the averages for
 10 Xcel Energy, MDU, BKH, and NWE which were approximately 3.00 million (3.00
 11 percent), 1.00 million (10.00 percent), 400,000 (24.00 percent), and 330,000 (29.00
 12 percent), respectively.

13
 14 Taken from a slightly different perspective, OTTR’s average daily trading volume as a
 15 percentage of shares outstanding is less than one-half of its peers’ (see Table 11, below).
 16 Again, that low volume indicates a degree of illiquidity that strongly suggests the need
 17 for a liquidity premium.

18 **Table 11: Average Daily Volume as a Percentage of Shares Outstanding**

GROUP	JAN 2013 – FEB 2018	JAN 2014 – FEB 2018	JAN 2015 – FEB 2018	JAN 2016 – FEB 2018	JAN 2017 – FEB 2018
OTTR	0.252%	0.253%	0.248%	0.259%	0.236%
Proxy Group	0.558%	0.582%	0.593%	0.600%	0.585%

19
 20 OTTR’s average daily trading volume as a percentage of shares outstanding is also
 21 significantly lower than the averages for Xcel Energy, MDU, BKH, and NWE which
 22 were approximately 0.60 percent, 0.50 percent, 0.80 percent, and 0.70 percent,
 23 respectively.

1 Q. WHAT DO YOU CONCLUDE FROM THAT DATA?

2 A. First, there is little question that OTTR has a small percentage of institutional ownership,
3 and very low daily trading volumes relative to its peers. Its equity investors therefore
4 face greater liquidity risk, for which they would require a liquidity premium. Because
5 OTP's Cost of Equity is estimated based on a proxy group of companies with greater
6 degrees of institutional ownership and higher daily trading volumes, the liquidity
7 premium required to invest in OTTR's shares is not reflected in the analytical results.
8 Although it is difficult to estimate the required liquidity premium, OTTR's relatively
9 illiquid shares provide further support for moving toward the upper end of the range of
10 analytical results.

11 **Relative Beta Coefficients**

12 Q. PLEASE BRIEFLY EXPLAIN BETA COEFFICIENTS, AND HOW THEY RELATE
13 TO THE COST OF EQUITY.

14 A. As discussed in Section VI, Beta coefficients (which are an important component of the
15 CAPM) measure the risk of a given security relative to the market as a whole. In that
16 regard, a company with a Beta coefficient equal to 1.0 is as risky as the market; Beta
17 coefficients greater (less) than 1.0 indicate more (less) risk than the market. Because they
18 include relative returns over time, Beta coefficients can be calculated a number of ways.
19 As a general matter, however, higher Beta coefficients indicate higher Costs of Equity.

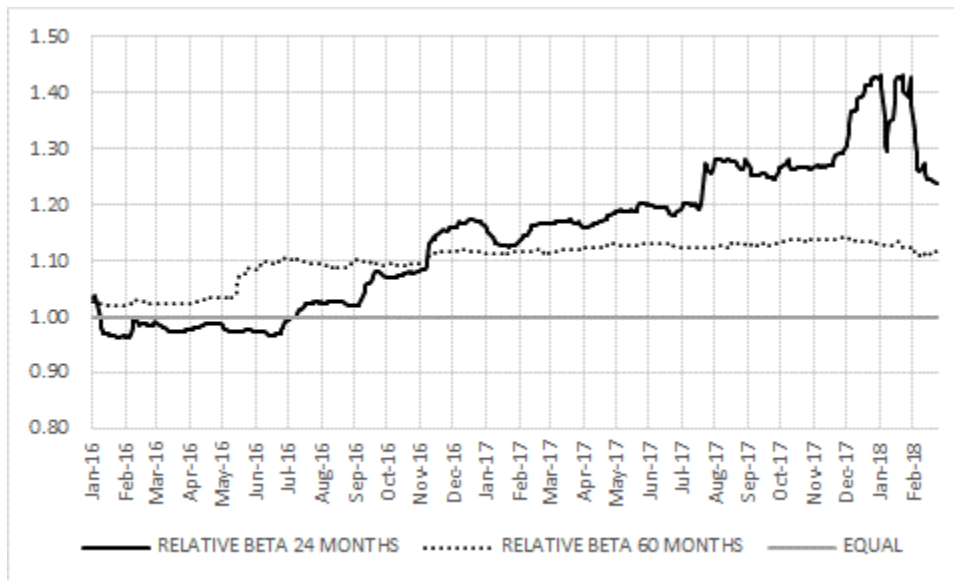
20 Q. HOW DOES OTTR'S BETA COEFFICIENT COMPARE TO THOSE OF THE
21 PROXY COMPANIES?

22 A. OTTR's Beta coefficient has been consistently above that of the proxy group. In fact,
23 OTTR's Beta coefficient has been greater than the proxy group's Beta coefficient since at
24 least January 2016 or June 2016 depending on the calculation period. This indicates that
25 from the perspective of relative betas, OTTR has been riskier than the proxy group.

1 Q. PLEASE DESCRIBE THE ANALYSES YOU PERFORMED REGARDING
2 RELATIVE BETA COEFFICIENTS.

3 A. I calculated OTTR's Beta coefficient over both 24- and 60-month periods (that is, the
4 same periods used by Value Line and Bloomberg⁵⁵); I performed that calculation each
5 day from January 2016 through February 2018. I then took the ratio of OTTR's
6 calculated Beta coefficient to the proxy group and plotted that ratio each day over the
7 calculation period. Those results are provided in Chart 3, below.

8 **Chart 3: Relative Beta Coefficients⁵⁶**



9
10 Q. WHAT ARE YOUR CONCLUSIONS OF YOUR ANALYSIS RELATIVE BETA
11 COEFFICIENTS?

12 A. Chart 3 demonstrates that OTTR has been riskier than the proxy group when calculated
13 over both 24- and 60- month periods, because the relative Beta coefficient (*i.e.*, the Beta
14 coefficient for OTTR divided by the Beta coefficient for the proxy group) has been
15 consistently above 1.0. As such, the review of relative Beta coefficients supports the
16 conclusion that OTTR, and by extension OTP, are riskier than the proxy group.

⁵⁵ Although Bloomberg enables analysts to calculate Beta coefficients over different periods, its default period is two years. Please note that because of slight differences in the method of calculation, the Beta coefficients provided in Chart 3 will not equal those reported by either Bloomberg or Value Line. Any such differences, however, do not negate the findings discussed herein.

⁵⁶ Source: S&P Global Market Intelligence.

1 *Cost Savings for Customers*

2 Q. HAS OTP DEMONSTRATED THE COMBINATION OF SUBSTANTIAL COST
3 SAVINGS FOR CUSTOMERS AND VERY HIGH LEVELS OF CUSTOMER
4 SATISFACTION?

5 A. Yes. OTP witness Mr. Kirk A. Phinney explains that OTP has completed the largest
6 capital project it has undertaken, the Big Stone Air Quality Control System project
7 (“AQCS Project”), on time and approximately 26.00 percent under budget. Mr. Phinney
8 also explains that the smaller Hoot Lake Mercury Air Toxins Standard project has also
9 been completed substantially under budget.

10

11 Mr. Tommerdahl explains the very substantial savings to all OTP customers, including
12 approximately \$300,000 in the 2017 Test Year, approximately \$2.9 million in the first ten
13 years, and approximately \$5.4 million over 30-year life of the AQCS Project. Mr.
14 Gerhardson discusses the high levels of customer satisfaction and low rates that OTP has
15 maintained for a number of years.

16 Q. IS IT APPROPRIATE FOR A REGULATORY ENTITY SUCH AS THE
17 COMMISSION TO RECOGNIZE SIGNIFICANT SAVINGS AND HIGH LEVELS OF
18 CUSTOMER SATISFACTION WHEN SETTING THE ROE?

19 A. Yes. The rationale for setting an ROE that recognizes utility performance that results in
20 substantial cost savings for customers, and the mutual benefits to customers and investors
21 from doing so, are summarized by Professor Roger Morin in his text New Regulatory
22 Finance, in which he discusses incentive-based regulation:

23 In essence, an incentive premium in excess of the authorized rate of return
24 is granted as an incentive device and/or to reward the attainment of a
25 certain performance objective. Benefits accrue to both investors and
26 ratepayers, the former in the form of enhanced profitability, and the latter
27 in the form of reduced costs. The ROE increment is frequently tied to a
28 specific performance target, for example a given ratio of actual/filed
29 capital spending program. More importantly, the ROE increment is
30 applied in order to reward overall management performance as opposed to

1 the attainment of a narrow, specific objective.⁵⁷

2
3 Although Dr. Morin's discussion specifically addresses formal incentive plans, I believe
4 the same rationale applies to setting the ROE in a traditional rate case.

5 Q. IS SUCH A PREMIUM PART OF THE COST OF EQUITY?

6 A. No. Such a premium would represent an award above the Cost of Equity to reflect a
7 recognition and reward for the performance of the utility.

8 Q. WHAT ARE YOUR CONCLUSIONS REGARDING OTP'S COST SAVINGS, LOW
9 RATES, AND CUSTOMER SATISFACTION?

10 A. Although I have not made an explicit adjustment to my ROE recommendation based on
11 the cost savings for customers, I note that it will be important to set a return that will
12 support internally generated funds and enable access to capital markets at reasonable
13 terms given OTP's extensive capital expenditure program. These factors, along with
14 OTP's higher risk factors and need to access debt and equity capital, support my 10.30
15 percent recommendation.

VIII. CAPITAL MARKET ENVIRONMENT

16 Q. DO ECONOMIC CONDITIONS INFLUENCE THE REQUIRED COST OF CAPITAL
17 AND REQUIRED RETURN ON COMMON EQUITY?

18 A. Yes. As discussed in Section VI, the models used to estimate the Cost of Equity are
19 meant to reflect, and therefore are influenced by, current and expected capital market
20 conditions. As such, it is important to assess the reasonableness of any financial model's
21 results in the context of observable market data. To the extent certain ROE estimates are
22 incompatible with such data or inconsistent with basic financial principles, it is
23 appropriate to consider whether alternative estimation techniques are likely to provide
24 more meaningful and reliable results.

⁵⁷ Morin in New Regulatory Finance, Chapter 20, section 20.3 Alternatives To Rate Of Return/Rate Base Regulation, p. 539.

1 Q. DO YOU HAVE ANY GENERAL OBSERVATIONS REGARDING THE
2 RELATIONSHIP BETWEEN FEDERAL RESERVE MONETARY POLICY,
3 CAPITAL MARKET CONDITIONS, AND THE COMPANY'S COST OF EQUITY?

4 A. Yes, I do. Much has been reported about the Federal Reserve's Quantitative Easing
5 policy and its effect on interest rates. Although the Federal Reserve completed its
6 Quantitative Easing initiative in October 2014, it was not until December 2015 that it
7 raised the Federal Funds rate, and began the process of rate normalization.⁵⁸ Therefore, a
8 significant issue is how investors will react as that process continues, and eventually is
9 completed. A viable outcome is that investors will perceive greater prospects of
10 macroeconomic growth, which will increase the growth rates included in the Constant
11 Growth DCF model. At the same time, higher growth and the absence of Federal market
12 intervention could provide the opportunity for interest rates to increase, thereby
13 increasing the dividend yield portion of the DCF model. In that case, both terms of the
14 Constant Growth DCF model would increase, producing increased ROE estimates.

15
16 More recently, interest rates have risen and become increasingly volatile. In the equity
17 markets, sectors that historically have included dividend-paying companies lost value, as
18 increasing interest rates provided investors with other sources of current income.
19 Because those dynamics affect different models in different ways, it would be
20 inappropriate to rely on a single method to estimate the Company's Cost of Equity. A
21 more reasoned approach is to understand the relationships among Federal monetary
22 policy, interest rates, and measures of market risk, and to consider how those factors may
23 affect different models and their results. As discussed throughout my Direct Testimony,
24 it remains important to consider a broad range of data and models when determining the
25 Company's Cost of Equity.

26 Q. PLEASE SUMMARIZE THE EFFECT OF RECENT FEDERAL RESERVE POLICIES
27 ON INTEREST RATES AND THE COST OF CAPITAL.

⁵⁸ See Federal Reserve Press Release (December 16, 2015).

1 A. Beginning in 2008, the Federal Reserve proceeded on a steady path of initiatives intended
2 to lower long-term Treasury yields.⁵⁹ The Federal Reserve’s policy actions “were
3 designed to put downward pressure on longer-term interest rates by having the Federal
4 Reserve take onto its balance sheet some of the duration and prepayment risks that would
5 otherwise have been borne by private investors.”⁶⁰ Under that policy, “Securities held
6 outright” on the Federal Reserve’s balance sheet increased from approximately \$489
7 billion at the beginning of October 2008 to \$4.20 trillion by February 2018.⁶¹ To put that
8 increase in context, the securities held by the Federal Reserve represented approximately
9 3.29 percent of Gross Domestic Product (“GDP”) at the end of September 2008, and had
10 risen to approximately 21.28 percent of GDP in February 2018.⁶² As such, the Federal
11 Reserve provided a significant source of liquidity, and had a substantial effect on capital
12 markets.

13 Q. DOES YOUR RECOMMENDATION CONSIDER THE INTEREST RATE
14 ENVIRONMENT?

15 A. Yes, it does. From an analytical perspective, it is important that the inputs and
16 assumptions used to arrive at an ROE recommendation, including assessments of capital
17 market conditions, are consistent with the recommendation itself. Although all analyses
18 require an element of judgment, the application of that judgment must be made in the
19 context of the quantitative and qualitative information available to the analyst, and the
20 capital market environment in which the analyses were undertaken. Because the Cost of
21 Equity is forward-looking, the salient issue is whether investors see the likelihood of
22 increased interest rates during the period in which the rates set in this proceeding will be
23 in effect.
24

⁵⁹ See Federal Reserve Press Release, dated June 19, 2013.

⁶⁰ Federal Reserve Bank of New York, *Domestic Open Market Operations During 2012*, April 2013, at 29.

⁶¹ Source: Federal Reserve Board Schedule H.4.1. “Securities held outright” include U.S. Treasury securities, Federal agency debt securities, and mortgage-backed securities

⁶² Source: Federal Reserve Board Schedule H.4.1; Bureau of Economic Analysis.

1 The low interest rate environment associated with central bank intervention may lead
2 some analysts to conclude that current capital costs, including the Cost of Equity, are low
3 and will remain as such. However, that conclusion only holds true under the hypothesis
4 of Perfectly Competitive Capital Markets (“PCCM”) and the classical valuation
5 framework which, under normal economic and capital market conditions, underpin the
6 traditional Cost of Equity models. Perfectly Competitive Capital Markets are those in
7 which no single trader, or “market-mover”, would have the power to change the prices of
8 goods or services, including bond and common stock securities. In other words, under
9 the PCCM hypothesis, no single trader would have a significant effect on market prices.

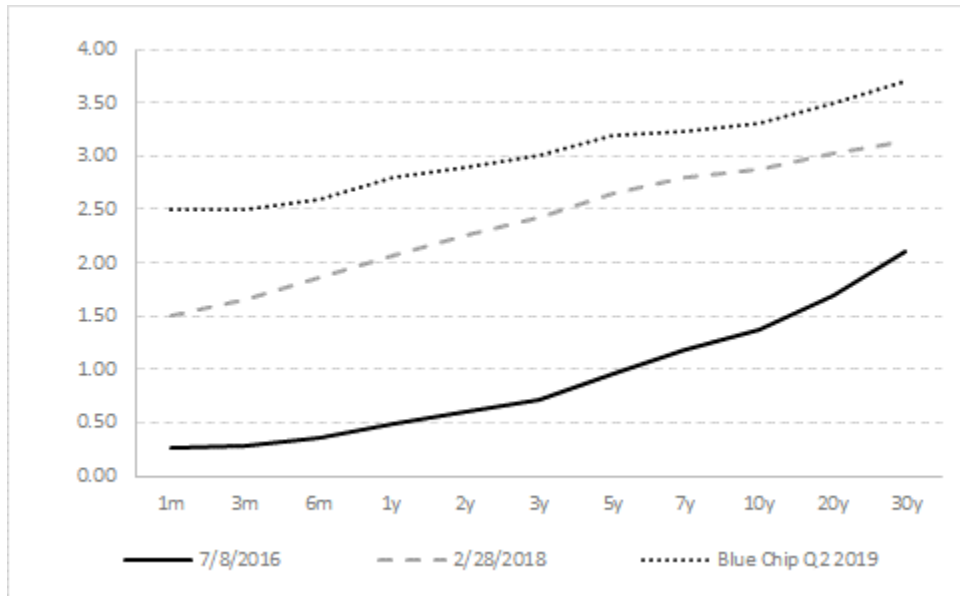
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11 Classic valuation theory assumes investors trade securities rationally, with prices
12 reflecting their perceptions of value. Although central banks may set benchmark interest
13 rates, they have maintained below-normal rates to stimulate economic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

20
21 Although the Federal Reserve’s market intervention policies have kept interest rates
22 historically low, since July 8, 2016 (when the 30-year Treasury yield hit an all-time low
23 of 2.11 percent), rates have risen. As the Federal Reserve increased the Federal Funds
24 target rate by 25 basis points five times from December 2016 (from 0.25 percent - 0.50
25 percent to 0.50 percent - 0.75 percent) to March 2018 (to 1.50 percent – 1.75 percent)
26 short-term and long-term interest rates increased by a corresponding amount (*see* Chart 4
27 below).⁶³

⁶³ Federal Reserve Board Schedule H.15. 6-month and 1-year Treasury yields increased by 150 basis points and 159 basis points, respectively, July 8, 2016 to February 28, 2018. The ten-year and 30-year Treasury yields increasing by 150 basis points and 102 basis points, respectively, by February 28, 2018.

1

Chart 4: Treasury Yield Curve: 7/8/2016, 2/28/2018 and Projected Q1 2019⁶⁴



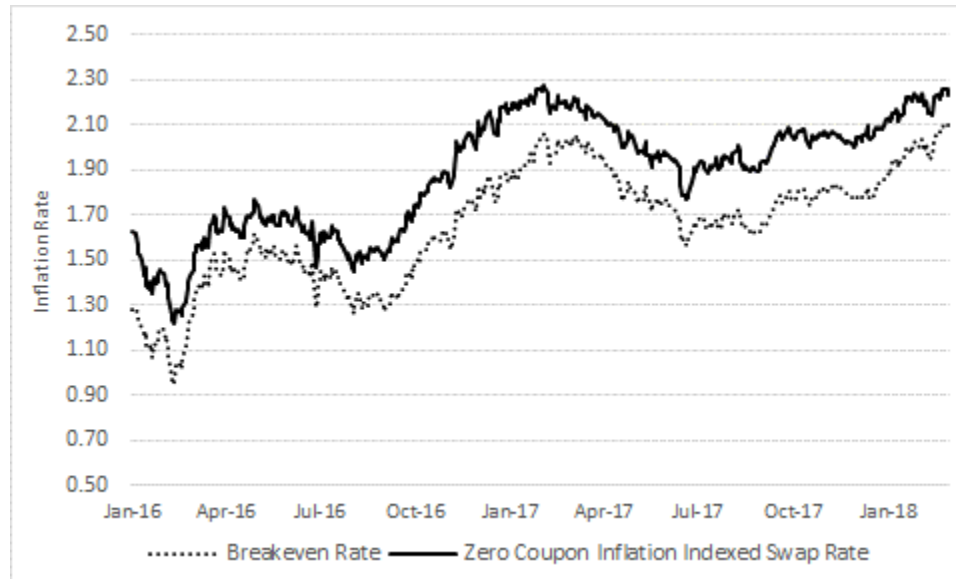
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The significant increase in the 10- and 30-year yields from July 2016 to February 2018 is highly related to increasing inflation. To that point, leading up to and following the November 2016 Presidential election, expected inflation, as measured by 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 5, below).

⁶⁴ 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.

1

Chart 5: Five-Year Forward Inflation⁶⁵



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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.”⁶⁶ 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.⁶⁷ 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 99.70 percent likelihood of further rate increases by December 2018.

12

Q. DOES MARKET-BASED DATA INDICATE THAT INVESTORS SEE A PROBABILITY OF INCREASING INTEREST RATES?

13

14

A. Yes. Forward Treasury yields implied by the slope of the yield curve and published projections by sources such as *Blue Chip Financial Forecasts* (which provides consensus

15

⁶⁵ Source: Bloomberg Professional Services

⁶⁶ Federal Reserve Press Release, (Sept. 20, 2017).

⁶⁷ Federal Reserve *Addendum to the Policy Normalization Principles and Plans*, as adopted effective June 13, 2017.

1 estimates from approximately 50 professional economists) indicate investors expect long-
2 term interest rates to increase.

3
4 Looking to short-term interest rates, data compiled by CME Groups indicates that
5 investors see a high likelihood of further Federal Funds rate increases, even after the five
6 increases between December 14, 2016 and March 21, 2018. As shown in Table 12,
7 (below) the market is now anticipating at least one additional rate hike (97.50 percent
8 probability) and possibly two or more (78.40 percent) by December 2018.

9 **Table 12: Probability of Federal Funds Rate Increases⁶⁸**

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%

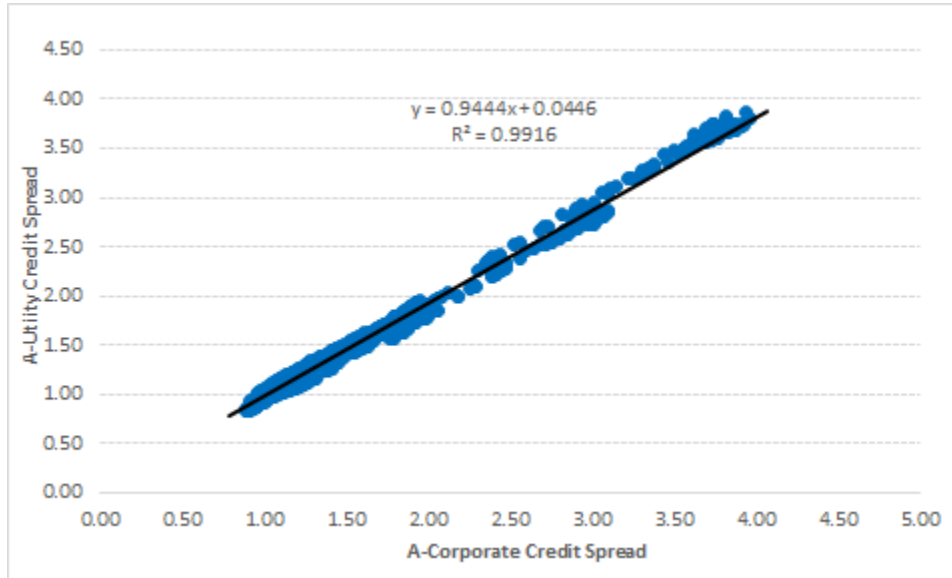
10
11 Q. HAVE YOU ALSO REVIEWED THE RELATIONSHIP BETWEEN CREDIT
12 SPREADS FOR A-RATED UTILITY DEBT RELATIVE TO A-RATED CORPORATE
13 DEBT?

14 A. Yes, I have. Given the historical volatility in the spread between corporate and utility A-
15 rated debt, there is no reason to conclude that utility yields are different than those of
16 their corporate counterparts. That conclusion is consistent with the finding that over
17 time, there has been a nearly one-to-one relationship between credit spreads on A-rated
18 corporate and utility bonds. In fact, a regression analysis in which corporate credit
19 spreads are the explanatory variable and utility credit spreads are the dependent variable
20 shows that slope is approximately 1.00 and highly significant (*see* Chart 6, below).
21 Because the intercept term is nearly zero, we can conclude that there has been no material

⁶⁸ Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed March 21, 2018.

1 difference between the two, and there certainly is no meaningful difference in the current
2 market.

3 **Chart 6: Corporate and Utility Credit Spreads (A-Rated)⁶⁹**



4
5 Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSES OF THE
6 CURRENT CAPITAL MARKET ENVIRONMENT, AND HOW DO THOSE
7 CONCLUSIONS AFFECT YOUR ROE RECOMMENDATION?

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

14
15 From an analytical perspective, it is important that the inputs and assumptions used to
16 arrive at an ROE determination, including assessments of capital market conditions, are
17 consistent with the conclusion itself. Although all analyses require an element of
18 judgment, the application of that judgment must be made in the context of the

⁶⁹ Source: Bloomberg Professional Services

1 quantitative and qualitative information available to the analyst and the capital market
2 environment in which the analyses were undertaken. Because the application of financial
3 models and interpretation of their results often is the subject of differences among
4 analysts in regulatory proceedings, I believe that it is important to review and consider a
5 variety of data points; doing so enables us to put in context both quantitative analyses and
6 the associated recommendations.

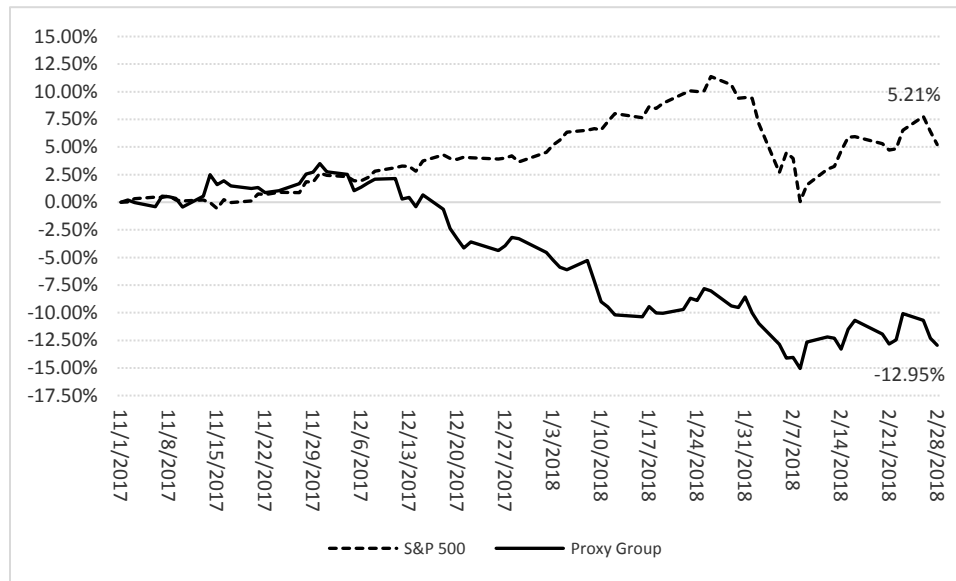
7
8 Because not all models used to estimate the Cost of Equity adequately reflect those
9 changing market dynamics, it is important to give appropriate weight to the methods and
10 to their results. Moreover, because those models produce a range of results, it is
11 important to consider the type of data discussed above in determining where the
12 Companies' ROE falls within that range. As described in Section VII, on balance, I
13 believe that the DCF-based results should be viewed very carefully, and that somewhat
14 more weight should be afforded the Risk Premium-based methods. I believe that doing
15 so supports my recommended range of 10.00 percent to 10.60 percent, and my ROE
16 recommendation of 10.30 percent.

17 Q. HAVE YOU ALSO CONSIDERED THE EFFECT OF THE RECENTLY ENACTED
18 TAX CUT AND JOBS ACT ("TCJA")?

19 A. Yes, I have. On December 22, 2017, the TCJA was signed into law. Since shortly before
20 the TCJA was signed, electric utilities (as measured by my proxy group) have
21 significantly underperformed the overall market. As Chart 7 (below) demonstrates, from
22 November 1, 2017 through February 28, 2018 the S&P 500 gained about 5.21 percent in
23 value. In stark contrast, my proxy group lost about 12.95 percent, underperforming the
24 overall market by more than 18.00 percentage points.

1

Chart 7: Relative Performance since November 2017⁷⁰



2

3

4 Q. WHAT DOES THIS DATA INDICATE?

5 A. A reasonable inference to be drawn from that data is that investors have been re-

6 evaluating electric utilities relative to other market sectors. To the extent investors now

7 view utilities as less attractive relative to alternative investments, the proxy companies’

8 prices will fall, and the dividend yields will increase. As explained below, because rating

9 agencies have begun to discuss the consequences of the TCJA for utilities’ cash flow, a

10 reasonable conclusion is that equity investors also have begun to recognize those

11 consequences, and to allocate their capital to other market sectors.

12 Q. HAVE THE PROXY COMPANIES’ DIVIDEND YIELDS INCREASED COINCIDENT WITH THE TCJA?

13

14 A. Yes, since the beginning of December 2017 the dividend yield for my proxy group

15 increased by about 62 basis points, while the 30-year Treasury yield increased by about

16 37 basis points (see Chart 8, below). Again, that data suggests the fall in price among

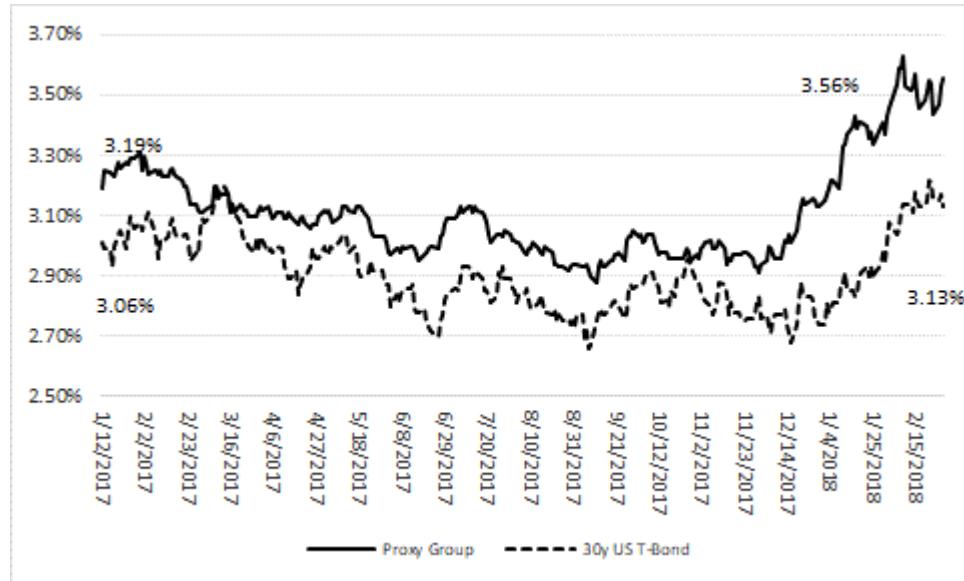
17 utility stocks may be a matter of relative value stemming from concerns regarding the

18 TCJA’s effect on utilities’ cash flow. As discussed below, Moody’s Investors Service

⁷⁰ Source: S&P Global Market Intelligence. Proxy group calculated as an index.

1 (“Moody’s”), Standard & Poor’s, and Fitch Ratings all recently have evaluated the utility
2 sector in the context of the TCJA, with Moody’s noting negative ratings implications for
3 many of the utilities it covers.

4 **Chart 8: Proxy Group Dividend Yield**
5 **vs. 30-Year Treasury Yield⁷¹**



6
7 Further, as shown in Chart 8, although the spread between the proxy group dividend yield
8 and the 30-year Treasury yield increased, the 30-year Treasury yield also increased
9 significantly since December 2017.⁷² As discussed above, the increase in interest rates,
10 and expectation of further increases, may lead to lower utility valuations, higher dividend
11 yields, and higher growth rates, which would suggest higher DCF results, and a higher
12 ROE.

13 Q. ARE THERE REASONS TO EXPECT THE TCJA MAY AFFECT THE MODELS
14 USED TO ESTIMATE THE COST OF EQUITY?

15 A. Yes, there are. As discussed earlier in my Direct Testimony, the Constant Growth DCF
16 model is based on several assumptions that together assume current market conditions
17 essentially will remain in place, unchanged, in perpetuity. Because we have seen a

⁷¹ Source: S&P Global Market Intelligence. My proxy group calculated as an index.

⁷² The 30-day average of the 30-year Treasury yield ranged from 2.77 percent to 2.83 percent in December 2017 and increased to 3.06 percent as of February 28, 2018.

1 significant change in utility valuations, we should recognize the mean DCF results likely
2 are not reliable indicators of the Company's Cost of Equity. As also discussed in my
3 Direct Testimony, the Cost of Equity is affected by the degree of financial leverage, or
4 debt, in the capital structure. That is, the results of the DCF model should be viewed with
5 caution when they change significantly over short periods of time, because the model
6 assumes that current market conditions will exist on an ongoing basis.

7 Q. WHAT CONCERNS HAVE RATING AGENCIES RAISED AS THEY CONSIDER
8 THE IMPLICATIONS OF THE TCJA FOR UTILITIES' CASH FLOW?

9 A. The rating agencies have observed that a reduction in utilities' revenue associated with
10 lower income taxes and the potential return of excess accumulated deferred income taxes
11 also may reduce utilities' cash flow.⁷³ As FitchRatings pointed out "[a]bsent mitigating
12 strategies on the regulatory front, this is expected to lead to weaker credit metrics and
13 negative rating actions for issuers with limited headroom to absorb the leverage creep."⁷⁴
14 In a similar vein, Standard & Poor's observed that the TCJA is "...negative for credit
15 quality because the combination of a lower tax rate and the loss of stimulus provisions
16 related to bonus depreciation or full expensing of capital spending will create headwinds
17 in operating cash-flow generation capabilities as customer rates are lowered in response
18 to the new tax code."⁷⁵ Moody's stated the following:

19 Tax reform is credit negative for US regulated utilities because the lower
20 21% statutory tax rate reduces cash collected from customers, while the
21 loss of bonus depreciation reduces tax deferrals, all else being equal.
22 Moody's calculates that the recent changes in tax laws will dilute a utility's
23 ratio of cash flow before changes in working capital to debt by
24 approximately 150 - 250 basis points on average, depending to some
25 degree on the size of the company's capital expenditure programs. From a
26 leverage perspective, Moody's estimates that debt to total capitalization

⁷³ See S&P Global Market Intelligence, *Rating agencies warn tax reform could drag US utility sector credit quality*, January 25, 2018.

⁷⁴ FitchRatings Special Report, *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector*, January 24, 2018 at 1.

⁷⁵ S&P Global Ratings, *U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound*, January 24, 2018 at 5.

1 ratios will increase, based on the lower value of deferred tax liabilities.⁷⁶
2 (Emphasis added.)

3 All three rating agencies, therefore, have observed the negative effects of the TCJA on
4 utilities' cash flow, and the potential consequences for their credit profiles. Moody's
5 noted the significance of a utility's capital expenditure program, and the Company has a
6 very extensive capital expenditure program, as I explained in my Direct Testimony.

7 Q. HAVE THE RATING AGENCIES ALSO DISCUSSED POSSIBLE REGULATORY
8 REACTIONS TO THE CASH FLOW IMPLICATIONS OF THE TCJA?

9 A. Yes. Moody's, for example, identified approaches to help preserve credit profiles,
10 including "...accelerated cost recovery of certain regulatory assets or future investment;
11 changes to the equity layer or allowed ROEs in rates, and other actions." Moody's also
12 suggested that "[c]hanges to corporate financial policies could include changes to
13 capitalization, the financing of future investments, dividend growth, or others."⁷⁷
14 FitchRatings observed the following:

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

- 23 • Deferral of lower tax expense to use as an offset to expected future rate
24 increases either from the recovery of regulatory deferrals or rate base
25 growth
- 26 • Return of excess unprotected ADIT over a longer-term horizon
- 27 • Increase in authorized equity ratio and/or return on equity
- 28 • Accelerated depreciation on some assets

⁷⁶ Moody's Investors' Service, *Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform*, January 19, 2018 at 1.

⁷⁷ *Ibid.* at 1-2.

1 • Lower capex⁷⁸

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

4 Q. WHAT CONCLUSIONS DO YOU DRAW FROM THE DATA AND INFORMATION
5 DISCUSSED ABOVE?

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

10 Q. ARE YOU RECOMMENDING A HIGHER ROE IN THIS PROCEEDING IN
11 CONNECTION WITH THE TCJA?

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

IX. CAPITAL STRUCTURE

16 Q. WHAT IS OTP'S PROPOSED CAPITAL STRUCTURE?

17 A. As described in the Direct Testimony of Mr. Moug, OTP's proposed capital structure
18 consists of 53.10 percent common equity and 46.90 percent long-term debt.

19 Q. IS THERE A GENERALLY ACCEPTED APPROACH TO DEVELOPING
20 ASSESSING THE APPROPRIATE CAPITAL STRUCTURE FOR A REGULATED
21 ELECTRIC UTILITY?

22 A. Yes, there is. In general, it is important to consider the capital structure in light of
23 industry norms and investor requirements. That is, the capital structure should be
24 reasonably consistent with industry practice, and enable the subject company to maintain

⁷⁸ FitchRatings Special Report, *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector*, January 24, 2018.

1 its financial integrity, thereby enabling access to capital at competitive rates under a
2 variety of economic and financial market conditions.

3 Q. HOW DOES THE CAPITAL STRUCTURE AFFECT THE COST OF CAPITAL?

4 A. It is well understood that from a financial perspective, there are two general categories of
5 risk: business risk and financial risk. Business risk includes operating, market,
6 regulatory, and competitive uncertainties, while financial risk is the incremental risk to
7 investors associated with additional levels of debt. As such, the capital structure relates
8 to a Company's financial risk, which represents the risk that a company may not have
9 adequate cash flows to meet its financial obligations, and is a function of the percentage
10 of debt (or financial leverage) in its capital structure. In that regard, as the percentage of
11 debt in the capital structure increases, so do the fixed obligations for the repayment of
12 that debt. Consequently, as the degree of financial leverage increases, the risk of
13 financial distress (*i.e.*, financial risk) also increases.⁷⁹

14 Q. PLEASE SUMMARIZE YOUR ANALYSIS OF THE PROXY COMPANIES'
15 CAPITAL STRUCTURES?

16 A. First, it is important to keep in mind that the proxy group has been selected to reflect
17 comparable companies in terms of financial and business risk. As such, it is appropriate
18 to review the proxy companies' capital structures as a means of assessing whether the
19 proposed capital structure is consistent with industry practice. To make that assessment,
20 I calculated the average capital structure for each of the proxy companies over the last
21 eight quarters (*see* Exhibit __ (RBH-1), Schedule 12).

22 Q. WHAT IS THE BASIS FOR USING AVERAGE CAPITAL COMPONENTS RATHER
23 THAN A POINT-IN-TIME MEASUREMENT?

24 A. Measuring the capital components at a particular point in time can skew the capital
25 structure by the specific circumstances of a particular period. Therefore, it is more
26 appropriate to normalize the relative relationship between the capital components over a
27 period of time.

⁷⁹ See Roger A. Morin, *New Regulatory Finance*, Public Utility Reports, Inc., 2006, at 45-46.

1 Q HOW DOES OTP'S RATIO OF COMMON EQUITY TO TOTAL DEBT COMPARE
2 TO YOUR PROXY GROUP?

3 A. Over the last eight quarters, the proxy group mean and median equity ratios were 52.33
4 and 52.84 percent, respectively. The common equity ratios ranged from 46.06 percent to
5 59.52 percent.⁸⁰ OTP's proposed 53.10 percent equity ratio is slightly above the median,
6 but well within the range of those in place among its peers.

7 Q. WILL THE CAPITAL STRUCTURE AND ROE AUTHORIZED IN THIS
8 PROCEEDING AFFECT OTP'S ABILITY TO COMPLETE ITS CAPITAL
9 EXPENDITURE PLAN?

10 A. Yes, I believe so. As Mr. Moug states in his Direct Testimony, the level of earnings
11 authorized by the Commission directly affects the Company's ability to fund capital
12 investment with internally generated funds; and both lenders and equity investors expect
13 a significant portion of on-going capital investments to be financed with internally
14 generated funds.⁸¹

15
16 It also is important to realize that investors weigh a given utility's authorized ROE in the
17 context of the nature of its expected capital investments. Because a utility's investment
18 horizon is very long, investors require the assurance of a sufficiently high return to satisfy
19 the long-run financing requirements of the assets put into service. Those assurances,
20 which often are measured by the relationship between internally generated cash flows and
21 debt (or interest expense), depend quite heavily on the capital structure. Both the ROE
22 and capital structure therefore are very important to both debt and equity investors.

23 Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL
24 STRUCTURE FOR OTP?

⁸⁰ Source: S&P Global Market Intelligence.

⁸¹ Exhibit __ Moug Direct at 11.

1 A. I believe that the Company’s proposed capital structure, which consists of 53.10 percent
2 common equity and 46.90 percent long-term debt, is appropriate.

X. CONCLUSIONS AND RECOMMENDATION

3 Q. HAVE YOU PREPARED A SUMMARY OF YOUR ANALYTICAL RESULTS?

4 A. Yes, I have. As discussed in Section VI, I have performed several analyses to estimate
5 OTP’s Cost of Equity, including two applications of the DCF model, the CAPM
6 approach, and the Bond Yield Plus Risk Premium model. Tables 13a and 13b below
7 summarize my analytical results.

Table 13a: Summary of DCF Results⁸²

	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
<i>Constant Growth DCF – Including Flotation Costs⁸³</i>			
30-Day Constant Growth DCF	8.22%	9.33%	10.70%
90-Day Constant Growth DCF	7.97%	9.08%	10.44%
180-Day Constant Growth DCF	7.91%	9.02%	10.39%
<i>Multi-Stage DCF – Including Flotation Costs</i>			
30-Day Multi-Stage DCF	8.79%	9.42%	10.22%
90-Day Multi-Stage DCF	8.07%	8.69%	9.49%
180-Day Multi-Stage DCF	7.97%	8.59%	9.39%

⁸² See also Exhibit __ (RBH-1), Schedules 1 and 3.

⁸³ Constant Growth DCF results exclude El Paso Electric Company, IDACORP, Inc., and Northwestern Corporation.

Table 13b: Summary of Risk Premium Results⁸⁴

	<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 (3.05%)	10.52%	10.97%
Near Term Projected 30-Year Treasury (3.42%)	10.89%	11.33%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (3.05%)	12.22%	12.76%
Near Term Projected 30-Year Treasury (3.42%)	12.58%	13.13%
<i>Bond Yield Plus Risk Premium Approach</i>		
Current 30-Year Treasury (3.05%)	9.97%	
Near Term Projected 30-Year Treasury (3.42%)	10.03%	
Long Term Projected 30-Year Treasury (4.20%)	10.25%	

- 1 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE COMPANY'S
2 COST OF EQUITY.
- 3 A. As discussed throughout my Direct Testimony, it is important to consider a variety of
4 empirical and qualitative information in reviewing analytical results and arriving at ROE
5 determinations. Here, we have a situation in which the proxy companies have traded at
6 P/E ratios in excess of their historical average, and, for a time, in excess of the market.
7 Because that condition is unlikely to persist, it violates a principal assumption of the
8 Constant Growth DCF model, i.e., that the P/E ratio will not change, ever. A more
9 balanced approach is to consider additional methods, including the CAPM approach, and
10 the Bond Yield Plus Risk Premium model. Based on that data, I believe that an ROE in
11 the range of 10.00 percent to 10.60 percent represents the range of equity investors'
12 required ROE for investment in OTP in today's capital markets. Within that range, I
13 conclude that an ROE of 10.30 percent represents the Cost of Equity for OTP and an
14 appropriate ROE in this matter.
15

⁸⁴ See also Exhibit __ (RBH-1), Schedule 6 and Schedule 7.

1 My conclusion reflects OTP's risk profile relative to the proxy group, along with market
2 indications of increasing capital costs. My analysis demonstrates that OTP's level of
3 projected capital expenditures (68.92 percent of net plant) is higher than all proxy
4 companies, and is substantially higher than the proxy group median (34.80 percent of net
5 plant). My analysis also shows that OTP's estimated stand-alone market capitalization is
6 approximately 4.00 percent of the smallest company in the proxy group. In addition,
7 OTTR's level of institutional ownership, trading volume, and liquidity are all below the
8 proxy group, and the relative Beta coefficient is above 1.00 suggesting that OTTR is
9 riskier than the proxy group. Although I have not made a specific adjustment for any of
10 these factors, these factors support an ROE above the mean analytical results.

11
12 My recommendation is also supported by the substantial customer savings that OTP has
13 achieved while maintaining the highest levels of customer service and satisfaction. Mr.
14 Tommerdahl has demonstrated that South Dakota customers will receive customer
15 savings of approximately (approximately \$300,000 in the 2017 Test Year, approximately
16 \$2.9 million in the first ten years, and approximately \$5.4 million over 30 years) as the
17 result of OTP's under-budget completion of the AQCS Project. Mr. Gerhardson has
18 explained the high levels of customer satisfaction with OTP service. Here too, although I
19 have not made a specific adjustment for these factors, they do support my recommended
20 10.30 percent ROE.

21
22 On balance, based on those considerations, I believe that an ROE of 10.30 percent is
23 reasonable for OTP.

24 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

25 A. Yes, it does.

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	\$70.32	3.19%	3.27%	6.10%	5.00%	5.00%	5.37%	8.27%	8.64%	9.38%
Alliant Energy Corporation	LNT	\$1.34	\$39.05	3.43%	3.53%	5.40%	5.45%	6.00%	5.62%	8.92%	9.14%	9.53%
Black Hills Corporation	BKH	\$1.90	\$53.18	3.57%	3.66%	4.10%	3.50%	7.50%	5.03%	7.14%	8.70%	11.21%
El Paso Electric Company	EE	\$1.34	\$50.76	2.64%	2.71%	5.10%	5.20%	5.00%	5.10%	7.71%	7.81%	7.91%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.54	3.70%	3.79%	5.60%	8.50%	1.50%	5.20%	5.23%	8.99%	12.35%
IDACORP, Inc.	IDA	\$2.36	\$83.89	2.81%	2.86%	4.10%	3.10%	3.50%	3.57%	5.96%	6.43%	6.97%
Northwestern Corporation	NWE	\$2.20	\$52.40	4.20%	4.26%	2.40%	2.42%	4.50%	3.11%	6.65%	7.37%	8.79%
OGE Energy Corp.	OGE	\$1.33	\$31.38	4.24%	4.36%	6.00%	5.80%	6.00%	5.93%	10.16%	10.30%	10.37%
PNM Resources, Inc.	PNM	\$1.06	\$36.12	2.93%	3.03%	5.80%	5.90%	7.50%	6.40%	8.82%	9.43%	10.54%
Proxy Group Mean				3.41%	3.50%	4.96%	4.99%	5.17%	5.04%	7.65%	8.53%	9.67%
Proxy Group Median				3.43%	3.53%	5.40%	5.20%	5.00%	5.20%	7.71%	8.70%	9.53%
Proxy Group Mean - Including Flotation Costs										7.78%	8.66%	9.80%
Proxy Group Median - Including Flotation Costs										7.84%	8.83%	9.66%
Proxy Group Mean Excl. EE, IDA, NWE				3.51%	3.61%	5.50%	5.69%	5.58%	5.59%	8.09%	9.20%	10.56%
Proxy Group Median Excl. EE, IDA, NWE				3.50%	3.60%	5.70%	5.63%	6.00%	5.49%	8.54%	9.07%	10.45%
Proxy Group Mean Excl. EE, IDA, NWE - Including Flotation Costs										8.22%	9.33%	10.70%
Proxy Group Median Excl. EE, IDA, NWE - Including Flotation Costs										8.67%	9.20%	10.59%
Flotation Costs										0.13%	0.13%	0.13%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 28, 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	\$74.69	3.00%	3.08%	6.10%	5.00%	5.00%	5.37%	8.07%	8.45%	9.19%
Alliant Energy Corporation	LNT	\$1.34	\$41.93	3.20%	3.29%	5.40%	5.45%	6.00%	5.62%	8.68%	8.90%	9.29%
Black Hills Corporation	BKH	\$1.90	\$57.52	3.30%	3.39%	4.10%	3.50%	7.50%	5.03%	6.86%	8.42%	10.93%
El Paso Electric Company	EE	\$1.34	\$55.15	2.43%	2.49%	5.10%	5.20%	5.00%	5.10%	7.49%	7.59%	7.69%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$35.46	3.50%	3.59%	5.60%	8.50%	1.50%	5.20%	5.02%	8.79%	12.15%
IDACORP, Inc.	IDA	\$2.36	\$90.03	2.62%	2.67%	4.10%	3.10%	3.50%	3.57%	5.76%	6.23%	6.77%
Northwestern Corporation	NWE	\$2.20	\$57.59	3.82%	3.88%	2.40%	2.42%	4.50%	3.11%	6.27%	6.99%	8.41%
OGE Energy Corp.	OGE	\$1.33	\$33.48	3.97%	4.09%	6.00%	5.80%	6.00%	5.93%	9.89%	10.02%	10.09%
PNM Resources, Inc.	PNM	\$1.06	\$40.41	2.62%	2.71%	5.80%	5.90%	7.50%	6.40%	8.50%	9.11%	10.22%
Proxy Group Mean				3.16%	3.24%	4.96%	4.99%	5.17%	5.04%	7.39%	8.28%	9.42%
Proxy Group Median				3.20%	3.29%	5.40%	5.20%	5.00%	5.20%	7.49%	8.45%	9.29%
Proxy Group Mean - Including Flotation Costs										7.52%	8.41%	9.55%
Proxy Group Median - Including Flotation Costs										7.62%	8.58%	9.42%
Proxy Group Mean Excl. HE, IDA, NWE				3.27%	3.36%	5.50%	5.69%	5.58%	5.59%	7.84%	8.95%	10.31%
Proxy Group Median Excl. HE, IDA, NWE				3.25%	3.34%	5.70%	5.63%	6.00%	5.49%	8.29%	8.85%	10.16%
Proxy Group Mean Excl. HE, IDA, NWE - Including Flotation Costs										7.97%	9.08%	10.44%
Proxy Group Median Excl. HE, IDA, NWE - Including Flotation Costs										8.42%	8.98%	10.29%
Flotation Costs										0.13%	0.13%	0.13%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 28, 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	\$74.89	2.99%	3.07%	6.10%	5.00%	5.00%	5.37%	8.07%	8.44%	9.18%
Alliant Energy Corporation	LNT	\$1.34	\$41.81	3.21%	3.30%	5.40%	5.45%	6.00%	5.62%	8.69%	8.91%	9.30%
Black Hills Corporation	BKH	\$1.90	\$63.44	3.00%	3.07%	4.10%	3.50%	7.50%	5.03%	6.55%	8.10%	10.61%
El Paso Electric Company	EE	\$1.34	\$54.57	2.46%	2.52%	5.10%	5.20%	5.00%	5.10%	7.52%	7.62%	7.72%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$34.36	3.61%	3.70%	5.60%	8.50%	1.50%	5.20%	5.14%	8.90%	12.26%
IDACORP, Inc.	IDA	\$2.36	\$88.94	2.65%	2.70%	4.10%	3.10%	3.50%	3.57%	5.79%	6.27%	6.81%
Northwestern Corporation	NWE	\$2.20	\$58.74	3.75%	3.80%	2.40%	2.42%	4.50%	3.11%	6.19%	6.91%	8.33%
OGE Energy Corp.	OGE	\$1.33	\$34.61	3.84%	3.96%	6.00%	5.80%	6.00%	5.93%	9.75%	9.89%	9.96%
PNM Resources, Inc.	PNM	\$1.06	\$40.46	2.62%	2.70%	5.80%	5.90%	7.50%	6.40%	8.50%	9.10%	10.22%
Proxy Group Mean				3.12%	3.20%	4.96%	4.99%	5.17%	5.04%	7.35%	8.24%	9.38%
Proxy Group Median				3.00%	3.07%	5.40%	5.20%	5.00%	5.20%	7.52%	8.44%	9.30%
Proxy Group Mean - Including Flotation Costs										7.49%	8.37%	9.51%
Proxy Group Median - Including Flotation Costs										7.65%	8.57%	9.43%
Proxy Group Mean Excl. HE, IDA, NWE				3.21%	3.30%	5.50%	5.69%	5.58%	5.59%	7.78%	8.89%	10.26%
Proxy Group Median Excl. HE, IDA, NWE				3.10%	3.18%	5.70%	5.63%	6.00%	5.49%	8.28%	8.91%	10.09%
Proxy Group Mean Excl. HE, IDA, NWE - Including Flotation Costs										7.91%	9.02%	10.39%
Proxy Group Median Excl. HE, IDA, NWE - Including Flotation Costs										8.41%	9.04%	10.22%
Flotation Costs										0.13%	0.13%	0.13%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of February 28, 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])

Flotation Cost Adjustment

Two most recent open market common stock issuances per company, if available

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	
Company	Date	Shares Issued	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds Per Share	Total Flotation Costs	Gross Equity Issue Before Costs	Net Proceeds	Flotation Cost Percentage
Otter Tail Corporation	2004-05	3,075,000	\$25.45	\$0.9500	\$391,452	\$24.37	\$3,312,702	\$78,258,750	\$74,946,048	4.233%
Otter Tail Corporation	2008	5,175,000	\$30.00	\$1.0875	\$807,185	\$28.76	\$6,434,997	\$155,250,000	\$148,815,003	4.145%
Otter Tail Corporation - ESPP	2004	66,958	\$19.31	\$0.0000	\$0	\$19.31	\$0	\$1,292,959	\$1,292,959	0.000%
Otter Tail Corporation - ESPP	2009	62,450	\$19.18	\$0.0000	\$0	\$19.18	\$0	\$1,197,791	\$1,197,791	0.000%
Otter Tail Corporation - ESPP	2014	39,222	\$26.75	\$0.0000	\$0	\$26.75	\$0	\$1,049,188	\$1,049,188	0.000%
Otter Tail Corporation - ESPP	2015	42,253	\$25.93	\$0.0000	\$0	\$25.93	\$0	\$1,095,620	\$1,095,620	0.000%
Otter Tail Corporation - ESPP	2016	53,875	\$27.68	\$0.0000	\$0	\$27.68	\$1,159	\$1,491,266	\$1,490,107	0.078%
Otter Tail Corporation - ESPP	2017	5,284	\$39.85	\$0.0000	\$0	\$39.78	\$367	\$210,585	\$210,218	0.174%
Otter Tail Corporation - DRIP	2004	223,165	\$19.30	\$0.0000	\$0	\$19.30	\$0	\$4,308,033	\$4,308,033	0.000%
Otter Tail Corporation - DRIP	2009	233,943	\$19.21	\$0.0000	\$0	\$19.18	\$5,877	\$4,493,385	\$4,487,508	0.131%
Otter Tail Corporation - DRIP	2014	288,045	\$26.76	\$0.0000	\$0	\$26.76	\$0	\$7,707,964	\$7,707,964	0.000%
Otter Tail Corporation - DRIP	2015	330,379	\$25.93	\$0.0000	\$56,545	\$25.76	\$56,545	\$8,566,009	\$8,509,464	0.660%
Otter Tail Corporation - DRIP	2016	302,524	\$32.09	\$0.0000	\$0	\$31.98	\$32,973	\$9,708,531	\$9,675,558	0.340%
Otter Tail Corporation - DRIP	2017	107,285	\$38.58	\$0.0000	\$0	\$38.42	\$17,554	\$4,139,552	\$4,121,998	0.424%
Otter Tail Corporation - ATM	2014	519,636	\$29.69	\$0.5903	\$780,616	\$27.42	\$1,087,343	\$15,336,352	\$14,249,009	7.090%
Otter Tail Corporation - ATM	2015	133,197	\$28.00	\$0.4241	\$339,160	\$25.45	\$395,645	\$3,785,244	\$3,389,599	10.452%
Otter Tail Corporation - ATM	2016	1,014,115	\$33.00	\$0.0000	\$561,548	\$32.22	\$561,548	\$33,235,729	\$32,674,181	1.690%
Mean							\$700,395	\$19,478,056		

WEIGHTED AVERAGE FLOTATION COSTS: 3.60% [10]

Constant Growth Discounted Cash Flow Model Adjusted for Flotation Costs - 30 Day Average Stock Price

	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	
Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield Current	Adjusted for Flot. Costs	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	DCF k(e)	Flotation Adjusted DCF k(e)
ALLETE, Inc.	ALE	\$2.24	\$70.32	3.19%	3.27%	3.39%	6.10%	5.00%	5.00%	5.37%	8.64%	8.76%
Alliant Energy Corporation	LNT	\$1.34	\$39.05	3.43%	3.27%	3.53%	5.40%	5.45%	6.00%	5.62%	9.14%	9.28%
Black Hills Corporation	BKH	\$1.90	\$53.18	3.57%	3.66%	3.80%	4.10%	3.50%	7.50%	5.03%	8.70%	8.83%
EI Paso Electric Company	EE	\$1.34	\$50.76	2.64%	2.71%	2.81%	5.10%	5.20%	5.00%	5.10%	7.81%	7.91%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.54	3.70%	3.79%	3.93%	5.60%	8.50%	1.50%	5.20%	8.99%	9.13%
IDACORP, Inc.	IDA	\$2.36	\$83.89	2.81%	2.86%	2.97%	4.10%	3.10%	3.50%	3.57%	6.43%	6.54%
Northwestern Corporation	NWE	\$2.20	\$52.40	4.20%	4.26%	4.42%	2.40%	2.42%	4.50%	3.11%	7.37%	7.53%
OGE Energy Corp.	OGE	\$1.33	\$31.38	4.24%	4.36%	4.53%	6.00%	5.80%	6.00%	5.93%	10.30%	10.46%
PNM Resources, Inc.	PNM	\$1.06	\$36.12	2.93%	3.03%	3.14%	5.80%	5.90%	7.50%	6.40%	9.43%	9.54%

PROXY GROUP MEAN

8.53% 8.66%

DCF Result Adjusted For Flotation Costs: 8.66%
DCF Result Unadjusted For Flotation Costs: 8.53%
Difference (Flotation Cost Adjustment): 0.13% [22]

Notes:

The proxy group DCF result is adjusted for flotation costs by dividing each company's expected dividend yield by (1 - flotation cost). The flotation cost adjustment is derived as the difference between the unadjusted DCF result and the DCF result adjusted for flotation costs.

- [1] Source: Company provided information
- [2] Source: Company provided information
- [3] Source: Company provided information
- [4] Source: Company provided information
- [5] Equals [8] / [1]
- [6] Equals [4] + ([1] x [3])
- [7] Equals [1] x [2]
- [8] Equals [7] - [6]
- [9] Equals [6] / [7]
- [10] Equals average [6] / average [7]
- [11] Source: Bloomberg Professional

- [12] Source: Bloomberg Professional
- [13] Equals [11] / [12]
- [14] Equals [3] x (1 + 0.5 x [19])
- [15] Equals [4] / (1 - 0.036)
- [16] Source: Zacks
- [17] Source: Yahoo! Finance
- [18] Source: Value Line
- [19] Equals Average([16], [17], [18])
- [20] Equals [14] + [17]
- [21] Equals [15] + [19]
- [22] Equals average [21] - average [20]

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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio			Iterative Solution	Terminal	Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Line		Average	Growth	2018					2021	2028			
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.82%	20.62	3.79				
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.73%	21.15	3.88				
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.00%	19.57	3.59				
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.88%	20.23	3.72				
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	10.75%	13.11	2.41				
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.52%	22.60	4.15				
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.60%	16.72	3.07				
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.81%	15.94	2.93				
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.69%	21.40	3.93				
											Mean	9.20%	19.04	9.33%				
											Max	10.75%		10.88%				
											Min	8.52%		8.65%				
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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$150.30	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$82.67	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$116.28	
EI 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	\$109.85	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$68.77	
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	\$178.53	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$109.44	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$65.44	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$78.79	
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	2/28/18	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	(\$70.32)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$155.10
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$85.24
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$120.20
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$113.42
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$72.23
IDACORP, Inc.	IDA	(\$83.89)	\$0.00	\$2.02	\$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	\$183.73
Northwestern Corporation	NWE	(\$52.41)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$113.75
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$68.15
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$81.22

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		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	\$0.00	9.00%	19.54	3.59				
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.83%	20.56	3.78				
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	(\$0.00)	9.68%	16.39	3.01				
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.91%	20.08	3.69				
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	12.13%	10.40	1.91				
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.65%	21.70	3.99				
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	10.05%	15.08	2.77				
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.83%	15.86	2.91				
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.96%	19.76	3.63				
												Including Flotation Costs						
												Mean	9.56%	17.71	9.69%			
												Max	12.13%		12.26%			
												Min	8.65%		8.78%			
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03
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
EI 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
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$151.03	
Alliant Energy Corporation	LNT	\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$82.85	
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	\$118.70	
EI 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	\$109.92	
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	\$70.95	
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	\$179.10	
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	\$110.60	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$65.47	
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	\$79.42	
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	2/28/18	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	(\$70.32)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$156.12
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$85.51
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.32	\$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	\$123.47
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$113.53
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.56	\$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	\$75.44
IDACORP, Inc.	IDA	(\$83.89)	\$0.00	\$2.04	\$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	\$184.53
Northwestern Corporation	NWE	(\$52.40)	\$0.00	\$1.96	\$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	\$115.44
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$68.19
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.81	\$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	\$82.07

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		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.72%	21.19	3.89				
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.68%	21.50	3.95				
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	(\$0.00)	8.61%	21.93	4.03				
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.86%	20.38	3.74				
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	9.46%	17.33	3.18				
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.41%	23.42	4.30				
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.39%	17.64	3.24				
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.76%	16.10	2.96				
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.55%	22.36	4.11				
													Including Flotation Costs					
											Mean	8.94%	20.21	9.07%				
											Max	9.76%		9.89%				
											Min	8.41%		8.54%				
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84
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
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$149.95	
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$82.56	
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	\$115.03	
EI 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	\$109.77	
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	\$67.10	
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	\$178.06	
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	\$108.91	
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$65.38	
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	\$78.47	
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	2/28/18	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	(\$70.32)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$154.62
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$85.09
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.23	\$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	\$118.48
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$113.32
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.36	\$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	\$69.65
IDACORP, Inc.	IDA	(\$83.89)	\$0.00	\$2.00	\$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	\$183.07
Northwestern Corporation	NWE	(\$52.40)	\$0.00	\$1.88	\$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	\$112.98
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$68.06
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.78	\$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	\$80.79

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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Line		Average	Growth	2018	2021	2028			Proof	IRR			
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.62%	21.91	4.02				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.50%	22.73	4.17				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	(\$0.00)	8.73%	21.14	3.88				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.61%	21.97	4.03				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	10.45%	13.89	2.55				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.31%	24.26	4.46				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.22%	18.41	3.38				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.53%	17.03	3.13				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.35%	23.90	4.39				
												Including Flotation Costs						
												Mean	8.92%	20.58	9.06%			
												Max	10.45%		10.58%			
												Min	8.31%		8.44%			
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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$159.67	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$88.81	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$125.59	
EI 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	\$119.26	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$72.87	
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	\$191.69	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$120.52	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$69.92	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$88.00	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$164.47
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$91.39
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$129.51
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$122.84
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$76.32
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.02	\$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	\$196.90
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$124.83
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$72.62
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$90.43

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		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.80%	20.75	3.81				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.59%	22.09	4.06				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	(\$0.00)	9.38%	17.68	3.25				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.63%	21.80	4.00				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	11.76%	11.00	2.02				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.43%	23.30	4.28				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.63%	16.59	3.05				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.55%	16.95	3.11				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.60%	22.05	4.05				
												Including Flotation Costs						
												Mean	9.26%	19.13	9.39%			
												Max	11.76%		11.89%			
												Min	8.43%		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	\$3.33	\$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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03
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
EI 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
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$160.40	
Alliant Energy Corporation	LNT	\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$89.00	
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	\$128.03	
EI 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	\$119.34	
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	\$75.05	
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	\$192.26	
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	\$121.70	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$69.95	
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	\$88.64	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$165.50
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$91.66
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.32	\$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	\$132.81
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$122.94
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.56	\$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	\$79.55
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.04	\$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	\$197.70
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.96	\$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	\$126.53
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$72.67
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.81	\$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	\$91.29

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]				
Company	Ticker	Price	EPS Growth Rate Estimates			Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Value Line		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.53%	22.52	4.13				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.45%	23.10	4.24				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	(\$0.00)	8.38%	23.70	4.35				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.59%	22.13	4.06				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	9.22%	18.39	3.38				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.21%	25.15	4.62				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.02%	19.43	3.57				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.49%	17.20	3.16				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.23%	24.99	4.59				
												Including Flotation Costs						
												Mean	8.68%	21.84	8.81%			
												Max	9.49%		9.62%			
												Min	8.21%		8.34%			
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84
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
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$159.32	
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$88.71	
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	\$124.33	
EI 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	\$119.18	
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	\$71.19	
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	\$191.22	
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	\$119.99	
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$69.85	
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	\$87.68	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$163.98
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$91.24
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.23	\$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	\$127.78
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$122.73
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.36	\$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	\$73.74
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.00	\$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	\$196.23
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.88	\$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	\$124.06
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$72.53
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.78	\$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	\$90.00

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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Line		Average	Growth	2018	2021	2028			Proof	IRR			
ALLETE, Inc.	ALE	\$74.89	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.61%	21.96	4.03				
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.51%	22.66	4.16				
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.43%	23.27	4.27				
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.64%	21.74	3.99				
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	10.61%	13.45	2.47				
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	(\$0.00)	8.35%	23.97	4.40				
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.14%	18.79	3.45				
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.39%	17.62	3.24				
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.35%	23.93	4.39				
													Including Flotation Costs					
											Mean	8.89%	20.82	9.02%				
											Max	10.61%		10.74%				
											Min	8.35%		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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$160.08	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$88.56	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$138.31	
EI 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	\$118.03	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$70.51	
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	\$189.35	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$122.98	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$72.34	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$88.10	
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	2/28/18	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	(\$74.89)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$164.89
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$91.13
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$142.22
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$121.60
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$73.97
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.02	\$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	\$194.56
Northwestern Corporation	NWE	(\$58.74)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$127.29
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$75.04
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$90.53

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Value Line		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$74.89	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.79%	20.80	3.82				
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.60%	22.02	4.04				
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.02%	19.44	3.57				
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.67%	21.58	3.96				
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	11.97%	10.66	1.96				
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.47%	23.01	4.23				
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	9.55%	16.93	3.11				
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.41%	17.53	3.22				
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.59%	22.08	4.05				
											Including Flotation Costs							
											Mean	9.23%	19.34		9.36%			
											Max	11.97%			12.10%			
											Min	8.47%			8.60%			
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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03
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
EI 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
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$160.82	
Alliant Energy Corporation	LNT	\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$88.75	
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	\$140.78	
EI 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	\$118.10	
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	\$72.69	
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	\$189.92	
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	\$124.16	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$72.37	
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	\$88.74	
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	2/28/18	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	(\$74.89)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$165.92
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$91.40
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.32	\$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	\$145.55
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$121.71
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.56	\$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	\$77.19
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.04	\$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	\$195.36
Northwestern Corporation	NWE	(\$58.74)	\$0.00	\$1.96	\$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	\$128.99
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$75.09
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.81	\$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	\$91.38

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]				
Company	Ticker	Price	EPS Growth Rate Estimates			Long-Term Growth	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal PEG Ratio					
			Zacks	First Call	Value Line		2018	2021	2028	Proof	IRR							
ALLETE, Inc.	ALE	\$74.89	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	(\$0.00)	8.52%	22.58	4.15				
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	(\$0.00)	8.46%	23.03	4.23				
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.11%	26.12	4.80				
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	(\$0.00)	8.62%	21.90	4.02				
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	(\$0.00)	9.35%	17.78	3.27				
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	8.24%	24.84	4.56				
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	(\$0.00)	8.95%	19.83	3.64				
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	(\$0.00)	9.35%	17.79	3.27				
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	(\$0.00)	8.22%	25.01	4.59				
											Mean	8.65%	22.10	8.78%				
											Max	9.35%		9.48%				
											Min	8.11%		8.24%				
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84
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
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$159.74	
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$88.46	
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	\$137.02	
EI 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	\$117.95	
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	\$68.84	
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	\$188.88	
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	\$122.44	
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$72.27	
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	\$87.78	
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	2/28/18	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	(\$74.89)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$164.40
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$90.99
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.23	\$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	\$140.48
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$121.50
Hawaiian Electric Industries, Inc.	HE	(\$34.36)	\$0.00	\$1.36	\$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	\$71.39
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.00	\$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	\$193.89
Northwestern Corporation	NWE	(\$58.74)	\$0.00	\$1.88	\$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	\$126.51
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$74.95
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.78	\$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	\$90.09

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio	Iterative Solution	Terminal	Terminal	Terminal	Terminal	Terminal	Terminal				
			Zacks	First Call	Line										Average	Growth	2018	2021
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.38%	19.16	3.52				
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	\$0.00	8.15%	19.16	3.52				
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.87%	19.16	3.52				
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.56%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	\$0.00	12.80%	19.16	3.52				
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.54%	19.16	3.52				
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.38%	19.16	3.52				
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.84%	19.16	3.52				
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.04%	19.16	3.52				
											Mean	9.29%	19.16	9.42%				
											Max	12.80%		12.93%				
											Min	7.54%		7.67%				
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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$139.64	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$74.87	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$113.86	
EI 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	\$104.03	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$100.48	
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	\$151.37	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$125.42	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$78.67	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$70.55	
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	2/28/18	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	(\$70.32)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$144.45
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$77.45
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$117.77
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$107.60
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$103.94
IDACORP, Inc.	IDA	(\$83.88)	\$0.00	\$2.02	\$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	\$156.58
Northwestern Corporation	NWE	(\$52.40)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$129.73
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$81.37
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$72.98

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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		2018	2021	2028										
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.89%	19.16	3.52					
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	\$0.00	8.41%	19.16	3.52					
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	10.58%	19.16	3.52					
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.63%	19.16	3.52					
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	15.31%	19.16	3.52					
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.91%	19.16	3.52					
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	11.40%	19.16	3.52					
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.89%	19.16	3.52					
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	8.78%	19.16	3.52					
											Mean	10.09%	19.16	10.22%					
											Max	15.31%			15.44%				
											Min	7.91%			8.04%				
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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	
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	
EI 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	
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	
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	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%			
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%			
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%			
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%			
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	\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$148.13		
Alliant Energy Corporation	LNT	\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$77.22		
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	\$138.71		
EI 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	\$104.87		
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	\$130.70		
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	\$158.12		
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	\$140.55		
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$79.09		
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	\$77.00		
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	2/28/18	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	(\$70.32)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$153.22	
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$79.87	
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.32	\$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	\$143.49	
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$108.48	
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.56	\$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	\$135.20	
IDACORP, Inc.	IDA	(\$83.88)	\$0.00	\$2.04	\$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	\$163.56	
Northwestern Corporation	NWE	(\$52.40)	\$0.00	\$1.96	\$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	\$145.38	
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$81.81	
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.81	\$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	\$79.65	

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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	Terminal					
			Zacks	First Call	Value Line		Low Growth	2018	2021					2028				
ALLETE, Inc.	ALE	\$70.32	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.13%	19.16	3.52				
Alliant Energy Corporation	LNT	\$39.05	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	\$0.00	8.00%	19.16	3.52				
Black Hills Corporation	BKH	\$53.18	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	7.81%	19.16	3.52				
EI Paso Electric Company	EE	\$50.76	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	8.49%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$33.54	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	10.02%	19.16	3.52				
IDACORP, Inc.	IDA	\$83.89	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.22%	19.16	3.52				
Northwestern Corporation	NWE	\$52.40	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	9.86%	19.16	3.52				
OGE Energy Corp.	OGE	\$31.38	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.75%	19.16	3.52				
PNM Resources, Inc.	PNM	\$36.12	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.63%	19.16	3.52				
											Mean	8.66%	19.16	8.79%				
											Max	10.75%			10.88%			
											Min	7.22%			7.35%			
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84
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
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$135.57	
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$73.58	
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	\$100.49	
EI 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	\$103.19	
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	\$74.17	
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	\$145.69	
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	\$118.32	
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$77.83	
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	\$67.24	
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	2/28/18	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	(\$70.32)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$140.23
Alliant Energy Corporation	LNT	(\$39.05)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$76.11
Black Hills Corporation	BKH	(\$53.18)	\$0.00	\$1.23	\$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	\$103.95
EI Paso Electric Company	EE	(\$50.76)	\$0.00	\$1.15	\$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	\$106.74
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$1.36	\$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	\$76.72
IDACORP, Inc.	IDA	(\$83.88)	\$0.00	\$2.00	\$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	\$150.70
Northwestern Corporation	NWE	(\$52.40)	\$0.00	\$1.88	\$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	\$122.39
OGE Energy Corp.	OGE	(\$31.38)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$80.50
PNM Resources, Inc.	PNM	(\$36.12)	\$0.00	\$0.78	\$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	\$69.55

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio			Iterative Solution	Terminal	Terminal						
			Zacks	First Call	Line		Average	Growth	2018				2021	2028				
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	7.82%	19.16	3.52				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.49%	19.16	3.52				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.15%	19.16	3.52				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.80%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	\$0.00	12.21%	19.16	3.52				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	6.90%	19.16	3.52				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	\$0.00	9.45%	19.16	3.52				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.20%	19.16	3.52				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.03%	19.16	3.52				
											Mean	8.56%	19.16	8.69%				
											Max	12.21%		12.34%				
											Min	6.90%		7.03%				
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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$139.64	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$74.87	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$113.86	
EI 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	\$104.03	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$100.48	
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	\$151.37	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$125.42	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$78.67	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$70.55	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$144.45
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$77.45
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$117.77
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$107.60
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$103.94
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.02	\$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	\$156.58
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$129.73
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$81.37
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$72.98

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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		2018	2021	2028									
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.33%	19.16	3.52				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.75%	19.16	3.52				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	9.84%	19.16	3.52				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.87%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	14.69%	19.16	3.52				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.26%	19.16	3.52				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.46%	19.16	3.52				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.25%	19.16	3.52				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.76%	19.16	3.52				
											Mean	9.36%	19.16	9.49%				
											Max	14.69%		14.82%				
											Min	7.26%		7.39%				
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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03
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
EI 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
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$148.13	
Alliant Energy Corporation	LNT	\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$77.22	
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	\$138.71	
EI 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	\$104.87	
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	\$130.70	
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	\$158.12	
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	\$140.55	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$79.09	
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	\$77.00	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$153.22
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$79.87
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.32	\$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	\$143.49
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$108.48
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.56	\$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	\$135.20
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.04	\$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	\$163.56
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.96	\$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	\$145.38
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$81.81
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.81	\$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	\$79.65

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
90 Day Average Stock Price
Low EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
Company	Ticker	Price	EPS Growth Rate Estimates			Long-Term Growth	Payout Ratio			Iterative Solution	Terminal P/E Ratio	Terminal	Terminal					
			Zacks	First Call	Value Line		Low Growth	2018	2021					2028				
ALLETE, Inc.	ALE	\$74.69	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	\$0.00	7.57%	19.16	3.52				
Alliant Energy Corporation	LNT	\$41.93	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.34%	19.16	3.52				
Black Hills Corporation	BKH	\$57.52	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	7.10%	19.16	3.52				
EI Paso Electric Company	EE	\$55.15	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.73%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$35.46	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	9.46%	19.16	3.52				
IDACORP, Inc.	IDA	\$90.03	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	6.58%	19.16	3.52				
Northwestern Corporation	NWE	\$57.59	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	8.94%	19.16	3.52				
OGE Energy Corp.	OGE	\$33.48	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	\$0.00	10.10%	19.16	3.52				
PNM Resources, Inc.	PNM	\$40.41	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	6.63%	19.16	3.52				
											Mean	7.94%	19.16	8.07%				
											Max	10.10%		10.23%				
											Min	6.58%		6.71%				
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84
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
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06
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
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$135.57	
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$73.58	
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	\$100.49	
EI 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	\$103.19	
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	\$74.17	
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	\$145.69	
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	\$118.32	
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$77.83	
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	\$67.24	
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	2/28/18	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	(\$74.69)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$140.23
Alliant Energy Corporation	LNT	(\$41.93)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$76.11
Black Hills Corporation	BKH	(\$57.52)	\$0.00	\$1.23	\$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	\$103.95
EI Paso Electric Company	EE	(\$55.15)	\$0.00	\$1.15	\$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	\$106.74
Hawaiian Electric Industries, Inc.	HE	(\$35.46)	\$0.00	\$1.36	\$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	\$76.72
IDACORP, Inc.	IDA	(\$90.03)	\$0.00	\$2.00	\$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	\$150.70
Northwestern Corporation	NWE	(\$57.59)	\$0.00	\$1.88	\$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	\$122.39
OGE Energy Corp.	OGE	(\$33.48)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$80.50
PNM Resources, Inc.	PNM	(\$40.41)	\$0.00	\$0.78	\$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	\$69.55

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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]				
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Value	Payout Ratio			Iterative Solution		Terminal P/E Ratio	Terminal					
			Zacks	First Call	Line		Average	Growth	2018	2021	2028			Proof	IRR			
ALLETE, Inc.	ALE	\$74.89	6.10%	5.00%	5.00%	5.37%	5.45%	62.00%	61.00%	65.91%	\$0.00	7.80%	19.16	3.52				
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	5.62%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.52%	19.16	3.52				
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	5.03%	5.45%	52.00%	54.00%	65.91%	\$0.00	7.27%	19.16	3.52				
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.10%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.89%	19.16	3.52				
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	5.20%	5.45%	69.00%	71.00%	65.91%	\$0.00	12.55%	19.16	3.52				
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	3.57%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.01%	19.16	3.52				
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	3.11%	5.45%	63.00%	62.00%	65.91%	\$0.00	9.26%	19.16	3.52				
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	5.93%	5.45%	68.00%	70.00%	65.91%	\$0.00	9.87%	19.16	3.52				
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	6.40%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.02%	19.16	3.52				
											Mean	8.46%	19.16	8.59%				
											Max	12.55%		12.68%				
											Min	7.01%		7.14%				
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.90	\$6.22	\$6.55	\$6.91	\$7.29
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.05	\$2.17	\$2.29	\$2.42	\$2.55	\$2.69	\$2.84	\$3.00	\$3.16	\$3.33	\$3.51	\$3.71	\$3.91
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	\$5.07	\$5.34	\$5.64	\$5.94
EI 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	\$2.41	\$2.53	\$2.67	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.72	\$4.97	\$5.24
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	\$3.60	\$3.72	\$3.83	\$3.95	\$4.07	\$4.22	\$4.38	\$4.57	\$4.78	\$5.02	\$5.29	\$5.58	\$5.89	\$6.21	\$6.55
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.90	\$2.01	\$2.13	\$2.25	\$2.39	\$2.53	\$2.67	\$2.83	\$2.98	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	\$4.11
PNM Resources, Inc.	PNM	\$1.46	\$1.55	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.25	\$2.39	\$2.53	\$2.67	\$2.82	\$2.98	\$3.14	\$3.31	\$3.49	\$3.68
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	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%		
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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	\$2.16	\$2.27	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$139.64	
Alliant Energy Corporation	LNT	\$1.18	\$1.26	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$2.58	\$74.87	
Black Hills Corporation	BKH	\$1.51	\$1.60	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$3.92	\$113.86	
EI 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	\$104.03	
Hawaiian Electric Industries, Inc.	HE	\$1.75	\$1.86	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$3.46	\$100.48	
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	\$151.37	
Northwestern Corporation	NWE	\$2.27	\$2.33	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$4.31	\$125.42	
OGE Energy Corp.	OGE	\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$2.71	\$78.67	
PNM Resources, Inc.	PNM	\$0.94	\$1.00	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$2.43	\$70.55	
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	2/28/18	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	(\$74.89)	\$0.00	\$1.81	\$2.22	\$2.37	\$2.49	\$2.65	\$2.83	\$3.01	\$3.21	\$3.42	\$3.65	\$3.89	\$4.10	\$4.32	\$4.56	\$144.45
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.99	\$1.21	\$1.34	\$1.43	\$1.51	\$1.60	\$1.68	\$1.78	\$1.87	\$1.98	\$2.08	\$2.20	\$2.32	\$2.44	\$77.45
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.26	\$1.55	\$1.71	\$1.82	\$1.97	\$2.13	\$2.31	\$2.50	\$2.70	\$2.93	\$3.17	\$3.34	\$3.52	\$3.71	\$117.77
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$107.60
Hawaiian Electric Industries, Inc.	HE	(\$34.35)	\$0.00	\$1.47	\$1.79	\$1.97	\$2.09	\$2.18	\$2.27	\$2.37	\$2.47	\$2.57	\$2.68	\$2.80	\$2.95	\$3.11	\$3.28	\$103.94
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.02	\$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	\$156.58
Northwestern Corporation	NWE	(\$58.73)	\$0.00	\$1.90	\$2.31	\$2.39	\$2.45	\$2.55	\$2.66	\$2.79	\$2.93	\$3.10	\$3.28	\$3.49	\$3.68	\$3.88	\$4.09	\$129.73
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.74	\$1.82	\$1.91	\$2.00	\$2.09	\$2.19	\$2.31	\$2.43	\$2.57	\$81.37
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.79	\$0.97	\$1.05	\$1.11	\$1.22	\$1.32	\$1.44	\$1.56	\$1.69	\$1.82	\$1.96	\$2.07	\$2.18	\$2.30	\$72.98

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
180 Day Average Stock Price
High EPS Growth Rate Estimate in First Stage

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]					
Company	Ticker	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	\$74.89	6.10%	5.00%	5.00%	6.10%	5.45%	62.00%	61.00%	65.91%	\$0.00	8.30%	19.16	3.52					
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	6.00%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.78%	19.16	3.52					
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	7.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	8.93%	19.16	3.52					
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.20%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.96%	19.16	3.52					
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	8.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	15.04%	19.16	3.52					
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	4.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	7.38%	19.16	3.52					
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	4.50%	5.45%	63.00%	62.00%	65.91%	\$0.00	10.26%	19.16	3.52					
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	6.00%	5.45%	68.00%	70.00%	65.91%	\$0.00	9.92%	19.16	3.52					
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	7.50%	5.45%	57.00%	56.00%	65.91%	\$0.00	7.75%	19.16	3.52					
											Mean	9.26%	19.16	9.39%					
											Max	15.04%		15.17%					
											Min	7.38%		7.51%					
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	\$1.75	\$1.85	\$1.97	\$2.08	\$2.21	\$2.34	\$2.48	\$2.62	\$2.77	\$2.93	\$3.09	\$3.26	\$3.44	\$3.62	\$3.82	\$4.03	
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	
EI 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	
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	
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		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%		
Alliant Energy Corporation	LNT		64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%		
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%		
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%		
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		\$2.19	\$2.31	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$5.10	\$148.13	
Alliant Energy Corporation	LNT		\$1.19	\$1.27	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$2.66	\$77.22	
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	\$138.71	
EI 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	\$104.87	
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	\$130.70	
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	\$158.12	
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	\$140.55	
OGE Energy Corp.	OGE		\$1.29	\$1.38	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$2.72	\$79.09	
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	\$77.00	
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	2/28/18	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	(\$74.89)	\$0.00	\$1.84	\$2.26	\$2.44	\$2.58	\$2.76	\$2.96	\$3.17	\$3.39	\$3.62	\$3.87	\$4.12	\$4.35	\$4.58	\$4.83	\$153.22	
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.99	\$1.22	\$1.36	\$1.46	\$1.54	\$1.64	\$1.73	\$1.83	\$1.93	\$2.04	\$2.15	\$2.27	\$2.39	\$2.52	\$79.87	
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.32	\$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	\$143.49	
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$108.48	
Hawaiian Electric Industries, Inc.	HE	(\$34.35)	\$0.00	\$1.56	\$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	\$135.20	
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.04	\$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	\$163.56	
Northwestern Corporation	NWE	(\$58.73)	\$0.00	\$1.96	\$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	\$145.38	
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.33	\$1.48	\$1.58	\$1.66	\$1.75	\$1.83	\$1.92	\$2.01	\$2.11	\$2.20	\$2.32	\$2.45	\$2.58	\$81.81	
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.81	\$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	\$79.65	

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 19.16
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]					
Company	Ticker	Stock Price	EPS Growth Rate Estimates			Long-Term Growth	Payout Ratio			Iterative Solution	Terminal P/E Ratio	Terminal							
			Zacks	First Call	Value Line		2018	2021	2028										
ALLETE, Inc.	ALE	\$74.89	6.10%	5.00%	5.00%	5.00%	5.45%	62.00%	61.00%	65.91%	\$0.00	7.55%	19.16	3.52					
Alliant Energy Corporation	LNT	\$41.81	5.40%	5.45%	6.00%	5.40%	5.45%	64.00%	66.00%	65.91%	\$0.00	7.37%	19.16	3.52					
Black Hills Corporation	BKH	\$63.44	4.10%	3.50%	7.50%	3.50%	5.45%	52.00%	54.00%	65.91%	\$0.00	6.23%	19.16	3.52					
EI Paso Electric Company	EE	\$54.57	5.10%	5.20%	5.00%	5.00%	5.45%	52.00%	59.00%	65.91%	\$0.00	7.83%	19.16	3.52					
Hawaiian Electric Industries, Inc.	HE	\$34.36	5.60%	8.50%	1.50%	1.50%	5.45%	69.00%	71.00%	65.91%	\$0.00	9.78%	19.16	3.52					
IDACORP, Inc.	IDA	\$88.94	4.10%	3.10%	3.50%	3.10%	5.45%	57.00%	60.00%	65.91%	\$0.00	6.69%	19.16	3.52					
Northwestern Corporation	NWE	\$58.74	2.40%	2.42%	4.50%	2.40%	5.45%	63.00%	62.00%	65.91%	\$0.00	8.75%	19.16	3.52					
OGE Energy Corp.	OGE	\$34.61	6.00%	5.80%	6.00%	5.80%	5.45%	68.00%	70.00%	65.91%	\$0.00	9.78%	19.16	3.52					
PNM Resources, Inc.	PNM	\$40.46	5.80%	5.90%	7.50%	5.80%	5.45%	57.00%	56.00%	65.91%	\$0.00	6.62%	19.16	3.52					
											Mean	7.84%	19.16	7.97%					
											Max	9.78%		9.91%					
											Min	6.23%		6.36%					
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	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.42	\$4.65	\$4.89	\$5.15	\$5.43	\$5.72	\$6.03	\$6.36	\$6.71	\$7.08	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.83	\$1.93	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.84	
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	
EI 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	\$1.79	\$1.89	\$2.00	\$2.12	\$2.24	\$2.37	\$2.51	\$2.65	\$2.80	\$2.95	\$3.12	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06	
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	
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	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%			
Alliant Energy Corporation	LNT	64.00%	64.67%	65.33%	66.00%	65.99%	65.97%	65.96%	65.95%	65.93%	65.92%	65.91%	65.91%	65.91%	65.91%	65.91%			
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%			
EI 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%	68.67%	69.33%	70.00%	69.42%	68.83%	68.25%	67.66%	67.08%	66.49%	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%			
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	\$2.15	\$2.24	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$4.66	\$135.57		
Alliant Energy Corporation	LNT	\$1.17	\$1.25	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$73.58		
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	\$100.49		
EI 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	\$103.19		
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	\$74.17		
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	\$145.69		
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	\$118.32		
OGE Energy Corp.	OGE	\$1.29	\$1.37	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$2.68	\$77.83		
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	\$67.24		
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	2/28/18	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	(\$74.89)	\$0.00	\$1.80	\$2.20	\$2.34	\$2.44	\$2.60	\$2.76	\$2.93	\$3.12	\$3.32	\$3.54	\$3.77	\$3.98	\$4.19	\$4.42	\$140.23	
Alliant Energy Corporation	LNT	(\$41.81)	\$0.00	\$0.98	\$1.20	\$1.33	\$1.42	\$1.49	\$1.57	\$1.66	\$1.75	\$1.84	\$1.94	\$2.05	\$2.16	\$2.28	\$2.40	\$76.11	
Black Hills Corporation	BKH	(\$63.44)	\$0.00	\$1.23	\$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	\$103.95	
EI Paso Electric Company	EE	(\$54.57)	\$0.00	\$1.15	\$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	\$106.74	
Hawaiian Electric Industries, Inc.	HE	(\$34.35)	\$0.00	\$1.36	\$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	\$76.72	
IDACORP, Inc.	IDA	(\$88.94)	\$0.00	\$2.00	\$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	\$150.70	
Northwestern Corporation	NWE	(\$58.73)	\$0.00	\$1.88	\$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	\$122.39	
OGE Energy Corp.	OGE	(\$34.61)	\$0.00	\$1.08	\$1.32	\$1.47	\$1.57	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.07	\$2.17	\$2.28	\$2.41	\$2.54	\$80.50	
PNM Resources, Inc.	PNM	(\$40.46)	\$0.00	\$0.78	\$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	\$69.55	

Multi-Stage DCF Notes:

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- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of February 28, 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 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2023 - 2022)))) x Column [20]
 - [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2024 - 2022)))) x Column [21]
 - [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2025 - 2022)))) x Column [22]
 - [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2026 - 2022)))) x Column [23]
 - [25] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2028 - 2023 + 1)) x (2027 - 2022)))) x 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 (Column [60] x (1 + Column [6])) / (Column [11] - 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 - 2/28/2018) / 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
14.84%	3.05%	11.78%

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	22,152.03	0.09%	0.88%	6.85%	7.76%	0.0071%
AMERICAN AIRLINES GROUP INC	AAL	25,667.77	0.11%	0.77%	16.94%	17.78%	0.0188%
ADVANCE AUTO PARTS INC	AAP	8,452.00	0.03%	0.22%	13.07%	13.30%	0.0046%
APPLE INC	AAPL	903,783.20	3.72%	1.51%	12.24%	13.85%	0.5151%
ABBVIE INC	ABBV	183,934.87	0.76%	2.77%	12.56%	15.50%	0.1174%
AMERISOURCEBERGEN CORP	ABC	20,903.71	0.09%	1.60%	9.27%	10.94%	0.0094%
ABBOTT LABORATORIES	ABT	105,356.32	0.43%	1.87%	12.18%	14.16%	0.0614%
ACCENTURE PLC-CL A	ACN	103,627.56	0.43%	1.64%	10.57%	12.30%	0.0524%
ADOBE SYSTEMS INC	ADBE	102,803.82	0.42%	0.00%	18.50%	18.50%	0.0783%
ANALOG DEVICES INC	ADI	33,337.79	0.14%	2.04%	9.75%	11.89%	0.0163%
ARCHER-DANIELS-MIDLAND CO	ADM	23,203.01	0.10%	3.24%	7.40%	10.76%	0.0103%
AUTOMATIC DATA PROCESSING	ADP	51,117.86	0.21%	2.11%	12.23%	14.46%	0.0304%
ALLIANCE DATA SYSTEMS CORP	ADS	13,363.96	0.06%	0.95%	21.00%	22.05%	0.0121%
AUTODESK INC	ADSK	25,874.74	0.11%	0.00%	50.00%	50.00%	0.0533%
AMEREN CORPORATION	AEE	13,175.07	0.05%	3.45%	6.61%	10.18%	0.0055%
AMERICAN ELECTRIC POWER	AEP	32,265.73	0.13%	3.83%	5.12%	9.04%	0.0120%
AES CORP	AES	7,179.55	0.03%	4.88%	8.38%	13.46%	0.0040%
AETNA INC	AET	57,888.44	0.24%	1.14%	12.01%	13.22%	0.0315%
AFLAC INC	AFL	34,635.02	0.14%	2.32%	5.00%	7.37%	0.0105%
ALLERGAN PLC	AGN	50,942.02	0.21%	1.89%	8.88%	10.86%	0.0228%
AMERICAN INTERNATIONAL GROUP	AIG	51,747.57	0.21%	2.50%	11.00%	13.64%	0.0291%
APARTMENT INVT & MGMT CO -A	AIV	6,082.39	0.03%	3.92%	6.00%	10.04%	0.0025%
ASSURANT INC	AIZ	4,485.07	0.02%	2.66%	19.35%	22.26%	0.0041%
ARTHUR J GALLAGHER & CO	AJG	12,538.35	0.05%	2.34%	11.67%	14.14%	0.0073%
AKAMAI TECHNOLOGIES INC	AKAM	11,410.98	0.05%	0.00%	12.98%	12.98%	0.0061%
ALBEMARLE CORP	ALB	11,111.42	0.05%	1.32%	12.60%	14.01%	0.0064%
ALIGN TECHNOLOGY INC	ALGN	21,037.10	0.09%	0.00%	33.87%	33.87%	0.0293%
ALASKA AIR GROUP INC	ALK	7,933.28	0.03%	1.97%	10.52%	12.59%	0.0041%
ALLSTATE CORP	ALL	32,702.30	0.13%	1.86%	9.00%	10.94%	0.0147%
ALLEGION PLC	ALLE	8,006.05	0.03%	0.90%	11.55%	12.51%	0.0041%
ALEXION PHARMACEUTICALS INC	ALXN	26,036.48	0.11%	0.00%	19.46%	19.46%	0.0209%
APPLIED MATERIALS INC	AMAT	60,509.09	0.25%	1.22%	11.88%	13.16%	0.0328%
ADVANCED MICRO DEVICES	AMD	11,735.92	0.05%	0.00%	23.55%	23.55%	0.0114%
AMETEK INC	AME	17,521.28	0.07%	0.70%	11.85%	12.60%	0.0091%
AFFILIATED MANAGERS GROUP	AMG	10,319.40	0.04%	0.60%	15.85%	16.50%	0.0070%
AMGEN INC	AMGN	132,417.72	0.55%	2.74%	5.46%	8.28%	0.0451%
AMERIPRISE FINANCIAL INC	AMP	22,892.20	0.09%	2.34%	7.20%	9.62%	0.0091%
AMERICAN TOWER CORP	AMT	61,423.88	0.25%	2.25%	17.84%	20.29%	0.0513%
AMAZON.COM INC	AMZN	732,187.91	3.01%	0.00%	31.94%	31.94%	0.9626%
ANDEAVOR	ANDV	13,780.38	0.06%	2.74%	21.50%	24.54%	0.0139%
ANSYS INC	ANSS	13,414.39	0.06%	0.00%	13.37%	13.37%	0.0074%
ANTHEM INC	ANTM	60,191.82	0.25%	1.25%	10.63%	11.94%	0.0296%
AON PLC	AON	34,544.05	0.14%	1.10%	11.18%	12.34%	0.0175%
SMITH (A.O.) CORP	AOS	11,009.35	0.05%	1.10%	15.00%	16.19%	0.0073%
APACHE CORP	APA	13,026.44	0.05%	2.93%	-19.13%	-16.48%	-0.0088%
ANADARKO PETROLEUM CORP	APC	30,373.07	0.13%	0.77%	1.23%	2.01%	0.0025%
AIR PRODUCTS & CHEMICALS INC	APD	35,203.25	0.14%	2.57%	13.90%	16.65%	0.0241%
AMPHENOL CORP-CL A	APH	27,918.16	0.11%	0.83%	10.54%	11.42%	0.0131%
APTIV PLC	APTIV	24,279.15	0.10%	1.14%	10.69%	11.89%	0.0119%
ALEXANDRIA REAL ESTATE EQUIT	ARE	12,281.29	0.05%	3.02%	6.78%	9.90%	0.0050%
ARCONIC INC	ARNC	11,774.82	0.05%	0.97%	17.30%	18.36%	0.0089%
ACTIVISION BLIZZARD INC	ATVI	55,478.73	0.23%	0.46%	15.13%	15.63%	0.0357%
AVALONBAY COMMUNITIES INC	AVB	21,545.66	0.09%	3.79%	6.24%	10.14%	0.0090%
BROADCOM LTD	AVGO	101,168.64	0.42%	2.84%	14.53%	17.58%	0.0732%
AVERY DENNISON CORP	AVY	10,388.67	0.04%	1.54%	6.15%	7.74%	0.0033%
AMERICAN WATER WORKS CO INC	AWK	14,169.88	0.06%	2.25%	7.85%	10.20%	0.0059%
AMERICAN EXPRESS CO	AXP	83,885.79	0.35%	1.49%	10.17%	11.73%	0.0405%
ACUITY BRANDS INC	AYI	6,010.93	0.02%	0.37%	11.00%	11.39%	0.0028%
AUTOZONE INC	AZO	18,182.10	0.07%	0.00%	14.69%	14.69%	0.0110%
BOEING CO/THE	BA	213,157.08	0.88%	1.84%	18.00%	20.01%	0.1756%
BANK OF AMERICA CORP	BAC	328,822.41	1.35%	1.83%	15.65%	17.63%	0.2385%
BAXTER INTERNATIONAL INC	BAX	36,616.01	0.15%	1.04%	12.90%	14.01%	0.0211%
BB&T CORP	BBT	42,300.14	0.17%	2.65%	14.24%	17.08%	0.0297%
BEST BUY CO INC	BBY	21,176.13	0.09%	1.86%	14.67%	16.67%	0.0145%
BECTON DICKINSON AND CO	BDX	59,111.15	0.24%	1.36%	13.50%	14.94%	0.0364%
FRANKLIN RESOURCES INC	BEN	21,334.38	0.09%	3.45%	10.00%	13.62%	0.0120%
BROWN-FORMAN CORP-CLASS B	BF/B	26,520.31	0.11%	1.10%	10.73%	11.88%	0.0130%
BRIGHTHOUSE FINANCIAL INC	BHF	6,500.09	0.03%	0.00%	13.32%	13.32%	0.0036%
BAKER HUGHES A GE CO	BHGE	29,820.55	0.12%	2.47%	45.93%	48.97%	0.0601%
BIOGEN INC	BIIB	61,139.50	0.25%	0.00%	4.85%	4.85%	0.0122%
BANK OF NEW YORK MELLON CORP	BK	57,586.00	0.24%	1.83%	8.80%	10.71%	0.0254%
BOOKING HOLDINGS INC	BKNG	98,220.93	0.40%	0.00%	15.76%	15.76%	0.0637%
BLACKROCK INC	BLK	89,175.55	0.37%	2.10%	12.65%	14.88%	0.0546%
BALL CORP	BLL	13,984.75	0.06%	0.97%	5.40%	6.39%	0.0037%
BRISTOL-MYERS SQUIBB CO	BMJ	108,076.96	0.44%	2.45%	9.44%	12.01%	0.0534%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	510,843.73	2.10%	0.00%	6.70%	6.70%	0.1409%
BOSTON SCIENTIFIC CORP	BSX	37,480.07	0.15%	0.00%	9.12%	9.12%	0.0141%
BORGWARNER INC	BWA	10,333.80	0.04%	1.35%	7.04%	8.44%	0.0036%
BOSTON PROPERTIES INC	BXP	18,346.35	0.08%	2.73%	6.12%	8.93%	0.0067%
CITIGROUP INC	C	194,014.26	0.80%	1.91%	14.04%	16.09%	0.1285%

		[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
CA INC	CA	14,634.04	0.06%	2.93%	2.80%	5.77%	0.0035%
CONAGRA BRANDS INC	CAG	14,475.88	0.06%	2.32%	8.95%	11.38%	0.0068%
CARDINAL HEALTH INC	CAH	21,780.87	0.09%	2.67%	13.04%	15.88%	0.0142%
CATERPILLAR INC	CAT	92,410.87	0.38%	2.06%	20.40%	22.67%	0.0862%
CHUBB LTD	CB	65,863.83	0.27%	2.08%	8.73%	10.90%	0.0295%
CBRE GROUP INC - A	CBG	15,869.71	0.07%	0.00%	13.00%	13.00%	0.0085%
CBOE GLOBAL MARKETS INC	CBOE	12,624.08	0.05%	1.04%	22.34%	23.50%	0.0122%
CBS CORP-CLASS B NON VOTING	CBS	20,264.78	0.08%	1.47%	13.54%	15.11%	0.0126%
CROWN CASTLE INTL CORP	CCI	44,784.18	0.18%	3.88%	19.23%	23.48%	0.0433%
CARNIVAL CORP	CCL	47,754.07	0.20%	2.70%	12.71%	15.59%	0.0306%
CADENCE DESIGN SYS INC	CDNS	10,966.83	0.05%	0.00%	12.00%	12.00%	0.0054%
CELGENE CORP	CELG	65,529.54	0.27%	0.00%	17.93%	17.93%	0.0484%
CERNER CORP	CERN	21,339.44	0.09%	0.00%	9.57%	9.57%	0.0084%
CF INDUSTRIES HOLDINGS INC	CF	9,620.96	0.04%	2.91%	12.70%	15.79%	0.0063%
CITIZENS FINANCIAL GROUP	CFG	21,193.77	0.09%	2.21%	17.90%	20.30%	0.0177%
CHURCH & DWIGHT CO INC	CHD	11,999.53	0.05%	1.77%	11.31%	13.18%	0.0065%
CHESAPEAKE ENERGY CORP	CHK	2,564.06	0.01%	0.00%	-12.51%	-12.51%	-0.0013%
C.H. ROBINSON WORLDWIDE INC	CHRW	13,046.95	0.05%	2.05%	9.95%	12.10%	0.0065%
CHARTER COMMUNICATIONS INC-A	CHTR	90,374.26	0.37%	0.00%	6.52%	6.52%	0.0243%
CIGNA CORP	CI	47,576.85	0.20%	0.02%	12.30%	12.33%	0.0241%
CINCINNATI FINANCIAL CORP	CINF	12,231.89	N/A	2.78%	N/A	N/A	N/A
COLGATE-PALMOLIVE CO	CL	60,371.28	0.25%	2.45%	8.67%	11.23%	0.0279%
CLOROX COMPANY	CLX	16,703.47	0.07%	2.64%	7.90%	10.65%	0.0073%
COMERICA INC	CMA	16,800.91	0.07%	1.42%	26.04%	27.65%	0.0191%
COMCAST CORP-CLASS A	CMCSA	168,177.64	0.69%	2.05%	12.00%	14.18%	0.0981%
CME GROUP INC	CME	56,543.33	0.23%	3.89%	15.10%	19.28%	0.0449%
CHIPOTLE MEXICAN GRILL INC	CMG	8,893.28	0.04%	0.00%	25.25%	25.25%	0.0092%
CUMMINS INC	CMI	27,862.97	0.11%	2.59%	10.48%	13.20%	0.0151%
CMS ENERGY CORP	CMS	11,988.75	0.05%	3.35%	6.57%	10.03%	0.0050%
CENTENE CORP	CNC	17,595.92	0.07%	0.00%	14.66%	14.66%	0.0106%
CENTERPOINT ENERGY INC	CNP	11,659.85	0.05%	4.15%	7.74%	12.05%	0.0058%
CAPITAL ONE FINANCIAL CORP	COF	47,622.09	0.20%	1.72%	16.18%	18.04%	0.0354%
CABOT OIL & GAS CORP	COG	11,174.20	0.05%	1.01%	37.04%	38.23%	0.0176%
ROCKWELL COLLINS INC	COL	22,547.84	0.09%	1.15%	10.55%	11.76%	0.0109%
COOPER COS INC/THE	COO	11,300.41	0.05%	0.04%	11.57%	11.61%	0.0054%
CONOCOPHILLIPS	COP	63,791.30	0.26%	2.10%	6.00%	8.16%	0.0214%
COSTCO WHOLESALE CORP	COST	83,825.31	0.35%	1.07%	10.13%	11.25%	0.0388%
COTY INC-CL A	COTY	14,487.38	0.06%	2.59%	16.71%	19.51%	0.0116%
CAMPBELL SOUP CO	CPB	12,941.13	0.05%	3.36%	4.96%	8.41%	0.0045%
SALESFORCE.COM INC	CRM	83,967.38	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	215,728.43	0.89%	2.79%	6.24%	9.11%	0.0809%
CSRA INC	CSRA	6,643.92	0.03%	0.99%	7.70%	8.72%	0.0024%
CSX CORP	CSX	47,662.32	0.20%	1.61%	15.28%	17.01%	0.0334%
CINTAS CORP	CTAS	18,173.38	0.07%	0.95%	12.23%	13.24%	0.0099%
CENTURYLINK INC	CTL	18,889.29	0.08%	12.22%	-4.70%	7.23%	0.0056%
COGNIZANT TECH SOLUTIONS-A	CTSH	48,231.97	0.20%	0.89%	14.25%	15.20%	0.0302%
CITRIX SYSTEMS INC	CTXS	12,525.88	0.05%	0.00%	7.00%	7.00%	0.0036%
CVS HEALTH CORP	CVS	68,714.26	0.28%	3.26%	11.90%	15.35%	0.0434%
CHEVRON CORP	CVX	213,795.54	0.88%	3.99%	45.86%	50.77%	0.4468%
CONCHO RESOURCES INC	CXO	22,479.43	N/A	0.00%	N/A	N/A	N/A
DOMINION ENERGY INC	D	48,258.43	0.20%	4.49%	6.61%	11.25%	0.0223%
DELTA AIR LINES INC	DAL	38,102.63	0.16%	2.40%	18.22%	20.83%	0.0327%
DEERE & CO	DE	52,002.37	0.21%	1.55%	7.67%	9.27%	0.0199%
DISCOVER FINANCIAL SERVICES	DFS	27,965.48	0.12%	1.84%	10.98%	12.92%	0.0149%
DOLLAR GENERAL CORP	DG	25,687.20	0.11%	1.10%	8.78%	9.92%	0.0105%
QUEST DIAGNOSTICS INC	DGX	13,977.48	0.06%	1.88%	8.33%	10.28%	0.0059%
DR HORTON INC	DHI	15,751.07	0.06%	1.16%	20.24%	21.52%	0.0140%
DANAHER CORP	DHR	68,208.34	0.28%	0.60%	8.98%	9.61%	0.0270%
WALT DISNEY CO/THE	DIS	155,119.16	0.64%	1.64%	10.99%	12.72%	0.0812%
DISCOVERY COMMUNICATIONS-A	DISCA	13,967.75	0.06%	0.00%	2.00%	2.00%	0.0011%
DISH NETWORK CORP-A	DISH	19,447.37	0.08%	0.00%	-8.23%	-8.23%	-0.0066%
DIGITAL REALTY TRUST INC	DLR	21,532.87	0.09%	3.99%	7.15%	11.28%	0.0100%
DOLLAR TREE INC	DLTR	24,335.59	0.10%	0.00%	13.98%	13.98%	0.0140%
DOVER CORP	DOV	15,457.89	0.06%	1.95%	13.53%	15.61%	0.0099%
DR PEPPER SNAPPLE GROUP INC	DPS	20,895.25	0.09%	2.14%	10.10%	12.35%	0.0106%
DUKE REALTY CORP	DRE	8,842.63	0.04%	3.29%	2.19%	5.51%	0.0020%
DARDEN RESTAURANTS INC	DRI	11,388.58	0.05%	2.74%	10.08%	12.95%	0.0061%
DTE ENERGY COMPANY	DTE	18,078.95	0.07%	3.52%	5.78%	9.40%	0.0070%
DUKE ENERGY CORP	DUK	52,738.00	0.22%	4.86%	5.02%	9.99%	0.0217%
DAVITA INC	DVA	13,140.93	0.05%	0.00%	15.54%	15.54%	0.0084%
DEVON ENERGY CORP	DVN	16,135.49	0.07%	0.78%	18.22%	19.07%	0.0127%
DOWDUPONT INC	DWDP	163,730.35	0.67%	2.33%	7.52%	9.94%	0.0670%
DXC TECHNOLOGY CO	DXC	29,294.43	0.12%	0.70%	14.95%	15.70%	0.0189%
ELECTRONIC ARTS INC	EA	37,942.25	0.16%	0.00%	13.57%	13.57%	0.0212%
EBAY INC	EBAY	43,377.73	0.18%	0.00%	10.03%	10.03%	0.0179%
ECOLAB INC	ECL	37,681.58	0.16%	1.27%	12.38%	13.72%	0.0213%
CONSOLIDATED EDISON INC	ED	23,245.64	0.10%	3.81%	3.57%	7.44%	0.0071%
EQUIFAX INC	EFX	13,568.97	0.06%	1.38%	10.00%	11.45%	0.0064%
EDISON INTERNATIONAL	EIX	19,740.90	0.08%	3.97%	5.78%	9.87%	0.0080%
ESTEE LAUDER COMPANIES-CL A	EL	50,915.07	0.21%	1.07%	12.51%	13.65%	0.0286%
EASTMAN CHEMICAL CO	EMN	14,528.67	0.06%	2.17%	9.40%	11.67%	0.0070%
EMERSON ELECTRIC CO	EMR	45,111.56	0.19%	2.75%	11.73%	14.64%	0.0272%
EOG RESOURCES INC	EOG	58,685.30	0.24%	0.69%	4.15%	4.85%	0.0117%
EQUINIX INC	EQIX	31,065.33	0.13%	2.31%	22.04%	24.60%	0.0315%
EQUITY RESIDENTIAL	EQR	20,702.17	0.09%	3.84%	6.20%	10.16%	0.0087%
EQT CORP	EQT	13,305.64	0.05%	0.24%	17.50%	17.76%	0.0097%
EVERSOURCE ENERGY	ES	18,062.49	0.07%	3.54%	5.81%	9.46%	0.0070%
EXPRESS SCRIPTS HOLDING CO	ESRX	42,579.98	0.18%	0.00%	8.07%	8.07%	0.0141%
ESSEX PROPERTY TRUST INC	ESS	14,781.80	0.06%	3.29%	5.91%	9.30%	0.0057%
E*TRADE FINANCIAL CORP	ETFC	13,910.64	0.06%	0.00%	29.58%	29.58%	0.0169%
EATON CORP PLC	ETN	35,556.42	0.15%	3.14%	9.20%	12.48%	0.0183%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
ENTERGY CORP	ETR	13,706.01	0.06%	4.76%	0.97%	5.75%	0.0032%
ENVISION HEALTHCARE CORP	EVHC	4,659.31	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	28,073.87	0.12%	0.00%	16.60%	16.60%	0.0192%
EXELON CORP	EXC	35,744.69	0.15%	3.70%	4.35%	8.14%	0.0120%
EXPEDITORS INTL WASH INC	EXPD	11,468.14	0.05%	1.37%	8.50%	9.93%	0.0047%
EXPEDIA INC	EXPE	15,968.32	0.07%	1.16%	18.78%	20.06%	0.0132%
EXTRA SPACE STORAGE INC	EXR	10,716.90	0.04%	3.85%	6.45%	10.42%	0.0046%
FORD MOTOR CO	F	42,157.26	0.17%	6.23%	-10.14%	-4.22%	-0.0073%
FASTENAL CO	FAST	15,740.07	0.06%	2.61%	17.55%	20.39%	0.0132%
FACEBOOK INC-A	FB	522,397.13	2.15%	0.00%	24.60%	24.60%	0.5289%
FORTUNE BRANDS HOME & SECURI	FBHS	9,217.31	0.04%	1.33%	12.03%	13.44%	0.0051%
FREEMPORT-MCMORAN INC	FCX	26,929.91	0.11%	0.74%	-0.11%	0.62%	0.0007%
FEDEX CORP	FDX	66,010.68	0.27%	0.80%	14.05%	14.91%	0.0405%
FIRSTENERGY CORP	FE	15,375.82	0.06%	4.46%	-1.25%	3.18%	0.0020%
F5 NETWORKS INC	FFIV	9,185.14	0.04%	0.00%	10.05%	10.05%	0.0038%
FIDELITY NATIONAL INFO SERV	FIS	32,184.01	0.13%	1.30%	12.00%	13.37%	0.0177%
FISERV INC	FISV	29,625.50	0.12%	0.00%	7.65%	7.65%	0.0093%
FIFTH THIRD BANCORP	FITB	22,943.74	0.09%	2.23%	5.65%	7.94%	0.0075%
FOOT LOCKER INC	FL	5,564.55	0.02%	2.55%	5.35%	7.97%	0.0018%
FLIR SYSTEMS INC	FLIR	6,820.96	N/A	1.30%	N/A	N/A	N/A
FLUOR CORP	FLR	7,960.73	0.03%	1.53%	21.31%	23.00%	0.0075%
FLOWSERVE CORP	FLS	5,519.14	0.02%	1.87%	15.89%	17.91%	0.0041%
FMC CORP	FMC	10,536.86	0.04%	0.94%	13.48%	14.48%	0.0063%
TWENTY-FIRST CENTURY FOX-A	FOXA	67,890.74	0.28%	1.03%	8.75%	9.82%	0.0275%
FEDERAL REALTY INVS TRUST	FRT	8,339.58	0.03%	3.60%	4.33%	8.01%	0.0027%
TECHNIPFMC PLC	FTI	13,407.33	0.06%	1.88%	8.65%	10.61%	0.0059%
FORTIVE CORP	FTV	26,728.83	0.11%	0.38%	10.70%	11.09%	0.0122%
GENERAL DYNAMICS CORP	GD	66,052.88	0.27%	1.61%	10.96%	12.65%	0.0344%
GENERAL ELECTRIC CO	GE	122,511.15	0.50%	3.81%	4.03%	7.92%	0.0399%
GGP INC	GGP	20,260.06	0.08%	4.28%	4.56%	8.94%	0.0075%
GILEAD SCIENCES INC	GILD	102,978.84	0.42%	2.85%	2.13%	5.01%	0.0212%
GENERAL MILLS INC	GIS	28,765.16	0.12%	3.94%	7.97%	12.07%	0.0143%
CORNING INC	GLW	24,934.74	0.10%	2.38%	6.95%	9.41%	0.0097%
GENERAL MOTORS CO	GM	55,209.73	0.23%	3.88%	5.28%	9.26%	0.0210%
ALPHABET INC-CL A	GOOGL	767,855.24	3.16%	0.00%	19.89%	19.89%	0.6286%
GENUINE PARTS CO	GPC	13,476.11	0.06%	3.11%	10.40%	13.67%	0.0076%
GLOBAL PAYMENTS INC	GPN	18,052.35	0.07%	0.04%	22.05%	22.10%	0.0164%
GAP INC/THE	GPS	12,280.11	0.05%	2.93%	8.22%	11.27%	0.0057%
GARMIN LTD	GRMN	11,148.32	0.05%	3.54%	6.30%	9.95%	0.0046%
GOLDMAN SACHS GROUP INC	GS	103,722.85	0.43%	1.20%	12.88%	14.16%	0.0605%
GOODYEAR TIRE & RUBBER CO	GT	6,955.19	N/A	1.84%	N/A	N/A	N/A
WW GRAINGER INC	GWW	14,674.37	0.06%	2.08%	13.03%	15.25%	0.0092%
HALLIBURTON CO	HAL	40,613.31	0.17%	1.58%	75.82%	78.00%	0.1304%
HASBRO INC	HAS	11,867.66	0.05%	2.61%	8.93%	11.66%	0.0057%
HUNTINGTON BANCSHARES INC	HBAN	16,830.82	0.07%	2.92%	11.82%	14.91%	0.0103%
HANESBRANDS INC	HBI	6,988.71	0.03%	3.19%	9.00%	12.33%	0.0035%
HCA HEALTHCARE INC	HCA	34,727.94	0.14%	0.40%	11.75%	12.18%	0.0174%
HCP INC	HCP	10,158.76	0.04%	6.99%	2.14%	9.20%	0.0038%
HOME DEPOT INC	HD	212,845.54	0.88%	2.21%	14.58%	16.95%	0.1485%
HESS CORP	HES	14,309.74	0.06%	2.27%	-11.08%	-8.93%	-0.0053%
HARTFORD FINANCIAL SVCS GRP	HIG	18,866.47	0.08%	1.96%	9.50%	11.55%	0.0090%
HUNTINGTON INGALLS INDUSTRIE	HII	11,734.32	0.05%	1.06%	27.50%	28.71%	0.0139%
HILTON WORLDWIDE HOLDINGS IN	HLT	25,539.18	0.11%	0.85%	16.31%	17.22%	0.0181%
HARLEY-DAVIDSON INC	HOG	7,642.61	0.03%	3.40%	9.60%	13.16%	0.0041%
HOLOGIC INC	HOLX	10,737.62	0.04%	0.00%	6.14%	6.14%	0.0027%
HONEYWELL INTERNATIONAL INC	HON	113,635.03	0.47%	2.01%	9.48%	11.58%	0.0542%
HELMERICH & PAYNE	HP	7,027.35	N/A	4.34%	N/A	N/A	N/A
HEWLETT PACKARD ENTERPRISE	HPE	29,122.38	0.12%	1.98%	5.12%	7.15%	0.0086%
HP INC	HPQ	38,300.33	0.16%	2.41%	7.19%	9.69%	0.0153%
H&R BLOCK INC	HRB	5,295.72	0.02%	3.79%	10.00%	13.98%	0.0030%
HORMEL FOODS CORP	HRL	17,190.33	0.07%	2.30%	8.20%	10.59%	0.0075%
HARRIS CORP	HRS	18,539.66	N/A	1.46%	N/A	N/A	N/A
HENRY SCHEIN INC	HSIC	10,173.02	0.04%	0.00%	9.88%	9.88%	0.0041%
HOST HOTELS & RESORTS INC	HST	13,625.10	0.06%	4.45%	2.97%	7.48%	0.0042%
HERSHEY CO/THE	HSY	20,682.14	0.09%	2.78%	9.50%	12.41%	0.0106%
HUMANA INC	HUM	37,425.35	0.15%	0.69%	12.76%	13.50%	0.0208%
INTL BUSINESS MACHINES CORP	IBM	143,545.59	0.59%	3.97%	1.28%	5.27%	0.0311%
INTERCONTINENTAL EXCHANGE IN	ICE	42,554.07	0.18%	1.28%	12.39%	13.75%	0.0241%
IDEXX LABORATORIES INC	IDXX	16,312.00	0.07%	0.00%	12.32%	12.32%	0.0083%
INTL FLAVORS & FRAGRANCES	IFF	11,148.53	0.05%	2.08%	8.10%	10.26%	0.0047%
ILLUMINA INC	ILMN	33,518.94	0.14%	0.00%	15.51%	15.51%	0.0214%
INCYTE CORP	INCY	18,025.29	0.07%	0.00%	44.67%	44.67%	0.0331%
IHS MARKIT LTD	INFO	19,982.72	0.08%	0.00%	12.23%	12.23%	0.0101%
INTEL CORP	INTC	230,085.72	0.95%	2.35%	8.16%	10.61%	0.1004%
INTUIT INC	INTU	42,734.69	0.18%	0.93%	16.03%	17.03%	0.0299%
INTERNATIONAL PAPER CO	IP	24,607.13	0.10%	3.27%	7.85%	11.25%	0.0114%
INTERPUBLIC GROUP OF COS INC	IPG	8,996.59	0.04%	3.59%	4.87%	8.55%	0.0032%
IQVIA HOLDINGS INC	IQV	20,477.37	0.08%	0.00%	14.84%	14.84%	0.0125%
INGERSOLL-RAND PLC	IR	22,190.17	0.09%	2.05%	9.52%	11.67%	0.0107%
IRON MOUNTAIN INC	IRM	8,975.90	N/A	7.31%	N/A	N/A	N/A
INTUITIVE SURGICAL INC	ISRG	47,889.70	0.20%	0.00%	10.20%	10.20%	0.0201%
GARTNER INC	IT	10,301.46	0.04%	0.00%	15.00%	15.00%	0.0064%
ILLINOIS TOOL WORKS	ITW	55,139.14	0.23%	2.11%	9.67%	11.88%	0.0270%
INVESCO LTD	IVZ	13,248.58	0.05%	3.77%	13.77%	17.81%	0.0097%
HUNT (JB) TRANSPRT SVCS INC	JBHT	13,013.59	0.05%	0.81%	14.30%	15.16%	0.0081%
JOHNSON CONTROLS INTERNATION	JCI	34,145.51	0.14%	2.80%	10.40%	13.34%	0.0188%
JACOBS ENGINEERING GROUP INC	JEC	8,650.45	0.04%	1.00%	15.97%	17.04%	0.0061%
JOHNSON & JOHNSON	JNJ	348,455.25	1.43%	2.79%	7.33%	10.22%	0.1466%
JUNIPER NETWORKS INC	JNPR	8,820.79	0.04%	2.54%	7.04%	9.66%	0.0035%
JPMORGAN CHASE & CO	JPM	396,391.21	1.63%	2.12%	6.50%	8.69%	0.1418%
NORDSTROM INC	JWN	8,547.34	0.04%	2.94%	8.00%	11.06%	0.0039%

		[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
KELLOGG CO	K	22,888.57	0.09%	3.38%	7.96%	11.48%	0.0108%
KEYCORP	KEY	22,412.32	0.09%	2.41%	15.75%	18.35%	0.0169%
KRAFT HEINZ CO/THE	KHC	81,720.67	0.34%	3.83%	7.00%	10.96%	0.0369%
KIMCO REALTY CORP	KIM	6,364.81	0.03%	7.55%	16.44%	24.61%	0.0064%
KLA-TENCOR CORP	KLAC	17,746.63	0.07%	2.14%	8.40%	10.63%	0.0078%
KIMBERLY-CLARK CORP	KMB	38,900.34	0.16%	3.60%	16.91%	20.81%	0.0333%
KINDER MORGAN INC	KMI	35,738.28	0.15%	4.87%	18.00%	23.31%	0.0343%
CARMAX INC	KMX	11,198.10	0.05%	0.00%	13.77%	13.77%	0.0063%
COCA-COLA CO/THE	KO	184,372.48	0.76%	3.60%	8.42%	12.18%	0.0924%
MICHAEL KORS HOLDINGS LTD	KORS	9,576.98	0.04%	0.00%	6.06%	6.06%	0.0024%
KROGER CO	KR	23,902.53	0.10%	1.85%	2.49%	4.37%	0.0043%
KOHL'S CORP	KSS	11,103.44	0.05%	3.33%	6.23%	9.66%	0.0044%
KANSAS CITY SOUTHERN	KSU	10,618.64	0.04%	1.41%	13.00%	14.50%	0.0063%
LOEWS CORP	L	16,220.95	N/A	0.51%	N/A	N/A	N/A
L BRANDS INC	LB	13,924.14	0.06%	4.90%	10.00%	15.14%	0.0087%
LEGGETT & PLATT INC	LEG	5,747.16	0.02%	3.42%	17.40%	21.11%	0.0050%
LENNAR CORP-A	LEN	17,928.96	0.07%	0.28%	18.95%	19.26%	0.0142%
LABORATORY CRP OF AMER HLDGS	LH	17,598.13	0.07%	0.00%	9.68%	9.68%	0.0070%
LKQ CORP	LKQ	12,222.01	0.05%	0.00%	15.70%	15.70%	0.0079%
L3 TECHNOLOGIES INC	LLL	16,235.38	0.07%	1.59%	10.72%	12.39%	0.0083%
ELI LILLY & CO	LLY	84,382.93	0.35%	2.97%	10.51%	13.64%	0.0474%
LOCKHEED MARTIN CORP	LMT	100,646.55	0.41%	2.33%	21.24%	23.81%	0.0986%
LINCOLN NATIONAL CORP	LNC	16,624.68	0.07%	1.77%	8.00%	9.84%	0.0067%
ALLIANT ENERGY CORP	LNT	8,941.92	0.04%	3.47%	5.50%	9.06%	0.0033%
LOWE'S COS INC	LOW	74,338.25	0.31%	2.04%	16.07%	18.27%	0.0559%
LAM RESEARCH CORP	LRCX	31,264.06	0.13%	0.97%	6.80%	7.80%	0.0100%
LEUCADIA NATIONAL CORP	LUK	8,546.50	0.04%	1.67%	18.00%	19.82%	0.0070%
SOUTHWEST AIRLINES CO	LUV	34,007.08	0.14%	0.95%	15.04%	16.06%	0.0225%
LYONDELLBASELL INDU-CL A	LYB	42,698.89	0.18%	3.44%	6.90%	10.46%	0.0184%
MACY'S INC	M	8,964.17	0.04%	5.49%	-0.37%	5.11%	0.0019%
MASTERCARD INC - A	MA	184,791.42	0.76%	0.56%	20.55%	21.17%	0.1610%
MID-AMERICA APARTMENT COMM	MAA	9,756.79	0.04%	4.32%	7.00%	11.47%	0.0046%
MACERICH CO/THE	MAC	8,301.82	0.03%	5.07%	5.09%	10.28%	0.0035%
MARRIOTT INTERNATIONAL -CL A	MAR	50,473.72	0.21%	1.00%	14.48%	15.55%	0.0323%
MASCO CORP	MAS	12,886.66	0.05%	1.05%	16.27%	17.41%	0.0092%
MATTEL INC	MAT	5,468.38	0.02%	0.00%	9.73%	9.73%	0.0022%
MCDONALD'S CORP	MCD	125,324.10	0.52%	2.59%	8.86%	11.57%	0.0597%
MICROCHIP TECHNOLOGY INC	MCHP	20,840.13	0.09%	1.63%	13.93%	15.67%	0.0134%
MCKESSON CORP	MCK	30,792.02	0.13%	0.87%	9.52%	10.43%	0.0132%
MOODY'S CORP	MCO	31,890.77	0.13%	1.03%	8.00%	9.07%	0.0119%
MONDELEZ INTERNATIONAL INC-A	MDLZ	65,293.72	0.27%	2.09%	11.42%	13.63%	0.0366%
MEDTRONIC PLC	MDT	108,271.78	0.45%	2.33%	5.92%	8.32%	0.0371%
METLIFE INC	MET	48,203.88	0.20%	3.57%	28.71%	32.79%	0.0651%
MGM RESORTS INTERNATIONAL	MGM	19,383.62	0.08%	1.38%	15.55%	17.05%	0.0136%
MOHAWK INDUSTRIES INC	MHK	17,832.24	0.07%	0.00%	9.82%	9.82%	0.0072%
MCCORMICK & CO-NON VTG SHRS	MKC	14,016.35	0.06%	1.95%	9.00%	11.04%	0.0064%
MARTIN MARIETTA MATERIALS	MLM	12,807.42	0.05%	0.88%	14.57%	15.52%	0.0082%
MARSH & MCLENNAN COS	MMC	42,142.73	0.17%	1.90%	13.29%	15.31%	0.0266%
3M CO	MMM	140,246.21	0.58%	2.30%	8.50%	10.89%	0.0629%
MONSTER BEVERAGE CORP	MNST	35,738.35	N/A	0.00%	N/A	N/A	N/A
ALTRIA GROUP INC	MO	119,633.29	0.49%	4.71%	2.57%	7.34%	0.0362%
MONSANTO CO	MON	54,381.59	0.22%	1.90%	8.25%	10.23%	0.0229%
MOSAIC CO/THE	MOS	10,139.15	0.04%	0.38%	13.65%	14.06%	0.0059%
MARATHON PETROLEUM CORP	MPC	31,287.68	0.13%	2.80%	15.24%	18.25%	0.0235%
MERCK & CO. INC.	MRK	146,187.45	0.60%	3.55%	6.42%	10.08%	0.0607%
MARATHON OIL CORP	MRO	12,338.46	0.05%	1.38%	5.00%	6.41%	0.0033%
MORGAN STANLEY	MS	100,379.23	0.41%	2.02%	14.78%	16.94%	0.0700%
MICROSOFT CORP	MSFT	722,009.58	2.97%	1.79%	11.08%	12.98%	0.3856%
MOTOROLA SOLUTIONS INC	MSI	17,122.79	0.07%	2.00%	4.07%	6.10%	0.0043%
M & T BANK CORP	MTB	28,509.58	0.12%	1.75%	-5.16%	-3.46%	-0.0041%
METTLER-TOLEDO INTERNATIONAL	MTD	15,696.87	0.06%	0.00%	12.53%	12.53%	0.0081%
MICRON TECHNOLOGY INC	MU	56,439.73	0.23%	0.00%	1.60%	1.60%	0.0037%
MYLAN NV	MYL	21,629.11	N/A	0.00%	N/A	N/A	N/A
NAVIENT CORP	NAVI	3,413.51	0.01%	5.02%	-6.00%	-1.14%	-0.0002%
NOBLE ENERGY INC	NBL	14,524.31	0.06%	1.34%	3.83%	5.19%	0.0031%
NORWEGIAN CRUISE LINE HOLDIN	NCLH	12,751.96	0.05%	0.30%	20.04%	20.37%	0.0107%
NASDAQ INC	NDAQ	13,422.77	0.06%	2.06%	10.78%	12.95%	0.0072%
NEXTERA ENERGY INC	NEE	71,631.30	0.29%	2.93%	8.27%	11.32%	0.0334%
NEWMONT MINING CORP	NEM	20,378.74	0.08%	1.24%	-11.20%	-10.03%	-0.0084%
NETFLIX INC	NFLX	126,443.90	0.52%	0.00%	46.79%	46.79%	0.2435%
NEWFIELD EXPLORATION CO	NFX	4,659.52	0.02%	0.00%	14.80%	14.80%	0.0028%
NISOURCE INC	NI	7,804.31	0.03%	3.29%	6.16%	9.55%	0.0031%
NIKE INC -CL B	NKE	109,053.83	0.45%	1.14%	9.13%	10.33%	0.0464%
NIELSEN HOLDINGS PLC	NLSN	11,637.30	0.05%	4.34%	9.75%	14.30%	0.0068%
NORTHROP GRUMMAN CORP	NOC	60,937.62	0.25%	1.29%	13.68%	15.06%	0.0378%
NATIONAL OILWELL VARCO INC	NOV	13,339.24	N/A	0.53%	N/A	N/A	N/A
NRG ENERGY INC	NRG	8,188.36	0.03%	0.46%	22.81%	23.33%	0.0079%
NORFOLK SOUTHERN CORP	NSC	39,498.34	0.16%	2.07%	14.33%	16.55%	0.0269%
NETAPP INC	NTAP	16,222.72	0.07%	1.32%	9.85%	11.24%	0.0075%
NORTHERN TRUST CORP	NTRS	23,961.12	0.10%	1.70%	14.77%	16.60%	0.0164%
NUCOR CORP	NUE	20,793.06	0.09%	2.31%	3.20%	5.55%	0.0048%
NVIDIA CORP	NVDA	146,652.00	0.60%	0.25%	9.68%	9.94%	0.0600%
NEWELL BRANDS INC	NWL	12,590.67	0.05%	3.68%	4.50%	8.26%	0.0043%
NEWS CORP - CLASS A	NWSA	9,453.48	0.04%	1.39%	13.33%	14.82%	0.0058%
REALTY INCOME CORP	O	13,979.19	0.06%	5.31%	4.96%	10.40%	0.0060%
ONEOK INC	OKE	23,131.03	0.10%	5.66%	21.59%	27.86%	0.0265%
OMNICOM GROUP	OMC	17,553.30	0.07%	3.18%	5.51%	8.78%	0.0063%
ORACLE CORP	ORCL	209,753.63	0.86%	1.43%	8.28%	9.76%	0.0843%
O'REILLY AUTOMOTIVE INC	ORLY	20,585.75	0.08%	0.00%	16.40%	16.40%	0.0139%
OCCIDENTAL PETROLEUM CORP	OXY	50,193.75	0.21%	4.70%	8.05%	12.94%	0.0267%
PAYCHEX INC	PAYX	23,393.75	0.10%	3.04%	8.50%	11.67%	0.0112%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
PEOPLE'S UNITED FINANCIAL	PBCT	6,627.26	0.03%	3.62%	2.00%	5.66%	0.0015%
PACCAR INC	PCAR	25,198.72	0.10%	3.11%	7.50%	10.72%	0.0111%
P G & E CORP	PCG	21,160.08	0.09%	5.26%	2.80%	8.13%	0.0071%
PATTERSON COS INC	PDCO	2,994.54	0.01%	3.40%	5.28%	8.76%	0.0011%
PUBLIC SERVICE ENTERPRISE GP	PEG	24,445.75	0.10%	3.72%	4.06%	7.85%	0.0079%
PEPSICO INC	PEP	155,806.53	0.64%	3.26%	6.85%	10.22%	0.0655%
PFIZER INC	PFE	216,148.52	0.89%	3.78%	6.34%	10.24%	0.0911%
PRINCIPAL FINANCIAL GROUP	PFG	18,054.31	0.07%	3.34%	10.00%	13.50%	0.0100%
PROCTER & GAMBLE CO/THE	PG	197,948.92	0.81%	3.59%	7.60%	11.33%	0.0923%
PROGRESSIVE CORP	PGR	33,527.45	0.14%	2.22%	8.00%	10.31%	0.0142%
PARKER HANNIFIN CORP	PH	23,745.17	0.10%	1.49%	11.49%	13.07%	0.0128%
PULTEGROUP INC	PHM	8,041.07	0.03%	1.31%	22.15%	23.60%	0.0078%
PACKAGING CORP OF AMERICA	PKG	11,246.50	0.05%	2.18%	8.50%	10.78%	0.0050%
PERKINELMER INC	PKI	8,435.90	0.03%	0.37%	44.49%	44.95%	0.0156%
PROLOGIS INC	PLD	32,133.69	0.13%	3.03%	6.28%	9.41%	0.0124%
PHILIP MORRIS INTERNATIONAL	PM	160,836.96	0.66%	4.22%	11.40%	15.86%	0.1050%
PNC FINANCIAL SERVICES GROUP	PNC	75,014.80	0.31%	2.11%	10.40%	12.61%	0.0389%
PENTAIR PLC	PNR	12,503.77	0.05%	2.08%	10.34%	12.52%	0.0064%
PINNACLE WEST CAPITAL	PNW	8,604.11	0.04%	3.67%	2.80%	6.52%	0.0023%
PPG INDUSTRIES INC	PPG	28,096.58	0.12%	1.64%	9.09%	10.80%	0.0125%
PPL CORP	PPL	19,865.85	0.08%	5.72%	5.47%	11.35%	0.0093%
PERRIGO CO PLC	PRGO	11,472.89	0.05%	0.80%	6.80%	7.62%	0.0036%
PRUDENTIAL FINANCIAL INC	PRU	44,867.04	0.18%	3.18%	8.00%	11.31%	0.0209%
PUBLIC STORAGE	PSA	33,804.05	0.14%	4.28%	5.21%	9.60%	0.0134%
PHILLIPS 66	PSX	45,296.82	0.19%	3.28%	-16.49%	-13.48%	-0.0251%
PVH CORP	PVH	11,099.36	0.05%	0.11%	11.32%	11.44%	0.0052%
QUANTA SERVICES INC	PWR	5,345.33	N/A	0.00%	N/A	N/A	N/A
PRAXAIR INC	PX	42,874.22	0.18%	2.30%	11.00%	13.42%	0.0237%
PIONEER NATURAL RESOURCES CO	PXD	28,990.31	0.12%	0.13%	15.00%	15.14%	0.0181%
PAYPAL HOLDINGS INC	PYPL	95,304.74	0.39%	0.00%	18.50%	18.50%	0.0726%
QUALCOMM INC	QCOM	96,223.61	0.40%	3.57%	9.85%	13.60%	0.0538%
QORVO INC	QRVO	10,209.30	0.04%	0.00%	13.22%	13.22%	0.0056%
ROYAL CARIBBEAN CRUISES LTD	RCL	27,060.62	0.11%	1.97%	18.83%	20.98%	0.0234%
EVEREST RE GROUP LTD	RE	9,810.44	0.04%	2.24%	10.00%	12.35%	0.0050%
REGENCY CENTERS CORP	REG	9,934.50	0.04%	3.80%	8.58%	12.54%	0.0051%
REGENERON PHARMACEUTICALS	REGN	34,510.36	0.14%	0.00%	14.34%	14.34%	0.0204%
REGIONS FINANCIAL CORP	RF	21,788.99	0.09%	2.13%	15.10%	17.39%	0.0156%
ROBERT HALF INTL INC	RHI	7,091.61	0.03%	1.87%	10.03%	12.00%	0.0035%
RED HAT INC	RHT	26,090.43	0.11%	0.00%	17.25%	17.25%	0.0185%
RAYMOND JAMES FINANCIAL INC	RJF	13,499.96	0.06%	1.12%	17.00%	18.22%	0.0101%
RALPH LAUREN CORP	RL	8,603.70	0.04%	1.93%	5.16%	7.14%	0.0025%
RESMED INC	RMD	13,616.67	0.06%	1.51%	15.20%	16.82%	0.0094%
ROCKWELL AUTOMATION INC	ROK	23,103.49	0.10%	1.85%	10.92%	12.88%	0.0122%
ROPER TECHNOLOGIES INC	ROP	28,286.53	0.12%	0.59%	13.37%	14.00%	0.0163%
ROSS STORES INC	ROST	29,841.78	0.12%	0.82%	14.08%	14.95%	0.0184%
RANGE RESOURCES CORP	RRC	3,303.09	0.01%	0.60%	19.28%	19.94%	0.0027%
REPUBLIC SERVICES INC	RSG	22,250.93	0.09%	2.07%	10.18%	12.36%	0.0113%
RAYTHEON COMPANY	RTN	62,752.94	0.26%	1.54%	11.21%	12.84%	0.0332%
SBA COMMUNICATIONS CORP	SBAC	18,313.46	0.08%	0.00%	24.90%	24.90%	0.0188%
STARBUCKS CORP	SBUX	80,259.76	0.33%	2.20%	15.57%	17.94%	0.0593%
SCANA CORP	SCG	5,658.46	0.02%	5.15%	-3.70%	1.36%	0.0003%
SCHWAB (CHARLES) CORP	SCHW	71,390.02	0.29%	0.76%	25.21%	26.06%	0.0766%
SEALED AIR CORP	SEE	7,091.68	0.03%	1.32%	4.04%	5.38%	0.0016%
SHERWIN-WILLIAMS CO/THE	SHW	37,746.03	0.16%	0.85%	12.42%	13.32%	0.0207%
SIGNET JEWELERS LTD	SIG	3,042.75	0.01%	2.42%	7.50%	10.01%	0.0013%
JM SMUCKER CO/THE	SJM	14,347.57	0.06%	2.47%	6.05%	8.59%	0.0051%
SCHLUMBERGER LTD	SLB	90,841.35	0.37%	3.11%	40.24%	43.97%	0.1644%
SL GREEN REALTY CORP	SLG	8,896.82	0.04%	3.34%	2.21%	5.58%	0.0020%
SNAP-ON INC	SNA	9,031.13	0.04%	2.04%	9.27%	11.41%	0.0042%
SCRIPPS NETWORKS INTER-CL A	SNI	11,690.84	0.05%	1.46%	5.75%	7.25%	0.0035%
SYNOPSIS INC	SNPS	12,592.56	N/A	0.00%	N/A	N/A	N/A
SOUTHERN CO/THE	SO	43,216.21	0.18%	5.54%	4.20%	9.86%	0.0175%
SIMON PROPERTY GROUP INC	SPG	49,174.90	0.20%	5.15%	6.71%	12.03%	0.0243%
S&P GLOBAL INC	SPGI	48,698.02	0.20%	1.01%	11.70%	12.77%	0.0256%
STERICYCLE INC	SRCL	5,361.06	0.02%	0.00%	7.63%	7.63%	0.0017%
SEMPRA ENERGY	SRE	29,915.45	0.12%	3.27%	12.34%	15.82%	0.0195%
SUNTRUST BANKS INC	STI	32,706.08	0.13%	2.47%	13.21%	15.84%	0.0213%
STATE STREET CORP	STT	39,026.39	0.16%	1.70%	16.83%	18.68%	0.0300%
SEAGATE TECHNOLOGY	STX	15,209.78	0.06%	4.73%	10.85%	15.84%	0.0099%
CONSTELLATION BRANDS INC-A	STZ	42,039.47	0.17%	0.97%	16.96%	18.01%	0.0312%
STANLEY BLACK & DECKER INC	SWK	24,533.01	0.10%	1.60%	11.00%	12.69%	0.0128%
SKYWORKS SOLUTIONS INC	SWKS	19,936.24	0.08%	1.20%	13.48%	14.75%	0.0121%
SYNCHRONY FINANCIAL	SYF	27,664.29	0.11%	1.83%	8.40%	10.31%	0.0117%
STRYKER CORP	SYK	60,751.96	0.25%	1.47%	8.63%	10.16%	0.0254%
SYMANTEC CORP	SYMC	16,340.25	0.07%	1.22%	11.08%	12.36%	0.0083%
SYSCO CORP	SYY	31,132.45	0.13%	2.33%	11.62%	14.09%	0.0181%
AT&T INC	T	222,937.64	0.92%	5.53%	-1.60%	3.88%	0.0356%
MOLSON COORS BREWING CO -B	TAP	16,473.20	0.07%	2.20%	6.25%	8.52%	0.0058%
TRANSNIGM GROUP INC	TDG	15,048.72	0.06%	0.00%	11.93%	11.93%	0.0074%
TE CONNECTIVITY LTD	TEL	36,205.86	0.15%	1.59%	10.18%	11.85%	0.0177%
TARGET CORP	TGT	40,990.81	0.17%	3.28%	2.42%	5.74%	0.0097%
TIFFANY & CO	TIF	12,556.99	0.05%	1.91%	10.60%	12.61%	0.0065%
TJX COMPANIES INC	TJX	52,278.77	0.22%	1.68%	12.58%	14.36%	0.0309%
TORCHMARK CORP	TMK	9,739.17	0.04%	0.74%	8.00%	8.77%	0.0035%
THERMO FISHER SCIENTIFIC INC	TMO	83,804.12	0.34%	0.32%	12.25%	12.59%	0.0434%
TAPESTRY INC	TPR	14,503.36	0.06%	2.69%	12.00%	14.85%	0.0089%
TRIPADVISOR INC	TRIP	5,570.48	0.02%	0.00%	18.06%	18.06%	0.0041%
T ROWE PRICE GROUP INC	TROW	27,353.34	0.11%	2.37%	14.53%	17.08%	0.0192%
TRAVELERS COS INC/THE	TRV	37,728.49	0.16%	2.15%	20.39%	22.76%	0.0353%
TRACTOR SUPPLY COMPANY	TSCO	8,123.84	0.03%	1.82%	13.74%	15.69%	0.0052%
TYSON FOODS INC-CL A	TSN	29,708.38	0.12%	1.69%	8.00%	9.76%	0.0119%

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
TOTAL SYSTEM SERVICES INC	TSS	15,982.76	0.07%	0.53%	12.75%	13.31%	0.0088%
TIME WARNER INC	TWX	72,495.01	0.30%	1.79%	7.30%	9.16%	0.0273%
TEXAS INSTRUMENTS INC	TXN	106,593.38	0.44%	2.33%	11.38%	13.85%	0.0607%
TEXTRON INC	TXT	15,667.05	0.06%	0.16%	11.89%	12.06%	0.0078%
UNDER ARMOUR INC-CLASS A	UAA	6,964.53	0.03%	0.00%	24.62%	24.62%	0.0071%
UNITED CONTINENTAL HOLDINGS	UAL	19,299.85	0.08%	0.00%	16.21%	16.21%	0.0129%
UDR INC	UDR	9,015.54	0.04%	3.85%	5.65%	9.61%	0.0036%
UNIVERSAL HEALTH SERVICES-B	UHS	10,848.24	N/A	0.23%	N/A	N/A	N/A
ULTA BEAUTY INC	ULTA	12,402.80	0.05%	0.00%	18.67%	18.67%	0.0095%
UNITEDHEALTH GROUP INC	UNH	218,846.65	0.90%	1.41%	12.59%	14.09%	0.1270%
UNUM GROUP	UNM	11,275.47	0.05%	1.87%	7.00%	8.94%	0.0041%
UNION PACIFIC CORP	UNP	101,504.51	0.42%	2.12%	11.95%	14.20%	0.0593%
UNITED PARCEL SERVICE-CL B	UPS	89,961.20	0.37%	3.38%	12.04%	15.62%	0.0579%
UNITED RENTALS INC	URI	14,782.44	0.06%	0.00%	17.76%	17.76%	0.0108%
US BANCORP	USB	89,797.37	0.37%	2.39%	8.03%	10.52%	0.0389%
UNITED TECHNOLOGIES CORP	UTX	107,762.13	0.44%	2.16%	9.12%	11.38%	0.0505%
VISA INC-CLASS A SHARES	V	253,322.57	1.04%	0.67%	17.57%	18.29%	0.1907%
VARIAN MEDICAL SYSTEMS INC	VAR	10,895.77	0.04%	0.00%	11.25%	11.25%	0.0050%
VF CORP	VFC	29,466.27	0.12%	2.53%	9.83%	12.48%	0.0151%
VIACOM INC-CLASS B	VIAB	13,698.81	0.06%	2.41%	6.99%	9.49%	0.0054%
VALERO ENERGY CORP	VLO	39,566.11	0.16%	3.52%	11.48%	15.21%	0.0248%
VULCAN MATERIALS CO	VMC	15,597.15	0.06%	0.92%	20.86%	21.88%	0.0140%
VORNADO REALTY TRUST	VNO	12,628.23	0.05%	3.82%	6.69%	10.64%	0.0055%
VERISK ANALYTICS INC	VRSK	16,863.45	0.07%	0.00%	12.11%	12.11%	0.0084%
VERISIGN INC	VRSN	11,267.92	0.05%	0.00%	9.90%	9.90%	0.0046%
VERTEX PHARMACEUTICALS INC	VRTX	42,153.69	0.17%	0.00%	61.29%	61.29%	0.1063%
VENTAS INC	VTR	17,210.91	0.07%	6.59%	3.49%	10.19%	0.0072%
VERIZON COMMUNICATIONS INC	VZ	196,926.33	0.81%	5.01%	2.42%	7.49%	0.0607%
WATERS CORP	WAT	16,122.45	0.07%	0.00%	9.01%	9.01%	0.0060%
WALGREENS BOOTS ALLIANCE INC	WBA	68,247.18	0.28%	2.34%	11.16%	13.64%	0.0383%
WESTERN DIGITAL CORP	WDC	25,899.65	0.11%	2.33%	14.08%	16.57%	0.0177%
WEC ENERGY GROUP INC	WEC	18,909.23	0.08%	3.68%	3.09%	6.83%	0.0053%
WELLTOWER INC	WELL	19,443.73	0.08%	6.74%	3.49%	10.35%	0.0083%
WELLS FARGO & CO	WFC	287,626.11	1.18%	2.81%	17.71%	20.77%	0.2459%
WHIRLPOOL CORP	WHR	11,481.87	0.05%	2.89%	12.07%	15.14%	0.0072%
WILLIS TOWERS WATSON PLC	WLTW	20,848.93	0.09%	1.45%	10.00%	11.53%	0.0099%
WASTE MANAGEMENT INC	WM	37,434.73	0.15%	2.08%	13.52%	15.73%	0.0242%
WILLIAMS COS INC	WMB	22,966.61	0.09%	4.90%	2.30%	7.26%	0.0069%
WALMART INC	WMT	266,643.95	1.10%	2.34%	4.77%	7.17%	0.0786%
WESTROCK CO	WRK	16,777.16	0.07%	2.62%	7.60%	10.32%	0.0071%
WESTERN UNION CO	WU	9,103.30	0.04%	3.73%	4.46%	8.27%	0.0031%
WEYERHAEUSER CO	WY	26,486.11	0.11%	3.70%	14.05%	18.01%	0.0196%
WYNDHAM WORLDWIDE CORP	WYN	11,545.98	0.05%	2.21%	19.50%	21.92%	0.0104%
WYNN RESORTS LTD	WYNN	17,216.08	0.07%	1.33%	31.40%	32.94%	0.0233%
CIMAREX ENERGY CO	XEC	9,170.65	0.04%	0.36%	71.38%	71.87%	0.0271%
XCEL ENERGY INC	XEL	21,989.05	0.09%	3.52%	5.81%	9.43%	0.0085%
XL GROUP LTD	XL	10,870.08	0.04%	2.22%	20.45%	22.90%	0.0102%
XILINX INC	XLNX	18,155.58	0.07%	1.97%	8.53%	10.59%	0.0079%
EXXON MOBIL CORP	XOM	320,945.38	1.32%	4.18%	18.67%	23.24%	0.3070%
DENTSPLY SIRONA INC	XRAY	12,876.02	0.05%	0.60%	8.30%	8.93%	0.0047%
XEROX CORP	XRX	7,721.70	0.03%	3.46%	1.00%	4.48%	0.0014%
XYLEM INC	XYL	13,416.42	0.06%	1.12%	18.00%	19.22%	0.0106%
YUM! BRANDS INC	YUM	27,059.92	0.11%	1.65%	12.56%	14.31%	0.0159%
ZIMMER BIOMET HOLDINGS INC	ZBH	23,615.83	0.10%	0.88%	6.67%	7.59%	0.0074%
ZIONS BANCORPORATION	ZION	10,858.33	0.04%	1.78%	10.10%	11.97%	0.0053%
ZOETIS INC	ZTS	39,237.62	0.16%	0.62%	14.11%	14.77%	0.0239%
Total Market Capitalization:		24,295,359					14.84%

Notes:

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

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

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
15.54%	3.05%	12.49%

		[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
AGILENT TECHNOLOGIES INC	A	22,758.96	0.10%	0.85%	10.00%	10.89%	0.0113%
AMERICAN AIRLINES GROUP INC	AAL	25,430.40	0.12%	0.76%	2.00%	2.77%	0.0032%
ADVANCE AUTO PARTS INC	AAP	8,164.99	0.04%	0.22%	9.50%	9.73%	0.0036%
APPLE INC	AAPL	876,584.80	4.01%	1.58%	14.50%	16.19%	0.6499%
ABBVIE INC	ABBV	187,640.20	0.86%	3.27%	12.50%	15.97%	0.1372%
AMERISOURCEBERGEN CORP	ABC	21,220.82	0.10%	1.57%	7.00%	8.62%	0.0084%
ABBOTT LABORATORIES	ABT	102,678.00	0.47%	1.90%	8.50%	10.48%	0.0493%
ACCENTURE PLC-CL A	ACN	101,854.30	0.47%	1.73%	10.00%	11.82%	0.0551%
ADOBE SYSTEMS INC	ADBE	99,861.20	0.46%	0.00%	34.50%	34.50%	0.1577%
ANALOG DEVICES INC	ADI	32,646.40	0.15%	2.03%	16.00%	18.19%	0.0272%
ARCHER-DANIELS-MIDLAND CO	ADM	23,343.84	0.11%	3.21%	2.50%	5.75%	0.0061%
AUTOMATIC DATA PROCESSING	ADP	51,100.86	0.23%	2.30%	11.00%	13.43%	0.0314%
ALLIANCE DATA SYSTEMS CORP	ADS	13,206.75	0.06%	0.96%	15.00%	16.03%	0.0097%
AUTODESK INC	ADSK	24,755.81	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	13,243.53	0.06%	3.39%	6.00%	9.49%	0.0058%
AMERICAN ELECTRIC POWER	AEP	32,304.18	0.15%	3.82%	4.00%	7.90%	0.0117%
AES CORP	AES	6,801.99	N/A	5.05%	N/A	N/A	N/A
AETNA INC	AET	57,087.07	0.26%	1.14%	9.00%	10.19%	0.0266%
AFLAC INC	AFL	34,869.75	0.16%	2.35%	4.00%	6.40%	0.0102%
ALLERGAN PLC	AGN	53,016.44	0.24%	1.81%	9.00%	10.89%	0.0264%
AMERICAN INTERNATIONAL GROUP	AIG	53,896.84	0.25%	2.14%	27.00%	29.43%	0.0726%
APARTMENT INVT & MGMT CO -A	AIV	-	N/A	3.97%	N/A	N/A	N/A
ASSURANT INC	AIZ	4,725.44	0.02%	2.55%	4.00%	6.60%	0.0014%
ARTHUR J GALLAGHER & CO	AJG	12,317.91	0.06%	2.41%	15.50%	18.10%	0.0102%
AKAMAI TECHNOLOGIES INC	AKAM	11,244.41	0.05%	0.00%	13.00%	13.00%	0.0067%
ALBEMARLE CORP	ALB	12,561.07	0.06%	1.13%	14.00%	15.21%	0.0087%
ALIGN TECHNOLOGY INC	ALGN	20,820.10	0.10%	0.00%	25.50%	25.50%	0.0243%
ALASKA AIR GROUP INC	ALK	7,917.74	0.04%	2.00%	2.00%	8.06%	0.0029%
ALLSTATE CORP	ALL	33,408.00	0.15%	1.98%	7.50%	9.55%	0.0146%
ALLEGION PLC	ALLE	8,176.04	0.04%	0.98%	10.00%	11.03%	0.0041%
ALEXION PHARMACEUTICALS INC	ALXN	25,553.57	0.12%	0.00%	19.00%	19.00%	0.0222%
APPLIED MATERIALS INC	AMAT	59,770.62	0.27%	1.43%	24.00%	25.60%	0.0701%
ADVANCED MICRO DEVICES	AMD	11,425.60	N/A	0.00%	N/A	N/A	N/A
AMETEK INC	AME	17,673.52	0.08%	0.73%	7.00%	7.76%	0.0063%
AFFILIATED MANAGERS GROUP	AMG	10,387.75	0.05%	0.70%	7.00%	7.72%	0.0037%
AMGEN INC	AMGN	131,765.40	0.60%	2.89%	8.50%	11.51%	0.0695%
AMERIPRISE FINANCIAL INC	AMP	23,438.89	0.11%	2.10%	13.50%	15.74%	0.0169%
AMERICAN TOWER CORP	AMT	59,656.34	0.27%	2.25%	11.50%	13.88%	0.0379%
AMAZON.COM INC	AMZN	715,933.90	3.28%	0.00%	60.00%	60.00%	1.9666%
ANDEAVOR	ANDV	14,421.74	0.07%	2.55%	5.50%	8.12%	0.0054%
ANSYS INC	ANSS	13,653.18	0.06%	0.00%	11.00%	11.00%	0.0069%
ANTHEM INC	ANTM	60,150.40	0.28%	1.28%	12.00%	13.36%	0.0368%
AON PLC	AON	34,891.30	0.16%	1.04%	10.50%	11.59%	0.0185%
SMITH (A.O.) CORP	AOS	11,271.73	0.05%	1.10%	14.00%	15.18%	0.0078%
APACHE CORP	APA	13,275.69	0.06%	2.87%	21.00%	24.17%	0.0147%
ANADARKO PETROLEUM CORP	APC	32,205.53	N/A	1.72%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	35,592.91	0.16%	2.71%	9.00%	11.83%	0.0193%
AMPHENOL CORP-CL A	APH	27,550.74	0.13%	0.84%	9.50%	10.38%	0.0131%
APTIV PLC	APTIV	24,707.08	0.11%	0.95%	7.50%	8.49%	0.0096%
ALEXANDRIA REAL ESTATE EQUIT	ARE	N/A	N/A	0.00%	N/A	N/A	N/A
ARCONIC INC	ARNC	11,811.69	N/A	0.98%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	52,538.41	0.24%	0.49%	9.00%	9.51%	0.0229%
AVALONBAY COMMUNITIES INC	AVB	-	N/A	3.90%	N/A	N/A	N/A
BROADCOM LTD	AVGO	101,623.30	0.47%	2.81%	44.00%	47.43%	0.2207%
AVERY DENNISON CORP	AVY	10,414.70	0.05%	1.66%	12.50%	14.26%	0.0068%
AMERICAN WATER WORKS CO INC	AWK	14,045.17	0.06%	2.26%	8.50%	10.86%	0.0070%
AMERICAN EXPRESS CO	AXP	84,791.85	0.39%	1.50%	8.50%	10.06%	0.0391%
ACUITY BRANDS INC	AYI	6,136.41	0.03%	0.36%	14.50%	14.89%	0.0042%
AUTOZONE INC	AZO	19,543.58	0.09%	0.00%	14.00%	14.00%	0.0125%
BOEING CO/THE	BA	210,362.60	0.96%	1.92%	11.00%	13.03%	0.1254%
BANK OF AMERICA CORP	BAC	331,397.30	1.52%	1.64%	18.00%	19.79%	0.3002%
BAXTER INTERNATIONAL INC	BAX	36,724.06	0.17%	0.95%	5.50%	6.48%	0.0109%
BB&T CORP	BBT	42,854.19	0.20%	2.54%	9.00%	11.65%	0.0229%
BEST BUY CO INC	BBY	21,101.84	0.10%	2.16%	10.00%	12.27%	0.0119%
BECTON DICKINSON AND CO	BDX	58,125.95	0.27%	1.39%	10.00%	11.46%	0.0305%
FRANKLIN RESOURCES INC	BEN	21,389.16	0.10%	2.43%	8.00%	10.53%	0.0103%
BROWN-FORMAN CORP-CLASS B	BF/B	26,098.90	0.12%	1.16%	11.50%	12.73%	0.0152%
BRIGHTHOUSE FINANCIAL INC	BHF	N/A	N/A	0.00%	N/A	N/A	N/A
BAKER HUGHES A GE CO	BHGE	12,001.12	N/A	2.57%	N/A	N/A	N/A
BIOGEN INC	BIIB	60,230.77	0.28%	0.00%	5.50%	5.50%	0.0152%
BANK OF NEW YORK MELLON CORP	BK	57,242.83	0.26%	1.72%	9.00%	10.80%	0.0283%
BOOKING HOLDINGS INC	BKNG	N/A	N/A	0.00%	N/A	N/A	N/A
BLACKROCK INC	BLK	86,609.68	0.40%	2.14%	12.00%	14.27%	0.0566%
BALL CORP	BLL	13,836.61	0.06%	1.01%	15.00%	16.09%	0.0102%
BRISTOL-MYERS SQUIBB CO	BMY	107,924.00	0.49%	2.43%	14.50%	17.11%	0.0845%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	36,350.05	0.17%	0.00%	16.50%	16.50%	0.0275%
BORGWARNER INC	BWA	11,012.87	0.05%	1.30%	8.50%	9.86%	0.0050%
BOSTON PROPERTIES INC	BXP	-	N/A	2.70%	N/A	N/A	N/A
CITIGROUP INC	C	201,658.00	0.92%	1.68%	11.00%	12.77%	0.1179%

		[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
CA INC	CA	14,365.03	0.07%	2.98%	6.00%	9.07%	0.0060%
CONAGRA BRANDS INC	CAG	14,399.76	0.07%	2.37%	5.00%	7.43%	0.0049%
CARDINAL HEALTH INC	CAH	21,366.45	0.10%	2.89%	11.00%	14.05%	0.0137%
CATERPILLAR INC	CAT	94,511.20	0.43%	1.96%	13.50%	15.59%	0.0675%
CHUBB LTD	CB	66,407.23	0.30%	1.99%	8.00%	10.07%	0.0306%
CBRE GROUP INC - A	CBG	15,200.97	0.07%	0.00%	12.00%	12.00%	0.0084%
CBOE GLOBAL MARKETS INC	CBOE	12,475.84	0.06%	0.98%	16.50%	17.56%	0.0100%
CBS CORP-CLASS B NON VOTING	CBS	21,728.00	0.10%	1.33%	13.50%	14.92%	0.0148%
CROWN CASTLE INTL CORP	CCI	44,064.59	0.20%	4.06%	9.50%	13.75%	0.0277%
CARNIVAL CORP	CCL	49,172.20	0.23%	2.64%	14.00%	16.82%	0.0379%
CADENCE DESIGN SYS INC	CDNS	10,955.57	0.05%	0.00%	11.00%	11.00%	0.0055%
CELGENE CORP	CELG	73,814.23	0.34%	0.00%	25.00%	25.00%	0.0845%
CERNER CORP	CERN	20,905.81	0.10%	0.00%	9.50%	9.50%	0.0091%
CF INDUSTRIES HOLDINGS INC	CF	10,023.05	0.05%	3.03%	8.50%	11.66%	0.0053%
CITIZENS FINANCIAL GROUP	CFG	22,702.50	0.10%	1.98%	11.50%	13.59%	0.0141%
CHURCH & DWIGHT CO INC	CHD	12,028.77	0.06%	1.81%	7.50%	9.38%	0.0052%
CHESAPEAKE ENERGY CORP	CHK	2,900.29	N/A	0.00%	N/A	N/A	N/A
C.H. ROBINSON WORLDWIDE INC	CHRW	12,600.98	0.06%	2.04%	9.50%	11.64%	0.0067%
CHARTER COMMUNICATIONS INC-A	CHTR	88,691.62	0.41%	0.00%	26.00%	26.00%	0.1056%
CIGNA CORP	CI	47,312.75	0.22%	0.02%	12.00%	12.02%	0.0260%
CINCINNATI FINANCIAL CORP	CINF	12,286.88	0.06%	2.83%	6.50%	9.42%	0.0053%
COLGATE-PALMOLIVE CO	CL	60,931.70	0.28%	2.31%	11.00%	13.44%	0.0375%
CLOROX COMPANY	CLX	16,466.00	0.08%	3.02%	7.00%	10.13%	0.0076%
COMERICA INC	CMA	16,852.48	0.08%	1.24%	13.50%	14.82%	0.0114%
COMCAST CORP-CLASS A	CMCSA	180,206.90	0.83%	1.96%	11.00%	13.07%	0.1078%
CME GROUP INC	CME	54,438.61	0.25%	1.74%	8.50%	10.31%	0.0257%
CHIPOTLE MEXICAN GRILL INC	CMG	8,797.64	0.04%	0.00%	18.00%	18.00%	0.0072%
CUMMINS INC	CMI	27,825.53	0.13%	2.59%	8.00%	10.69%	0.0136%
CMS ENERGY CORP	CMS	12,111.62	0.06%	3.33%	6.50%	9.94%	0.0055%
CENTENE CORP	CNC	17,168.59	0.08%	0.00%	14.00%	14.00%	0.0110%
CENTERPOINT ENERGY INC	CNP	11,637.81	0.05%	4.11%	6.00%	10.23%	0.0055%
CAPITAL ONE FINANCIAL CORP	COF	46,828.88	0.21%	1.66%	5.00%	6.70%	0.0144%
CABOT OIL & GAS CORP	COG	11,044.67	N/A	1.01%	N/A	N/A	N/A
ROCKWELL COLLINS INC	COL	22,541.17	0.10%	0.96%	14.00%	15.03%	0.0155%
COOPER COS INC/THE	COO	11,124.94	0.05%	0.03%	16.50%	16.53%	0.0084%
CONOCOPHILLIPS	COP	65,474.63	0.30%	2.08%	62.00%	64.72%	0.1940%
COSTCO WHOLESALE CORP	COST	81,947.53	0.38%	1.15%	10.00%	11.21%	0.0420%
COTY INC-CL A	COTY	15,490.87	0.07%	2.42%	8.50%	11.02%	0.0078%
CAMPBELL SOUP CO	CPB	14,199.08	0.07%	3.19%	4.00%	7.25%	0.0047%
SALESFORCE.COM INC	CRM	81,619.90	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	209,031.90	0.96%	2.70%	7.50%	10.30%	0.0986%
CSRA INC	CSRA	6,638.27	N/A	0.99%	N/A	N/A	N/A
CSX CORP	CSX	49,145.82	0.22%	1.60%	13.50%	15.21%	0.0342%
CINTAS CORP	CTAS	17,789.01	0.08%	1.08%	14.00%	15.16%	0.0123%
CENTURYLINK INC	CTL	9,882.78	0.05%	12.01%	-1.50%	10.42%	0.0047%
COGNIZANT TECH SOLUTIONS-A	CTSH	48,149.90	0.22%	0.98%	13.50%	14.55%	0.0321%
CITRIX SYSTEMS INC	CTXS	13,799.12	0.06%	0.00%	6.50%	6.50%	0.0041%
CVS HEALTH CORP	CVS	68,884.00	0.32%	2.94%	9.00%	12.07%	0.0381%
CHEVRON CORP	CVX	208,722.20	0.96%	4.08%	12.50%	16.84%	0.1609%
CONCHO RESOURCES INC	CXO	22,183.06	0.10%	0.00%	20.50%	20.50%	0.0208%
DOMINION ENERGY INC	D	47,385.52	0.22%	4.66%	7.00%	11.82%	0.0256%
DELTA AIR LINES INC	DAL	37,466.73	0.17%	2.32%	10.50%	12.94%	0.0222%
DEERE & CO	DE	52,833.42	0.24%	1.46%	15.00%	16.57%	0.0401%
DISCOVER FINANCIAL SERVICES	DFS	28,459.84	0.13%	1.80%	7.50%	9.37%	0.0122%
DOLLAR GENERAL CORP	DG	26,097.30	0.12%	1.08%	11.00%	12.14%	0.0145%
QUEST DIAGNOSTICS INC	DGX	13,715.60	0.06%	1.98%	9.50%	11.57%	0.0073%
DR HORTON INC	DHI	16,596.88	0.08%	1.13%	11.00%	12.19%	0.0093%
DANAHER CORP	DHR	67,713.88	0.31%	0.66%	9.00%	9.69%	0.0300%
WALT DISNEY CO/THE	DIS	157,860.00	0.72%	1.60%	8.50%	10.17%	0.0735%
DISCOVERY COMMUNICATIONS-A	DISCA	9,021.51	0.04%	0.00%	13.50%	13.50%	0.0056%
DISH NETWORK CORP-A	DISH	20,458.91	0.09%	0.00%	2.50%	2.50%	0.0023%
DIGITAL REALTY TRUST INC	DLR	-	N/A	3.97%	N/A	N/A	N/A
DOLLAR TREE INC	DLTR	25,369.38	0.12%	0.00%	21.00%	21.00%	0.0244%
DOVER CORP	DOV	15,900.03	0.07%	1.84%	8.00%	9.91%	0.0072%
DR PEPPER SNAPPLE GROUP INC	DPS	20,739.28	0.09%	2.09%	7.50%	9.67%	0.0092%
DUKE REALTY CORP	DRE	-	0.00%	3.25%	33.50%	37.29%	0.0000%
DARDEN RESTAURANTS INC	DRI	11,759.20	0.05%	2.67%	13.00%	15.84%	0.0085%
DTE ENERGY COMPANY	DTE	18,272.26	0.08%	3.52%	6.00%	9.63%	0.0081%
DUKE ENERGY CORP	DUK	52,878.00	0.24%	4.87%	4.50%	9.48%	0.0229%
DAVITA INC	DVA	13,637.95	0.06%	0.00%	10.00%	10.00%	0.0062%
DEVON ENERGY CORP	DVN	15,965.25	0.07%	0.79%	14.00%	14.85%	0.0109%
DOWDUPONT INC	DWDP	168,272.70	N/A	2.22%	N/A	N/A	N/A
DXC TECHNOLOGY CO	DXC	28,872.26	0.13%	0.71%	19.00%	19.78%	0.0261%
ELECTRONIC ARTS INC	EA	38,255.27	0.18%	0.00%	13.00%	13.00%	0.0228%
EBAY INC	EBAY	44,928.67	0.21%	0.00%	10.00%	10.00%	0.0206%
ECOLAB INC	ECL	37,399.92	0.17%	1.27%	8.00%	9.32%	0.0160%
CONSOLIDATED EDISON INC	ED	23,494.90	0.11%	3.81%	3.00%	6.87%	0.0074%
EQUIFAX INC	EFX	13,825.20	0.06%	1.35%	8.50%	9.91%	0.0063%
EDISON INTERNATIONAL	EIX	19,463.95	0.09%	4.10%	4.00%	8.18%	0.0073%
ESTEE LAUDER COMPANIES-CL A	EL	51,585.43	0.24%	1.09%	13.50%	14.66%	0.0346%
EASTMAN CHEMICAL CO	EMN	14,585.26	0.07%	2.21%	10.50%	12.83%	0.0086%
EMERSON ELECTRIC CO	EMR	46,262.46	0.21%	2.69%	12.00%	14.85%	0.0315%
EOG RESOURCES INC	EOG	61,959.16	0.28%	0.70%	27.50%	28.30%	0.0803%
EQUINIX INC	EQIX	30,546.47	0.14%	2.34%	23.00%	25.61%	0.0358%
EQUITY RESIDENTIAL	EQR	-	N/A	3.70%	N/A	N/A	N/A
EQT CORP	EQT	8,809.29	0.04%	0.24%	20.50%	20.76%	0.0084%
EVERSOURCE ENERGY	ES	18,214.61	0.08%	3.51%	6.50%	10.12%	0.0084%
EXPRESS SCRIPTS HOLDING CO	ESRX	42,321.41	0.19%	0.00%	14.50%	14.50%	0.0281%
ESSEX PROPERTY TRUST INC	ESS	-	N/A	3.21%	N/A	N/A	N/A
E*TRADE FINANCIAL CORP	ETFC	13,734.71	0.06%	0.00%	15.50%	15.50%	0.0097%
EATON CORP PLC	ETN	36,076.33	0.17%	2.93%	7.00%	10.03%	0.0166%

		[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
ENTERGY CORP	ETR	13,477.34	0.06%	4.77%	-2.50%	2.21%	0.0014%
ENVISION HEALTHCARE CORP	EVHC	4,552.68	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	28,283.24	0.13%	0.00%	16.50%	16.50%	0.0214%
EXELON CORP	EXC	35,782.13	0.16%	3.71%	6.00%	9.82%	0.0161%
EXPEDITORS INTL WASH INC	EXPD	11,424.14	0.05%	1.37%	9.00%	10.43%	0.0055%
EXPEDIA INC	EXPE	15,914.90	0.07%	1.30%	19.00%	20.42%	0.0149%
EXTRA SPACE STORAGE INC	EXR	-	N/A	4.12%	N/A	N/A	N/A
FORD MOTOR CO	F	42,225.57	0.19%	5.64%	3.00%	8.72%	0.0169%
FASTENAL CO	FAST	15,573.29	0.07%	2.73%	5.50%	8.31%	0.0059%
FACEBOOK INC-A	FB	520,144.90	2.38%	0.00%	31.50%	31.50%	0.7501%
FORTUNE BRANDS HOME & SECURI	FBHS	9,602.93	0.04%	1.27%	12.00%	13.35%	0.0059%
FREEMPORT-MCMORAN INC	FCX	27,743.68	N/A	0.00%	N/A	N/A	N/A
FEDEX CORP	FDX	65,748.24	0.30%	0.94%	11.00%	11.99%	0.0361%
FIRSTENERGY CORP	FE	14,776.41	0.07%	4.37%	9.00%	13.57%	0.0092%
F5 NETWORKS INC	FFIV	8,897.50	0.04%	0.00%	11.00%	11.00%	0.0045%
FIDELITY NATIONAL INFO SERV	FIS	32,643.99	0.15%	1.31%	7.50%	8.86%	0.0132%
FISERV INC	FISV	29,672.56	0.14%	0.00%	9.00%	9.00%	0.0122%
FIFTH THIRD BANCORP	FITB	23,188.93	0.11%	1.98%	4.50%	6.52%	0.0069%
FOOT LOCKER INC	FL	6,434.80	0.03%	2.86%	7.00%	9.96%	0.0029%
FLIR SYSTEMS INC	FLIR	6,624.49	0.03%	1.50%	7.50%	9.06%	0.0027%
FLUOR CORP	FLR	8,129.71	0.04%	1.45%	2.00%	3.46%	0.0013%
FLOWSERVE CORP	FLS	5,678.04	N/A	1.74%	N/A	N/A	N/A
FMC CORP	FMC	11,216.25	0.05%	0.89%	13.50%	14.45%	0.0074%
TWENTY-FIRST CENTURY FOX-A	FOXA	68,840.02	0.32%	0.97%	11.50%	12.53%	0.0395%
FEDERAL REALTY INVS TRUST	FRT	-	N/A	3.55%	N/A	N/A	N/A
TECHNIPFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
FORTIVE CORP	FTV	26,646.30	N/A	0.37%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	65,730.06	0.30%	1.53%	5.50%	7.07%	0.0213%
GENERAL ELECTRIC CO	GE	126,785.90	0.58%	3.28%	8.50%	11.92%	0.0692%
GGP INC	GGP	-	N/A	4.61%	N/A	N/A	N/A
GILEAD SCIENCES INC	GILD	103,775.80	0.48%	2.87%	-1.00%	1.86%	0.0088%
GENERAL MILLS INC	GIS	31,268.91	0.14%	3.64%	5.50%	9.24%	0.0132%
CORNING INC	GLW	25,383.49	0.12%	2.47%	11.50%	14.11%	0.0164%
GENERAL MOTORS CO	GM	57,274.00	0.26%	3.72%	5.50%	9.32%	0.0244%
ALPHABET INC-CL A	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
GENUINE PARTS CO	GPC	13,624.75	0.06%	3.10%	7.50%	10.72%	0.0067%
GLOBAL PAYMENTS INC	GPN	17,784.63	0.08%	0.04%	12.00%	12.04%	0.0098%
GAP INC/THE	GPS	12,591.93	0.06%	2.84%	4.00%	6.90%	0.0040%
GARMIN LTD	GRMN	11,323.13	0.05%	3.44%	5.50%	9.03%	0.0047%
GOLDMAN SACHS GROUP INC	GS	99,107.59	0.45%	1.15%	9.50%	10.70%	0.0486%
GOODYEAR TIRE & RUBBER CO	GT	7,165.98	0.03%	1.96%	10.00%	12.06%	0.0040%
WW GRAINGER INC	GWW	15,020.72	0.07%	1.94%	4.50%	6.48%	0.0045%
HALLIBURTON CO	HAL	41,097.36	0.19%	1.53%	23.00%	24.71%	0.0465%
HASBRO INC	HAS	12,120.45	0.06%	2.59%	11.00%	13.73%	0.0076%
HUNTINGTON BANCSHARES INC	HBAN	17,003.28	0.08%	2.86%	10.00%	13.00%	0.0101%
HANESBRANDS INC	HBI	7,338.84	0.03%	3.28%	9.50%	12.94%	0.0043%
HCA HEALTHCARE INC	HCA	35,890.77	0.16%	1.39%	10.00%	11.46%	0.0188%
HCP INC	HCP	-	N/A	6.94%	N/A	N/A	N/A
HOME DEPOT INC	HD	216,629.00	0.99%	2.24%	11.00%	13.36%	0.1325%
HESS CORP	HES	14,959.86	N/A	2.12%	N/A	N/A	N/A
HARTFORD FINANCIAL SVCS GRP	HIG	19,028.28	0.09%	1.88%	12.50%	14.50%	0.0126%
HUNTINGTON INGALLS INDUSTRIE	HII	11,906.20	0.05%	1.10%	7.00%	8.14%	0.0044%
HILTON WORLDWIDE HOLDINGS IN	HLT	26,758.31	0.12%	0.72%	8.50%	9.25%	0.0113%
HARLEY-DAVIDSON INC	HOG	7,854.33	0.04%	3.17%	8.00%	11.30%	0.0041%
HOLOGIC INC	HOLX	10,754.84	0.05%	0.00%	22.00%	22.00%	0.0108%
HONEYWELL INTERNATIONAL INC	HON	116,795.10	0.53%	1.94%	8.50%	10.52%	0.0563%
HELMERICH & PAYNE	HP	7,117.37	0.03%	4.28%	62.00%	67.61%	0.0220%
HEWLETT PACKARD ENTERPRISE	HPE	26,176.59	0.12%	1.83%	3.50%	5.36%	0.0064%
HP INC	HPQ	35,284.52	0.16%	2.62%	4.50%	7.18%	0.0116%
H&R BLOCK INC	HRB	5,467.13	0.03%	3.67%	9.00%	12.84%	0.0032%
HORMEL FOODS CORP	HRL	17,437.96	0.08%	2.27%	10.50%	12.89%	0.0103%
HARRIS CORP	HRS	18,733.98	0.09%	1.44%	10.50%	12.02%	0.0103%
HENRY SCHEIN INC	HSIC	10,668.10	0.05%	0.00%	9.00%	9.00%	0.0044%
HOST HOTELS & RESORTS INC	HST	-	N/A	4.34%	N/A	N/A	N/A
HERSHEY CO/THE	HSY	20,449.64	0.09%	2.70%	7.50%	10.30%	0.0096%
HUMANA INC	HUM	38,259.34	0.18%	0.75%	10.50%	11.29%	0.0198%
INTL BUSINESS MACHINES CORP	IBM	141,812.70	N/A	4.11%	N/A	N/A	N/A
INTERCONTINENTAL EXCHANGE IN	ICE	41,928.30	0.19%	1.34%	12.00%	13.42%	0.0258%
IDEXX LABORATORIES INC	IDXX	16,051.16	0.07%	0.00%	17.00%	17.00%	0.0125%
INTL FLAVORS & FRAGRANCES	IFF	11,266.86	0.05%	2.02%	8.00%	10.10%	0.0052%
ILLUMINA INC	ILMN	33,104.04	0.15%	0.00%	16.00%	16.00%	0.0242%
INCYTE CORP	INCY	18,031.57	0.08%	0.00%	70.50%	70.50%	0.0582%
IHS MARKIT LTD	INFO	19,806.40	0.09%	0.00%	19.50%	19.50%	0.0177%
INTEL CORP	INTC	214,344.00	0.98%	2.62%	7.50%	10.22%	0.1003%
INTUIT INC	INTU	44,000.29	0.20%	0.91%	15.00%	15.98%	0.0322%
INTERNATIONAL PAPER CO	IP	24,076.20	0.11%	3.26%	18.50%	22.06%	0.0243%
INTERPUBLIC GROUP OF COS INC	IPG	9,561.64	0.04%	3.51%	10.00%	13.69%	0.0060%
IQVIA HOLDINGS INC	IQV	20,788.97	0.10%	0.00%	12.50%	12.50%	0.0119%
INGERSOLL-RAND PLC	IR	22,622.65	0.10%	1.99%	11.00%	13.10%	0.0136%
IRON MOUNTAIN INC	IRM	8,428.13	0.04%	7.47%	9.50%	17.32%	0.0067%
INTUITIVE SURGICAL INC	ISRG	47,016.48	0.22%	0.00%	15.00%	15.00%	0.0323%
GARTNER INC	IT	10,473.24	0.05%	0.00%	13.50%	13.50%	0.0065%
ILLINOIS TOOL WORKS	ITW	55,953.43	0.26%	1.91%	10.50%	12.51%	0.0320%
INVESCO LTD	IVZ	13,409.88	0.06%	3.52%	7.00%	10.64%	0.0065%
HUNT (JB) TRANSPRT SVCS INC	JBHT	13,138.41	0.06%	0.80%	12.00%	12.85%	0.0077%
JOHNSON CONTROLS INTERNATION	JCI	35,173.47	0.16%	2.74%	-0.50%	2.23%	0.0036%
JACOBS ENGINEERING GROUP INC	JEC	8,861.47	0.04%	0.96%	8.00%	9.00%	0.0037%
JOHNSON & JOHNSON	JNJ	348,806.00	1.60%	2.71%	9.00%	11.83%	0.1889%
JUNIPER NETWORKS INC	JNPR	9,818.52	0.04%	2.77%	7.00%	9.87%	0.0044%
JPMORGAN CHASE & CO	JPM	398,949.10	1.83%	1.98%	8.00%	10.06%	0.1837%
NORDSTROM INC	JWN	8,374.98	0.04%	2.94%	3.50%	6.49%	0.0025%

		[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
KELLOGG CO	K	23,549.70	0.11%	3.22%	8.00%	11.35%	0.0122%
KEYCORP	KEY	22,152.67	0.10%	2.24%	12.50%	14.88%	0.0151%
KRAFT HEINZ CO/THE	KHC	82,385.52	N/A	3.77%	N/A	N/A	N/A
KIMCO REALTY CORP	KIM	-	N/A	7.61%	N/A	N/A	N/A
KLA-TENCOR CORP	KLAC	17,057.48	0.08%	2.76%	15.50%	18.47%	0.0144%
KIMBERLY-CLARK CORP	KMB	39,681.71	0.18%	3.55%	10.50%	14.24%	0.0259%
KINDER MORGAN INC	KMI	36,937.05	0.17%	3.00%	57.00%	60.86%	0.1029%
CARMAX INC	KMX	11,078.09	0.05%	0.00%	13.50%	13.50%	0.0068%
COCA-COLA CO/THE	KO	185,482.20	0.85%	3.59%	5.00%	8.68%	0.0737%
MICHAEL KORS HOLDINGS LTD	KORS	9,703.69	0.04%	0.00%	3.00%	3.00%	0.0013%
KROGER CO	KR	23,980.82	0.11%	2.02%	4.50%	6.57%	0.0072%
KOHL'S CORP	KSS	10,878.00	0.05%	3.63%	7.00%	10.76%	0.0054%
KANSAS CITY SOUTHERN	KSU	11,042.37	0.05%	1.34%	12.50%	13.92%	0.0070%
LOEWS CORP	L	16,696.80	0.08%	0.50%	14.00%	14.54%	0.0111%
L BRANDS INC	LB	13,569.84	0.06%	4.99%	0.50%	5.50%	0.00334%
LEGGETT & PLATT INC	LEG	5,847.40	0.03%	3.25%	7.50%	10.87%	0.0029%
LENNAR CORP-A	LEN	14,021.39	0.06%	0.27%	10.50%	10.78%	0.0069%
LABORATORY CRP OF AMER HLDGS	LH	17,480.54	0.08%	0.00%	9.00%	9.00%	0.0072%
LKQ CORP	LKQ	12,376.17	0.06%	0.00%	11.50%	11.50%	0.0065%
L3 TECHNOLOGIES INC	LLL	16,553.67	0.08%	1.51%	10.00%	11.59%	0.0088%
ELI LILLY & CO	LLY	84,993.52	0.39%	2.92%	11.00%	14.08%	0.0548%
LOCKHEED MARTIN CORP	LMT	100,936.40	0.46%	2.31%	10.00%	12.43%	0.0574%
LINCOLN NATIONAL CORP	LNC	16,911.55	0.08%	1.77%	8.00%	9.84%	0.0076%
ALLIANT ENERGY CORP	LNT	8,924.47	0.04%	3.47%	6.00%	9.57%	0.0039%
LOWE'S COS INC	LOW	80,515.59	0.37%	1.80%	13.50%	15.42%	0.0568%
LAM RESEARCH CORP	LRCX	30,034.19	0.14%	1.06%	20.00%	21.17%	0.0291%
LEUCADIA NATIONAL CORP	LUK	8,719.53	0.04%	1.63%	31.00%	32.88%	0.0131%
SOUTHWEST AIRLINES CO	LUV	33,735.74	0.15%	0.87%	11.50%	12.42%	0.0192%
LYONDELLBASELL INDU-CL A	LYB	43,717.78	0.20%	3.25%	3.50%	6.81%	0.0136%
MACY'S INC	M	7,970.49	0.04%	5.77%	2.50%	8.34%	0.0030%
MASTERCARD INC - A	MA	183,327.00	0.84%	0.58%	13.50%	14.12%	0.1185%
MID-AMERICA APARTMENT COMM	MAA	-	N/A	4.33%	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	51,260.09	0.23%	0.94%	17.50%	18.52%	0.0435%
MASCO CORP	MAS	13,263.67	0.06%	1.03%	14.00%	15.10%	0.0092%
MATTEL INC	MAT	5,719.17	0.03%	0.00%	1.50%	1.50%	0.0004%
MCDONALD'S CORP	MCD	128,078.20	0.59%	2.55%	10.00%	12.68%	0.0743%
MICROCHIP TECHNOLOGY INC	MCHP	19,665.90	0.09%	1.74%	14.50%	16.37%	0.0147%
MCKESSON CORP	MCK	30,969.42	0.14%	0.97%	9.50%	10.52%	0.0149%
MOODY'S CORP	MCO	31,943.01	0.15%	1.05%	12.00%	13.11%	0.0192%
MONDELEZ INTERNATIONAL INC-A	MDLZ	65,063.94	0.30%	2.11%	10.00%	12.22%	0.0364%
MEDTRONIC PLC	MDT	108,842.30	0.50%	2.36%	6.00%	8.43%	0.0420%
METLIFE INC	MET	49,161.40	0.23%	3.69%	5.50%	9.29%	0.0209%
MGM RESORTS INTERNATIONAL	MGM	19,515.20	0.09%	1.39%	44.50%	46.20%	0.0413%
MOHAWK INDUSTRIES INC	MHK	18,510.16	0.08%	0.00%	8.50%	8.50%	0.0072%
MCCORMICK & CO-NON VTG SHRS	MKC	13,762.65	0.06%	1.98%	10.50%	12.58%	0.0079%
MARTIN MARIETTA MATERIALS	MLM	13,333.65	0.06%	0.83%	17.50%	18.40%	0.0112%
MARSH & MCLENNAN COS	MMC	41,863.75	0.19%	1.83%	10.50%	12.43%	0.0238%
3M CO	MMM	140,563.50	0.64%	2.31%	9.50%	11.92%	0.0767%
MONSTER BEVERAGE CORP	MNST	36,617.86	0.17%	0.00%	13.50%	13.50%	0.0226%
ALTRIA GROUP INC	MO	120,955.40	0.55%	4.17%	10.00%	14.38%	0.0796%
MONSANTO CO	MON	53,069.34	0.24%	1.79%	7.50%	9.36%	0.0227%
MOSAIC CO/THE	MOS	9,636.32	0.04%	0.36%	3.00%	3.37%	0.0015%
MARATHON PETROLEUM CORP	MPC	33,097.08	0.15%	2.90%	8.50%	11.52%	0.0175%
MERCK & CO. INC.	MRK	148,779.90	0.68%	3.52%	5.50%	9.12%	0.0621%
MARATHON OIL CORP	MRO	12,903.00	N/A	1.32%	N/A	N/A	N/A
MORGAN STANLEY	MS	99,432.22	0.46%	1.82%	10.50%	12.42%	0.0565%
MICROSOFT CORP	MSFT	706,779.60	3.24%	1.83%	9.50%	11.42%	0.3694%
MOTOROLA SOLUTIONS INC	MSI	16,966.26	0.08%	1.99%	10.50%	12.59%	0.0098%
M & T BANK CORP	MTB	28,906.14	0.13%	1.58%	9.50%	11.16%	0.0148%
METTLER-TOLEDO INTERNATIONAL	MTD	15,986.11	0.07%	0.00%	11.50%	11.50%	0.0084%
MICRON TECHNOLOGY INC	MU	51,241.50	0.23%	0.00%	31.00%	31.00%	0.0727%
MYLAN NV	MYL	22,140.53	0.10%	0.00%	10.00%	10.00%	0.0101%
NAVIENT CORP	NAVI	3,437.57	0.02%	4.90%	6.00%	11.05%	0.0017%
NOBLE ENERGY INC	NBL	14,401.10	N/A	1.36%	N/A	N/A	N/A
NORWEGIAN CRUISE LINE HOLDIN	NCLH	13,088.42	0.06%	0.00%	21.50%	21.50%	0.0129%
NASDAQ INC	NDAQ	13,027.73	0.06%	1.94%	9.50%	11.53%	0.0069%
NEXTERA ENERGY INC	NEE	71,646.32	0.33%	2.94%	8.50%	11.56%	0.0379%
NEWMONT MINING CORP	NEM	20,069.43	0.09%	1.49%	9.00%	10.56%	0.0097%
NETFLIX INC	NFLX	120,359.80	0.55%	0.00%	44.50%	44.50%	0.2452%
NEWFIELD EXPLORATION CO	NFX	4,682.85	0.02%	0.00%	19.00%	19.00%	0.0041%
NISOURCE INC	NI	7,778.31	0.04%	3.38%	18.00%	21.68%	0.0077%
NIKE INC -CL B	NKE	109,019.10	0.50%	1.19%	14.00%	15.27%	0.0762%
NIELSEN HOLDINGS PLC	NLSN	11,393.80	0.05%	4.25%	9.00%	13.44%	0.0070%
NORTHROP GRUMMAN CORP	NOC	60,688.81	0.28%	1.26%	8.00%	9.31%	0.0259%
NATIONAL OILWELL VARCO INC	NOV	13,339.86	0.06%	0.57%	3.00%	3.58%	0.0022%
NRG ENERGY INC	NRG	7,998.30	N/A	0.48%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	40,484.36	0.19%	2.04%	11.50%	13.66%	0.0253%
NETAPP INC	NTAP	15,643.53	0.07%	1.37%	16.00%	17.48%	0.0125%
NORTHERN TRUST CORP	NTRS	23,679.07	0.11%	1.61%	9.50%	11.19%	0.0121%
NUCOR CORP	NUE	21,284.54	0.10%	2.27%	20.50%	23.00%	0.0224%
NVIDIA CORP	NVDA	146,742.90	0.67%	0.25%	23.50%	23.78%	0.1598%
NEWELL BRANDS INC	NWL	13,090.57	0.06%	3.44%	24.50%	28.36%	0.0170%
NEWS CORP - CLASS A	NWSA	9,451.69	N/A	1.23%	N/A	N/A	N/A
REALTY INCOME CORP	O	-	N/A	5.38%	N/A	N/A	N/A
ONEOK INC	OKE	21,801.88	0.10%	5.51%	17.50%	23.49%	0.0234%
OMNICOM GROUP	OMC	17,702.63	0.08%	3.13%	7.50%	10.75%	0.0087%
ORACLE CORP	ORCL	205,451.40	0.94%	1.53%	8.00%	9.59%	0.0902%
O'REILLY AUTOMOTIVE INC	ORLY	21,109.21	0.10%	0.00%	13.50%	13.50%	0.0130%
OCCIDENTAL PETROLEUM CORP	OXY	51,975.44	0.24%	4.59%	21.00%	26.07%	0.0620%
PAYCHEX INC	PAYX	23,365.96	0.11%	3.43%	12.00%	15.64%	0.0167%

		[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
PEOPLE'S UNITED FINANCIAL	PBCT	6,695.58	0.03%	3.60%	13.50%	17.34%	0.0053%
PACCAR INC	PCAR	24,745.60	0.11%	3.13%	6.50%	9.73%	0.0110%
P G & E CORP	PCG	20,636.53	0.09%	0.00%	8.50%	8.50%	0.0080%
PATTERSON COS INC	PDCO	3,021.09	0.01%	3.45%	14.50%	18.20%	0.0025%
PUBLIC SERVICE ENTERPRISE GP	PEG	24,835.90	0.11%	3.66%	2.00%	5.70%	0.0065%
PEPSICO INC	PEP	155,477.00	0.71%	2.99%	7.50%	10.60%	0.0755%
PFIZER INC	PFE	213,035.70	0.98%	3.81%	12.00%	16.04%	0.1564%
PRINCIPAL FINANCIAL GROUP	PFG	17,993.75	0.08%	3.27%	5.00%	8.35%	0.0069%
PROCTER & GAMBLE CO/THE	PG	203,798.00	0.93%	3.41%	10.00%	13.58%	0.1267%
PROGRESSIVE CORP	PGR	33,063.96	0.15%	1.97%	8.00%	10.05%	0.0152%
PARKER HANNIFIN CORP	PH	24,470.19	0.11%	1.44%	13.00%	14.53%	0.0163%
PULTEGROUP INC	PHM	8,579.99	0.04%	1.37%	17.00%	18.49%	0.0073%
PACKAGING CORP OF AMERICA	PKG	11,211.89	0.05%	2.12%	8.50%	10.71%	0.0055%
PERKINELMER INC	PKI	8,371.32	0.04%	0.37%	11.00%	11.39%	0.0044%
PROLOGIS INC	PLD	-	N/A	3.14%	N/A	N/A	N/A
PHILIP MORRIS INTERNATIONAL	PM	159,948.00	0.73%	4.16%	8.00%	12.33%	0.0903%
PNC FINANCIAL SERVICES GROUP	PNC	75,017.60	0.34%	1.90%	8.00%	9.98%	0.0343%
PENTAIR PLC	PNR	12,909.73	0.06%	1.97%	12.00%	14.09%	0.0083%
PINNACLE WEST CAPITAL	PNW	8,568.56	0.04%	3.73%	5.50%	9.33%	0.0037%
PPG INDUSTRIES INC	PPG	29,483.59	0.13%	1.55%	10.50%	12.13%	0.0164%
PPL CORP	PPL	20,313.69	0.09%	5.56%	1.50%	7.10%	0.0066%
PERRIGO CO PLC	PRGO	12,259.46	0.06%	0.87%	0.50%	1.37%	0.0008%
PRUDENTIAL FINANCIAL INC	PRU	45,781.97	0.21%	3.34%	5.50%	8.93%	0.0187%
PUBLIC STORAGE	PSA	-	N/A	4.14%	N/A	N/A	N/A
PHILLIPS 66	PSX	45,672.48	0.21%	3.42%	4.50%	8.00%	0.0167%
PVH CORP	PVH	11,511.13	0.05%	0.10%	8.50%	8.60%	0.0045%
QUANTA SERVICES INC	PWR	5,428.33	0.02%	0.00%	17.00%	17.00%	0.0042%
PRAXAIR INC	PX	43,996.49	0.20%	2.20%	8.50%	10.79%	0.0217%
PIONEER NATURAL RESOURCES CO	PXD	30,188.97	0.14%	0.18%	41.50%	41.72%	0.0577%
PAYPAL HOLDINGS INC	PYPL	93,395.40	N/A	0.00%	N/A	N/A	N/A
QUALCOMM INC	QCOM	92,026.40	0.42%	3.86%	5.00%	8.96%	0.0377%
QORVO INC	QRVO	9,928.13	0.05%	0.00%	26.50%	26.50%	0.0120%
ROYAL CARIBBEAN CRUISES LTD	RCL	27,744.12	0.13%	1.85%	13.50%	15.47%	0.0197%
EVEREST RE GROUP LTD	RE	9,831.68	0.05%	2.21%	3.50%	5.75%	0.0026%
REGENCY CENTERS CORP	REG	-	N/A	3.81%	N/A	N/A	N/A
REGENERON PHARMACEUTICALS	REGN	33,990.13	0.16%	0.00%	23.00%	23.00%	0.0358%
REGIONS FINANCIAL CORP	RF	22,493.83	0.10%	2.02%	12.00%	14.14%	0.0146%
ROBERT HALF INTL INC	RHI	7,186.14	0.03%	1.95%	5.50%	7.50%	0.0025%
RED HAT INC	RHT	25,605.26	0.12%	0.00%	20.50%	20.50%	0.0240%
RAYMOND JAMES FINANCIAL INC	RJF	13,075.47	0.06%	1.11%	12.50%	13.68%	0.0082%
RALPH LAUREN CORP	RL	8,740.56	0.04%	1.86%	3.50%	5.39%	0.0022%
RESMED INC	RMD	13,333.17	0.06%	1.54%	10.00%	11.62%	0.0071%
ROCKWELL AUTOMATION INC	ROK	23,680.06	0.11%	1.80%	6.00%	7.85%	0.0085%
ROPER TECHNOLOGIES INC	ROP	28,620.41	0.13%	0.59%	9.00%	9.62%	0.0126%
ROSS STORES INC	ROST	29,998.46	0.14%	0.89%	9.50%	10.43%	0.0143%
RANGE RESOURCES CORP	RRC	3,225.60	0.01%	0.62%	23.50%	24.19%	0.0036%
REPUBLIC SERVICES INC	RSG	21,948.58	0.10%	2.19%	12.50%	14.83%	0.0149%
RAYTHEON COMPANY	RTN	62,239.04	0.28%	1.48%	8.00%	9.54%	0.0272%
SBA COMMUNICATIONS CORP	SBAC	20,265.40	0.09%	0.00%	88.50%	88.50%	0.0821%
STARBUCKS CORP	SBUX	77,981.04	0.36%	2.35%	15.00%	17.53%	0.0262%
SCANA CORP	SCG	5,709.99	0.03%	0.00%	-0.50%	-0.50%	-0.0001%
SCHWAB (CHARLES) CORP	SCHW	69,721.76	0.32%	0.77%	14.00%	14.82%	0.0473%
SEALED AIR CORP	SEE	7,565.73	0.03%	1.53%	12.00%	13.62%	0.0047%
SHERWIN-WILLIAMS CO/THE	SHW	37,300.86	0.17%	0.87%	14.50%	15.43%	0.0264%
SIGNET JEWELERS LTD	SIG	3,062.88	0.01%	2.68%	5.00%	7.75%	0.0011%
JM SMUCKER CO/THE	SJM	13,954.62	0.06%	2.56%	8.00%	10.66%	0.0068%
SCHLUMBERGER LTD	SLB	89,986.63	0.41%	3.08%	17.50%	20.85%	0.0859%
SL GREEN REALTY CORP	SLG	-	N/A	3.39%	N/A	N/A	N/A
SNAP-ON INC	SNA	9,109.15	0.04%	2.05%	9.00%	11.14%	0.0046%
SCRIPPS NETWORKS INTER-CL A	SNI	11,400.99	0.05%	1.37%	7.00%	8.42%	0.0044%
SYNOPSYS INC	SNPS	12,694.55	0.06%	0.00%	9.00%	9.00%	0.0052%
SOUTHERN CO/THE	SO	43,176.07	0.20%	5.58%	4.00%	9.69%	0.0192%
SIMON PROPERTY GROUP INC	SPG	-	N/A	5.06%	N/A	N/A	N/A
S&P GLOBAL INC	SPGI	47,901.75	0.22%	1.07%	14.50%	15.65%	0.0343%
STERICYCLE INC	SRCL	5,174.89	0.02%	0.00%	6.50%	6.50%	0.0015%
SEMpra ENERGY	SRE	26,766.64	0.12%	3.34%	7.50%	10.97%	0.0134%
SUNTRUST BANKS INC	STI	33,481.91	0.15%	2.28%	7.00%	9.36%	0.0143%
STATE STREET CORP	STT	38,092.79	0.17%	1.69%	9.50%	11.27%	0.0197%
SEAGATE TECHNOLOGY	STX	14,615.72	0.07%	4.91%	4.50%	9.52%	0.0064%
CONSTELLATION BRANDS INC-A	STZ	41,493.37	0.19%	1.02%	13.50%	14.59%	0.0277%
STANLEY BLACK & DECKER INC	SWK	24,497.98	0.11%	1.58%	9.50%	11.16%	0.0125%
SKYWORKS SOLUTIONS INC	SWKS	19,639.30	0.09%	1.19%	14.00%	15.27%	0.0137%
SYNCHRONY FINANCIAL	SYF	28,431.28	0.13%	1.65%	9.00%	10.72%	0.0140%
STRYKER CORP	SYK	59,451.04	0.27%	1.18%	14.00%	15.26%	0.0415%
SYMANTEC CORP	SYMC	16,764.05	0.08%	1.11%	8.50%	9.66%	0.0074%
SYSCO CORP	SYY	30,690.19	0.14%	2.45%	14.00%	16.62%	0.0234%
AT&T INC	T	223,904.80	1.03%	5.48%	5.50%	11.13%	0.1141%
MOLSON COORS BREWING CO -B	TAP	16,898.13	0.08%	2.14%	14.00%	16.29%	0.0126%
TRANSIDGM GROUP INC	TDG	15,271.81	0.07%	0.00%	8.00%	8.00%	0.0056%
TE CONNECTIVITY LTD	TEL	35,497.42	0.16%	1.58%	9.50%	11.16%	0.0181%
TARGET CORP	TGT	40,809.79	0.19%	3.31%	5.00%	8.39%	0.0157%
TIFFANY & CO	TIF	12,652.50	0.06%	2.11%	8.00%	10.19%	0.0059%
TJX COMPANIES INC	TJX	48,307.95	0.22%	1.64%	12.00%	13.74%	0.0304%
TORCHMARK CORP	TMK	9,879.35	0.05%	0.70%	7.50%	8.23%	0.0037%
THERMO FISHER SCIENTIFIC INC	TMO	83,860.09	0.38%	0.33%	9.00%	9.34%	0.0359%
TAPESTRY INC	TPR	14,030.16	0.06%	2.71%	14.00%	16.90%	0.0109%
TRIPADVISOR INC	TRIP	5,782.56	0.03%	0.00%	3.50%	3.50%	0.0009%
T ROWE PRICE GROUP INC	TROW	26,745.27	0.12%	2.54%	8.00%	10.64%	0.0130%
TRAVELERS COS INC/THE	TRV	37,672.07	0.17%	2.09%	1.00%	3.10%	0.0053%
TRACTOR SUPPLY COMPANY	TSCO	8,279.87	0.04%	1.78%	9.00%	10.86%	0.0041%
TYSON FOODS INC-CL A	TSN	27,485.92	0.13%	1.61%	11.50%	13.20%	0.0166%

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
TOTAL SYSTEM SERVICES INC	TSS	15,978.84	0.07%	0.60%	11.50%	12.13%	0.0089%
TIME WARNER INC	TWX	73,514.23	0.34%	1.71%	9.50%	11.29%	0.0380%
TEXAS INSTRUMENTS INC	TXN	102,512.10	0.47%	2.39%	10.50%	13.02%	0.0611%
TEXTRON INC	TXT	15,677.57	0.07%	0.13%	13.00%	13.14%	0.0094%
UNDER ARMOUR INC-CLASS A	UAA	7,339.89	0.03%	0.00%	3.50%	3.50%	0.0012%
UNITED CONTINENTAL HOLDINGS	UAL	19,760.01	0.09%	0.00%	2.50%	2.50%	0.0023%
UDR INC	UDR	-	N/A	3.71%	N/A	N/A	N/A
UNIVERSAL HEALTH SERVICES-B	UHS	11,077.18	0.05%	0.34%	9.00%	9.36%	0.0047%
ULTA BEAUTY INC	ULTA	12,462.15	0.06%	0.00%	21.00%	21.00%	0.0120%
UNITEDHEALTH GROUP INC	UNH	220,050.20	1.01%	1.32%	13.50%	14.91%	0.1502%
UNUM GROUP	UNM	11,501.05	0.05%	1.80%	12.00%	13.91%	0.0073%
UNION PACIFIC CORP	UNP	105,522.00	0.48%	2.19%	11.00%	13.31%	0.0643%
UNITED PARCEL SERVICE-CL B	UPS	90,578.96	0.41%	3.46%	8.50%	12.11%	0.0502%
UNITED RENTALS INC	URI	14,813.63	0.07%	0.00%	10.00%	10.00%	0.0068%
US BANCORP	USB	90,455.44	0.41%	2.25%	4.50%	6.80%	0.0282%
UNITED TECHNOLOGIES CORP	UTX	106,673.00	0.49%	2.10%	8.00%	10.18%	0.0497%
VISA INC-CLASS A SHARES	V	248,223.60	1.14%	0.70%	11.50%	12.24%	0.1391%
VARIAN MEDICAL SYSTEMS INC	VAR	10,977.34	0.05%	0.00%	10.00%	10.00%	0.0050%
VF CORP	VFC	29,670.57	0.14%	2.45%	9.00%	11.56%	0.0157%
VIACOM INC-CLASS B	VIAB	13,254.33	0.06%	2.43%	3.00%	5.47%	0.0033%
VALERO ENERGY CORP	VLO	40,314.86	0.18%	3.48%	7.00%	10.60%	0.0196%
VULCAN MATERIALS CO	VMC	16,154.16	0.07%	0.92%	19.00%	20.01%	0.0148%
VORNADO REALTY TRUST	VNO	12,632.58	0.06%	3.79%	-0.50%	3.28%	0.0019%
VERISK ANALYTICS INC	VRSK	16,387.54	0.08%	0.00%	9.50%	9.50%	0.0071%
VERISIGN INC	VRSN	11,361.57	0.05%	0.00%	10.50%	10.50%	0.0055%
VERTEX PHARMACEUTICALS INC	VRTX	39,820.31	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	-	N/A	6.50%	N/A	N/A	N/A
VERIZON COMMUNICATIONS INC	VZ	195,282.90	0.89%	4.93%	2.00%	6.98%	0.0624%
WATERS CORP	WAT	16,259.86	0.07%	0.00%	11.00%	11.00%	0.0082%
WALGREENS BOOTS ALLIANCE INC	WBA	69,004.37	0.32%	2.30%	11.00%	13.43%	0.0424%
WESTERN DIGITAL CORP	WDC	25,402.41	0.12%	2.34%	13.00%	15.49%	0.0180%
WEC ENERGY GROUP INC	WEC	19,041.86	0.09%	3.66%	6.00%	9.77%	0.0085%
WELLTOWER INC	WELL	N/A	N/A	0.00%	N/A	N/A	N/A
WELLS FARGO & CO	WFC	289,808.10	1.33%	2.70%	5.00%	7.77%	0.1031%
WHIRLPOOL CORP	WHR	12,130.56	0.06%	2.61%	8.00%	10.71%	0.0060%
WILLIS TOWERS WATSON PLC	WLTW	20,706.26	N/A	1.35%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	36,690.41	0.17%	2.20%	9.50%	11.80%	0.0198%
WILLIAMS COS INC	WMB	23,590.56	0.11%	4.20%	17.50%	22.07%	0.0238%
WALMART INC	WMT	275,341.40	1.26%	2.23%	5.50%	7.79%	0.0982%
WESTROCK CO	WRK	16,639.87	0.08%	2.64%	10.00%	12.77%	0.0097%
WESTERN UNION CO	WU	9,227.34	0.04%	3.78%	6.00%	9.89%	0.0042%
WEYERHAEUSER CO	WY	26,251.36	0.12%	3.67%	14.50%	18.44%	0.0222%
WYNDHAM WORLDWIDE CORP	WYN	12,122.41	0.06%	2.17%	8.00%	10.26%	0.0057%
WYNN RESORTS LTD	WYNN	16,875.94	0.08%	1.22%	14.00%	15.31%	0.0118%
CIMAREX ENERGY CO	XEC	9,091.71	0.04%	0.34%	27.50%	27.89%	0.0116%
XCEL ENERGY INC	XEL	22,143.54	0.10%	3.49%	4.50%	8.07%	0.0082%
XL GROUP LTD	XL	11,502.92	0.05%	2.04%	13.00%	15.17%	0.0080%
XILINX INC	XLNX	17,564.40	0.08%	2.03%	8.00%	10.11%	0.0081%
EXXON MOBIL CORP	XOM	321,418.80	1.47%	4.14%	9.00%	13.33%	0.1961%
DENTSPLY SIRONA INC	XRAY	13,112.46	0.06%	0.61%	8.50%	9.14%	0.0055%
XEROX CORP	XRX	7,696.14	0.04%	3.31%	4.00%	7.38%	0.0026%
XYLEM INC	XYL	13,478.98	0.06%	1.12%	14.00%	15.20%	0.0094%
YUM! BRANDS INC	YUM	26,550.48	0.12%	1.84%	7.50%	9.41%	0.0114%
ZIMMER BIOMET HOLDINGS INC	ZBH	23,798.19	0.11%	0.85%	6.50%	7.38%	0.0080%
ZIONS BANCORPORATION	ZION	10,928.24	0.05%	1.68%	15.50%	17.31%	0.0087%
ZOETIS INC	ZTS	39,397.31	0.18%	0.62%	13.00%	13.66%	0.0246%
Total Market Capitalization:		21,842,894.02					15.54%

Notes:

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

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1] Bloomberg	[2] Value Line
ALLETE, Inc.	ALE	0.669	0.800
Alliant Energy Corporation	LNT	0.542	0.700
Black Hills Corporation	BKH	0.688	0.900
El Paso Electric Company	EE	0.687	0.800
Hawaiian Electric Industries, Inc.	HE	0.561	0.700
IDACORP, Inc.	IDA	0.633	0.700
Northwestern Corporation	NWE	0.549	0.700
OGE Energy Corp.	OGE	0.656	0.950
PNM Resources, Inc.	PNM	0.720	0.750
Mean		0.634	0.778

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]
					CAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT						
Current 30-Year Treasury [7]	3.05%	0.634	11.78%	12.49%	10.52%	10.97%
Near-Term Projected 30-Year Treasury [8]	3.42%	0.634	11.78%	12.49%	10.89%	11.33%
Mean					10.70%	11.15%
					CAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT						
Current 30-Year Treasury [7]	3.05%	0.778	11.78%	12.49%	12.22%	12.76%
Near-Term Projected 30-Year Treasury [8]	3.42%	0.778	11.78%	12.49%	12.58%	13.13%
Mean					12.40%	12.95%

Notes:

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

[2] Source: Exhibit___(RBH-1), Schedule 4

[3] Source: Exhibit___(RBH-1), Schedule 3

[4] Source: Exhibit___(RBH-1), Schedule 3

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

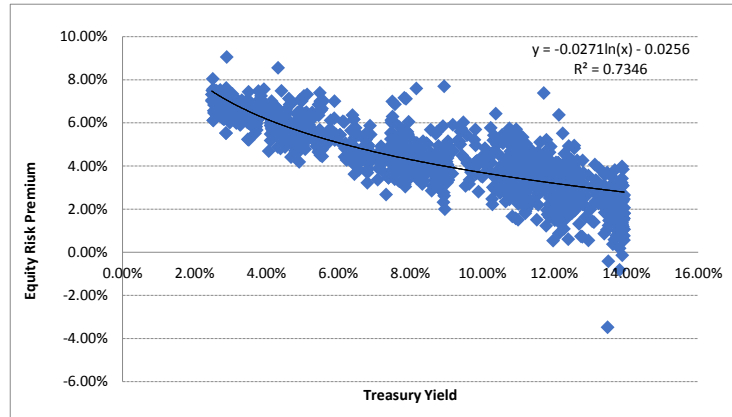
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Source: Bloomberg Professional

[8] 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	
-2.56%	-2.71%				
		Current 30-Year Treasury	3.05%	6.92%	9.97%
		Near-Term Projected 30-Year Treasury	3.42%	6.61%	10.03%
		Long-Term Projected 30-Year Treasury	4.20%	6.05%	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: SNL Financial
- [7] Source: SNL Financial
- [8] Source: Bloomberg Professional, equals 201-trading day average (i.e. lag period)
- [9] Equals [7] - [8]

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

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

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

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

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

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

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

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

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

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of	Return on	30-Year	Risk
Electric Rate	Equity	Treasury	Premium
Case	Yield	Yield	Premium
8/14/1986	13.50%	8.35%	5.15%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.03%	5.22%
10/1/1986	14.00%	7.95%	6.05%
10/3/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.75%	5.25%
12/3/1986	12.90%	7.58%	5.32%
12/4/1986	14.44%	7.58%	6.86%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.51%	6.29%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.49%	5.51%
1/12/1987	12.40%	7.47%	4.93%
1/27/1987	12.71%	7.46%	5.25%
3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.38%	7.47%	4.91%
3/10/1987	13.50%	7.47%	6.03%
3/13/1987	13.00%	7.47%	5.53%
3/31/1987	13.00%	7.46%	5.54%
4/6/1987	13.00%	7.47%	5.53%
4/14/1987	12.50%	7.49%	5.01%
4/16/1987	14.50%	7.50%	7.00%
4/27/1987	12.00%	7.54%	4.46%
5/5/1987	12.85%	7.58%	5.27%
5/12/1987	12.65%	7.62%	5.03%
5/28/1987	13.50%	7.70%	5.80%
6/15/1987	13.20%	7.78%	5.42%
6/29/1987	15.00%	7.83%	7.17%
6/30/1987	12.50%	7.84%	4.66%
7/8/1987	12.00%	7.86%	4.14%
7/10/1987	12.90%	7.86%	5.04%
7/15/1987	13.50%	7.88%	5.62%
7/16/1987	13.50%	7.88%	5.62%
7/16/1987	15.00%	7.88%	7.12%
7/27/1987	13.00%	7.92%	5.08%
7/27/1987	13.40%	7.92%	5.48%
7/27/1987	13.50%	7.92%	5.58%
7/31/1987	12.98%	7.95%	5.03%
8/26/1987	12.63%	8.06%	4.57%
8/26/1987	12.75%	8.06%	4.69%
8/27/1987	13.25%	8.06%	5.19%
9/9/1987	13.00%	8.14%	4.86%
9/30/1987	12.75%	8.31%	4.44%
9/30/1987	13.00%	8.31%	4.69%
10/2/1987	11.50%	8.33%	3.17%
10/15/1987	13.00%	8.43%	4.57%
11/2/1987	13.00%	8.55%	4.45%
11/19/1987	13.00%	8.64%	4.36%
11/30/1987	12.00%	8.68%	3.32%
12/3/1987	14.20%	8.70%	5.50%
12/15/1987	13.25%	8.77%	4.48%
12/16/1987	13.50%	8.78%	4.72%
12/16/1987	13.72%	8.78%	4.94%
12/17/1987	11.75%	8.79%	2.96%
12/18/1987	13.50%	8.80%	4.70%
12/21/1987	12.01%	8.81%	3.20%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.00%	8.81%	3.19%
12/22/1987	12.75%	8.81%	3.94%
12/22/1987	13.00%	8.81%	4.19%
1/20/1988	13.80%	8.94%	4.86%
1/26/1988	13.90%	8.95%	4.95%
1/29/1988	13.20%	8.96%	4.24%
2/4/1988	12.60%	8.96%	3.64%
3/1/1988	11.56%	8.94%	2.62%
3/23/1988	12.87%	8.92%	3.95%

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

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

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

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

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

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

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

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

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

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

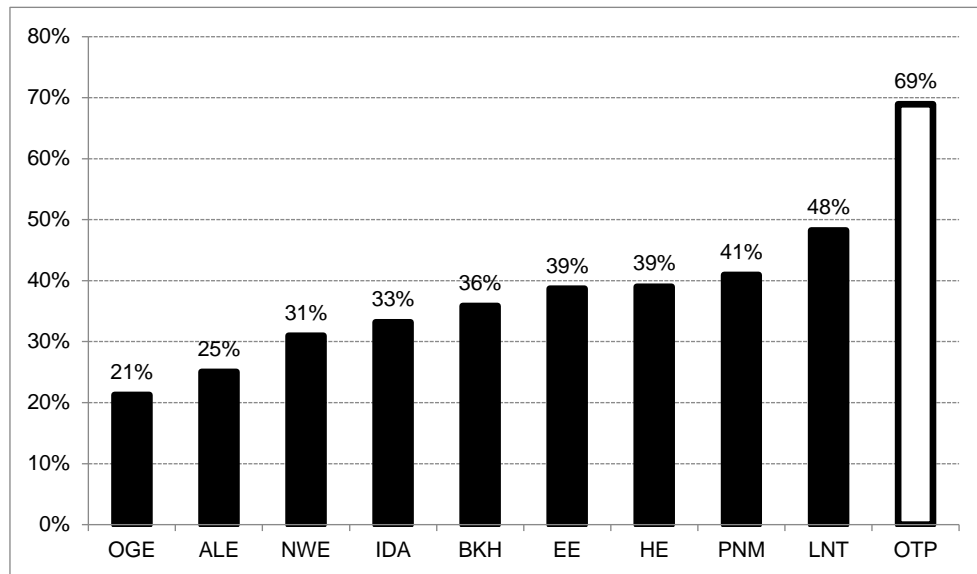
Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/13/2012	9.50%	2.88%	6.62%
12/13/2012	10.50%	2.88%	7.62%
12/14/2012	10.40%	2.88%	7.52%
12/19/2012	9.71%	2.87%	6.84%
12/19/2012	10.25%	2.87%	7.38%
12/20/2012	9.50%	2.87%	6.63%
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%
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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
4/2/2014	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%

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/9/2016	9.85%	2.66%	7.19%
8/18/2016	9.50%	2.63%	6.87%
8/24/2016	9.75%	2.62%	7.13%
9/1/2016	9.50%	2.59%	6.91%
9/8/2016	10.00%	2.58%	7.42%
9/28/2016	9.58%	2.54%	7.04%
9/30/2016	9.90%	2.53%	7.37%
11/9/2016	9.80%	2.48%	7.32%
11/10/2016	9.50%	2.48%	7.02%
11/15/2016	9.55%	2.49%	7.06%
11/18/2016	10.00%	2.50%	7.50%
11/29/2016	10.55%	2.51%	8.04%
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%

Bond Yield Plus Risk Premium			
[6]	[7]	[8]	[9]
Date of	Return on	30-Year	Risk
Electric Rate	Equity	Treasury	Premium
Case	Equity	Yield	Premium
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%
		# of Cases:	1545
		Average:	4.62%

Capital Expenditures Relative to Net Plant



Company	Ticker	4-Year CAPEX / 2016 Net Plant [1]
ALLETE, Inc.	ALE	25.06%
Alliant Energy Corporation	LNT	48.25%
Black Hills Corporation	BKH	35.86%
El Paso Electric Company	EE	38.67%
Hawaiian Electric Industries, Inc.	HE	39.00%
IDACORP, Inc.	IDA	33.16%
Northwestern Corporation	NWE	30.96%
OGE Energy Corp.	OGE	21.28%
PNM Resources, Inc.	PNM	40.92%
Median		34.80%
Otter Tail Power Company [2]		68.92%

Notes:

[1] Source: Value Line; Value Line estimates 2018 and 2020-2022 CAPEX

[2] Source: Company provided data and S&P Global Market Intelligence

Small Size Premium and Service Area Comparability

		[1]	[2]	[3]	[4]		
		Customers	Service Area	Customer	Market Cap		
		(Mil)	(Sq. Miles)	Density	(\$Bil)		
				(cust./sq. mi.)			
Otter Tail Power Company		0.13	33,727	3.89	\$0.045		
Median Market to Book for Proxy Group					1.73		
OTP Implied Market Cap					\$0.078		
		[5]	[6]	[7]	[8]	[9]	[10]
Company Name	Ticker	Customers	Service Area	Customer	Market Cap	Market to	Included in
		(Mil)	(Sq. Miles)	Density	(\$Bil)	Book Ratio	Proxy Group
				(Cust./Sq. mi.)			
ALLETE, Inc.	ALE	0.16	2,437	65.79	\$3.60	1.75	✓
Alliant Energy Corporation	LNT	0.95	18,499	51.59	\$9.03	2.17	✓
Ameren Corporation	AEE	2.43	26,553	91.65	\$13.40	1.82	
American Electric Power Company, Inc.	AEP	4.35	112,433	38.69	\$32.89	1.82	
Black Hills Corporation	BKH	0.21	18,830	11.06	\$2.84	1.69	✓
CMS Energy Corporation	CMS	1.80	28,175	64.05	\$12.29	2.72	
Dominion Resources, Inc.	D	2.55	13,239	192.61	\$48.34	2.96	
DTE Energy Company	DTE	2.17	7,775	279.03	\$18.46	1.96	
Duke Energy Corporation	DUK	7.45	99,739	74.68	\$53.66	1.29	
EI Paso Electric Company	EE	0.41	7,012	58.26	\$2.06	1.81	✓
Hawaiian Electric Industries, Inc.	HE	0.46	5,800	79.15	\$3.65	1.73	✓
IDACORP, Inc.	IDA	0.53	28,944	18.31	\$4.23	1.88	✓
Northwestern Corporation	NWE	0.43	100,767	4.23	\$2.59	1.46	✓
OGE Energy Corp.	OGE	0.83	27,304	30.40	\$6.27	1.72	✓
Pinnacle West Capital Corporation	PNW	1.19	3,014	396.04	\$8.72	1.70	
PNM Resources, Inc.	PNM	0.76	7,212	105.93	\$3.05	1.63	✓
Portland General Electric Company	POR	0.86	3,074	279.55	\$3.67	1.52	
Southern Company	SO	4.58	118,840	38.53	\$44.27	1.84	
WEC Energy Group, Inc.	WEC	1.59	11,910	133.75	\$19.52	2.08	
Xcel Energy Inc.	XEL	3.54	56,639	62.54	\$22.54	1.97	
ALL COMPANIES - MEAN		1.1	18,665	64.92	\$8.88	1.81	
ALL COMPANIES - MEDIAN		1.9	34,910	103.79	\$15.75	1.88	
PROXY COMPANIES - MEAN		0.5	24,090	47.19	\$4.15	1.76	
PROXY COMPANIES - MEDIAN		0.5	18,499	51.59	\$3.60	1.73	

Market Capitalization (\$Mil) [11]			
Decile	Low	High	Size Premium
2	\$ 10,784.101	\$24,233.747	0.61%
3	\$ 5,683.991	\$10,711.194	0.89%
4	\$ 3,520.566	\$ 5,676.716	0.98%
5	\$ 2,392.689	\$ 3,512.913	1.51%
6	\$ 1,571.193	\$ 2,390.899	1.66%
7	\$ 1,033.341	\$ 1,569.984	1.72%
8	\$ 569.279	\$ 1,030.426	2.08%
9	\$ 263.715	\$ 567.843	2.68%
10	\$ 2.516	\$ 262.891	5.59%

Notes:

- [1] Source: S&P Global Market Intelligence
[2] Source: S&P Global Market Intelligence
[3] Equals [1] / [2]
[4] Proposed Rate Base x Equity ratio
[5] Source: S&P Global Market Intelligence
[6] Source: S&P Global Market Intelligence
[7] Equals [5] / [6]
[8] Source: S&P Global Market Intelligence, 30-day average
[9] Source: S&P Global Market Intelligence, 30-day average
[10] Indicates if proxy group screening criteria were met
[11] Source: Duff and Phelps 2017 Valuation Handbook

Customer Concentration

Company	Ticker	[1] C&I Revenue	[2] C&I Sales Volume
ALLETE, Inc.	ALE	88.48%	87.76%
Alliant Energy Corporation	LNT	65.19%	71.88%
Black Hills Corporation	BKH	67.53%	72.86%
El Paso Electric Company	EE	58.89%	64.09%
Hawaiian Electric Industries, Inc.	HE	69.33%	73.63%
IDACORP, Inc.	IDA	56.43%	64.75%
Northwestern Corporation	NWE	61.21%	60.76%
OGE Energy Corp.	OGE	55.35%	65.34%
PNM Resources, Inc.	PNM	58.21%	65.41%
Mean		64.51%	69.61%
Median		61.21%	65.41%
Otter Tail Power Company		69.49%	74.30%

Source: S&P Global Market Intelligence

Institutional Ownership as a Percentage of Total Shares Outstanding

<u>Company</u>	<u>Ticker</u>	<u>Institutional Ownership</u>
ALLETE, Inc.	ALE	75.81%
Alliant Energy Corporation	LNT	71.40%
Black Hills Corporation	BKH	99.03%
El Paso Electric Company	EE	99.47%
Hawaiian Electric Industries, Inc.	HE	50.09%
IDACORP, Inc.	IDA	78.17%
Northwestern Corporation	NWE	99.56%
OGE Energy Corp.	OGE	63.74%
PNM Resources, Inc.	PNM	93.67%
Average		81.22%
<u>Otter Tail Corporation</u>	<u>OTTR</u>	<u>43.10%</u>

Source: S&P Global Market Intelligence as of March 21, 2018

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%
Black Hills Corporation	BKH	54.75%	53.84%	53.20%	52.81%	52.73%	52.55%	52.57%	52.51%	53.12%
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%
PNM Resources, Inc.	PNM	47.58%	46.89%	46.38%	46.01%	46.07%	44.88%	45.35%	45.32%	46.06%
Mean		53.28%	52.58%	52.35%	52.37%	52.40%	51.92%	51.69%	52.04%	52.33%
Median		53.05%	52.75%	53.20%	52.81%	52.73%	52.46%	51.65%	52.34%	52.84%

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%
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%
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%
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
Mean		54.01%	53.29%	52.98%	52.83%	52.85%	52.51%	52.37%	52.51%	52.92%
Median		53.16%	53.26%	53.22%	52.88%	53.13%	52.46%	51.78%	52.34%	52.84%

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%
Black Hills Corporation	BKH	45.25%	46.16%	46.80%	47.19%	47.27%	47.45%	47.43%	47.49%	46.88%
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%
PNM Resources, Inc.	PNM	52.42%	53.11%	53.62%	53.99%	53.93%	55.12%	54.65%	54.68%	53.94%
Mean		46.72%	47.42%	47.65%	47.63%	47.60%	48.08%	48.31%	47.96%	47.67%
Median		46.95%	47.25%	46.80%	47.19%	47.27%	47.54%	48.35%	47.66%	47.16%

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%
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%
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%
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
Mean		45.99%	46.71%	47.02%	47.17%	47.15%	47.49%	47.63%	47.49%	47.08%
Median		46.84%	46.74%	46.78%	47.12%	46.87%	47.54%	48.22%	47.66%	47.16%

Summary

Bob Hevert is a financial and economic consultant with more than 30 years of broad experience in the energy and utility industries. He has an extensive background in the areas of corporate finance, mergers and acquisitions, project finance, asset and business unit valuation, rate and regulatory matters, energy market assessment, and corporate strategic planning. He has provided expert testimony on a wide range of financial, strategic, and economic matters on more than 200 occasions at the state, provincial, and federal levels.

Prior to joining ScottMadden, Bob served as managing partner at Sussex Economic Advisors, LLC. Throughout the course of his career, he has worked with numerous leading energy companies and financial institutions throughout North America. He has provided expert testimony and support of litigation in various regulatory proceedings on a variety of energy and economic issues. Bob earned a B.S. in business and economics from the University of Delaware and an M.B.A. with a concentration in finance from the University of Massachusetts at Amherst. Bob also holds the Chartered Financial Analyst designation.

Areas of Specialization

- Regulation and rates
- Utilities
- Fossil/hydro generation
- Markets and RTOs
- Nuclear generation
- Mergers and acquisitions
- Regulatory strategy and rate case support
- Capital project planning
- Strategic and business planning

Recent Expert Testimony Submission/Appearance

- Federal Energy Regulatory Commission – Return on Equity
- New Jersey Board of Public Utilities – Merger Approval
- New Mexico Public Regulation Commission – Cost of Capital and Financial Integrity
- United States District Court – PURPA and FERC Regulations
- Alberta Utilities Commission – Return on Equity and Capital Structure

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies, the Alberta Utilities Commission, and the Federal Energy Regulatory Commission
- For an independent electric transmission provider in Texas, prepared an expert report on the economic damages with respect to failure to meet guaranteed completion dates. The report was filed as part of an arbitration proceeding and included a review of the ratemaking implications of economic damages
- Advised the board of directors of a publicly traded electric and natural gas combination utility on dividend policy issues, earnings payout trends and related capital market considerations
- Assisted a publicly traded utility with a strategic buy-side evaluation of a gas utility with more than \$1 billion in assets. The assignment included operational performance benchmarking, calculation of merger synergies, risk analysis, and review of the regulatory implications of the transaction
- Provided testimony before the Arkansas Public Service Commission in support of the acquisition of SourceGas LLC by Black Hills Corporation. The testimony addressed certain balance sheet capitalization and credit rating issues
- For the State of Maine Public Utility Commission, prepared a report that summarized the Northeast and Atlantic Canada natural gas power markets and analyzed the potential benefits and costs associated with natural gas pipeline expansions. The independent report was filed at the Maine Public Utility Commission

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Regulatory Commission of Alaska				
ENSTAR Natural Gas Company	06/16	ENSTAR Natural Gas Company	Matter No. TA 285-4	Return on Equity
ENSTAR Natural Gas Company	08/14	ENSTAR Natural Gas Company	Matter No. TA 262-4	Return on Equity
Alberta Utilities Commission				
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	10/17	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc., and FortisAlberta Inc.	2018 General Cost of Capital, Proceeding ID. 22570	Rate of Return
EPCOR Energy Alberta G.P. Inc.	01/17	EPCOR Energy Alberta G.P. Inc.	Proceeding 22357	Energy Price Setting Plan
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	02/16	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	2016 General Cost of Capital, Proceeding ID. 20622	Rate of Return
Arizona Corporation Commission				
Southwest Gas Corporation	05/16	Southwest Gas Corporation	Docket No. G-01551A-16-017	Return on Equity
Southwest Gas Corporation	11/10	Southwest Gas Corporation	Docket No. G-01551A-10-0458	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Company	09/16	Oklahoma Gas and Electric Company	Docket No. 16-052-U	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	11/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 15-098-U	Return on Equity
SourceGas Arkansas, Inc.	04/15	SourceGas Arkansas, Inc.	Docket No. 15-011-U	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	01/07	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas	Docket No. 06-161-U	Return on Equity
California Public Utilities Commission				
Southwest Gas Corporation	12/12	Southwest Gas Corporation	Docket No. A-12-12-024	Return on Equity
Colorado Public Utilities Commission				
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Return on Equity
Xcel Energy, Inc.	03/15	Public Service Company of Colorado	Docket No. 15AL-0135G	Return on Equity (gas)
Xcel Energy, Inc.	06/14	Public Service Company of Colorado	Docket No. 14AL-0660E	Return on Equity (electric)
Xcel Energy, Inc.	12/12	Public Service Company of Colorado	Docket No. 12AL-1268G	Return on Equity (gas)
Xcel Energy, Inc.	11/11	Public Service Company of Colorado	Docket No. 11AL-947E	Return on Equity (electric)
Xcel Energy, Inc.	12/10	Public Service Company of Colorado	Docket No. 10AL-963G	Return on Equity (electric)
Atmos Energy Corporation	07/09	Atmos Energy Colorado-Kansas Division	Docket No. 09AL-507G	Return on Equity (gas)
Xcel Energy, Inc.	12/06	Public Service Company of Colorado	Docket No. 06S-656G	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Xcel Energy, Inc.	04/06	Public Service Company of Colorado	Docket No. 06S-234EG	Return on Equity (electric)
Xcel Energy, Inc.	08/05	Public Service Company of Colorado	Docket No. 05S-369ST	Return on Equity (steam)
Xcel Energy, Inc.	05/05	Public Service Company of Colorado	Docket No. 05S-246G	Return on Equity (gas)
Connecticut Public Utilities Regulatory Authority				
Connecticut Light and Power Company	11/17	Connecticut Light and Power Company	Docket No. 17-10-46	Return on Equity
Connecticut Light and Power Company	06/14	Connecticut Light and Power Company	Docket No. 14-05-06	Return on Equity
Southern Connecticut Gas Company	09/08	Southern Connecticut Gas Company	Docket No. 08-08-17	Return on Equity
Southern Connecticut Gas Company	12/07	Southern Connecticut Gas Company	Docket No. 05-03-17PH02	Return on Equity
Connecticut Natural Gas Corporation	12/07	Connecticut Natural Gas Corporation	Docket No. 06-03-04PH02	Return on Equity
Delaware Public Service Commission				
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0977 (Electric)	Return on Equity
Delmarva Power & Light Company	08/17	Delmarva Power & Light Company	Docket No. 17-0978 (Gas)	Return on Equity
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-649 (Electric)	Return on Equity
Delmarva Power & Light Company	05/16	Delmarva Power & Light Company	Case No. 16-650 (Gas)	Return on Equity
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 13-115	Return on Equity
Delmarva Power & Light Company	12/12	Delmarva Power & Light Company	Case No. 12-546	Return on Equity
Delmarva Power & Light Company	03/12	Delmarva Power & Light Company	Case No. 11-528	Return on Equity
District of Columbia Public Service Commission				
Potomac Electric Power Company	12/17	Potomac Electric Power Company	Formal Case No. 1150	Return on Equity
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Formal Case No. 1139	Return on Equity
Washington Gas Light Company	02/16	Washington Gas Light Company	Formal Case No. 1137	Return on Equity
Potomac Electric Power Company	03/13	Potomac Electric Power Company	Formal Case No. 1103-2013-E	Return on Equity
Potomac Electric Power Company	07/11	Potomac Electric Power Company	Formal Case No. 1087	Return on Equity
Federal Energy Regulatory Commission				
Sabine Pipeline, LLC	09/15	Sabine Pipeline, LLC	Docket No. RP15-1322-000	Return on Equity
NextEra Energy Transmission West, LLC	07/15	NextEra Energy Transmission West, LLC	Docket No. ER15-2239-000	Return on Equity
Maritimes & Northeast Pipeline, LLC	05/15	Maritimes & Northeast Pipeline, LLC	Docket No. RP15-1026-000	Return on Equity
Public Service Company of New Mexico	12/12	Public Service Company of New Mexico	Docket No. ER13-685-000	Return on Equity
Public Service Company of New Mexico	10/10	Public Service Company of New Mexico	Docket No. ER11-1915-000	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Portland Natural Gas Transmission System	05/10	Portland Natural Gas Transmission System	Docket No. RP10-729-000	Return on Equity
Florida Gas Transmission Company, LLC	10/09	Florida Gas Transmission Company, LLC	Docket No. RP10-21-000	Return on Equity
Maritimes and Northeast Pipeline, LLC	07/09	Maritimes and Northeast Pipeline, LLC	Docket No. RP09-809-000	Return on Equity
Spectra Energy	02/08	Saltville Gas Storage	Docket No. RP08-257-000	Return on Equity
Panhandle Energy Pipelines	08/07	Panhandle Energy Pipelines	Docket No. PL07-2-000	Response to draft policy statement regarding inclusion of MLPs in proxy groups for determination of gas pipeline ROEs
Southwest Gas Storage Company	08/07	Southwest Gas Storage Company	Docket No. RP07-541-000	Return on Equity
Southwest Gas Storage Company	06/07	Southwest Gas Storage Company	Docket No. RP07-34-000	Return on Equity
Sea Robin Pipeline LLC	06/07	Sea Robin Pipeline LLC	Docket No. RP07-513-000	Return on Equity
Transwestern Pipeline Company	09/06	Transwestern Pipeline Company	Docket No. RP06-614-000	Return on Equity
GPU International and Aquila	11/00	GPU International	Docket No. EC01-24-000	Market Power Study
Florida Public Service Commission				
Florida Power & Light Company	03/16	Florida Power & Light Company	Docket No. 160021-EI	Return on Equity
Tampa Electric Company	04/13	Tampa Electric Company	Docket No. 130040-EI	Return on Equity
Georgia Public Service Commission				
Atlanta Gas Light Company	05/10	Atlanta Gas Light Company	Docket No. 31647-U	Return on Equity
Hawaii Public Utilities Commission				
Maui Electric Company, Limited	10/17	Maui Electric Company, Limited	Docket No. 2017-0150	Return on Equity
Hawaiian Electric Company, Inc.	12/16	Hawaiian Electric Company, Inc.	Docket No. 2016-0328	Return on Equity
Hawai'i Electric Light Company, Inc.	09/16	Hawai'i Electric Light Company, Inc.	Docket No. 2015-0170	Return on Equity
Maui Electric Company, Limited	12/14	Maui Electric Company, Limited	Docket No. 2014-0318	Return on Equity
Hawaiian Electric Company, Inc.	06/14	Hawaiian Electric Company, Inc.	Docket No. 2013-0373	Return on Equity
Hawai'i Electric Light Company, Inc.	08/12	Hawai'i Electric Light Company, Inc.	Docket No. 2012-0099	Return on Equity
Illinois Commerce Commission				
Ameren Illinois Company d/b/a Ameren Illinois	01/18	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 18-0463	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Ameren Illinois Company d/b/a Ameren Illinois	01/15	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 15-0142	Return on Equity
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	04/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Docket No. 14-0371	Return on Equity
Ameren Illinois Company d/b/a Ameren Illinois	01/13	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 13-0192	Return on Equity
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0279	Return on Equity (electric)
Ameren Illinois Company d/b/a Ameren Illinois	02/11	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 11-0282	Return on Equity (gas)
Indiana Utility Regulatory Commission				
Indiana Michigan Power Company	7/17	Indiana Michigan Power Company	Cause No. 44967	Return on Equity
Duke Energy Indiana, Inc.	12/15	Duke Energy Indiana, Inc.	Cause No. 44720	Return on Equity
Duke Energy Indiana, Inc.	12/14	Duke Energy Indiana, Inc.	Cause No. 44526	Return on Equity
Northern Indiana Public Service Company	05/09	Northern Indiana Public Service Company	Cause No. 43894	Assessment of Valuation Approaches
Kansas Corporation Commission				
Westar Energy	02/18	Westar Energy	Docket No. 18-WSEE-328-RTS	Return on Equity
Kansas City Power & Light Company	01/15	Kansas City Power & Light Company	Docket No. 15-KCPE-116-RTS	Return on Equity
Maine Public Utilities Commission				
Northern Utilities, Inc.	05/17	Northern Utilities, Inc.	Docket No. 2017-00065	Return on Equity
Central Maine Power Company	06/11	Central Maine Power Company	Docket No. 2010-327	Response to Bench Analysis provided by Commission Staff relating to the Company's credit and collections processes
Maryland Public Service Commission				
Potomac Electric Power Company	01/18	Potomac Electric Power Company	Case No. 9472	Return on Equity
Delmarva Power & Light Company	07/17	Delmarva Power & Light Company	Case No. 9455	Return on Equity
Potomac Electric Power Company	03/17	Potomac Electric Power Company	Case No. 9443	Return on Equity
Delmarva Power & Light Company	06/16	Delmarva Power & Light Company	Case No. 9424	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Potomac Electric Power Company	06/16	Potomac Electric Power Company	Case No. 9418	Return on Equity
Potomac Electric Power Company	12/13	Potomac Electric Power Company	Case No. 9336	Return on Equity
Delmarva Power & Light Company	03/13	Delmarva Power & Light Company	Case No. 9317	Return on Equity
Potomac Electric Power Company	11/12	Potomac Electric Power Company	Case No. 9311	Return on Equity
Potomac Electric Power Company	12/11	Potomac Electric Power Company	Case No. 9286	Return on Equity
Delmarva Power & Light Company	12/11	Delmarva Power & Light Company	Case No. 9285	Return on Equity
Delmarva Power & Light Company	12/10	Delmarva Power & Light Company	Case No. 9249	Return on Equity
Massachusetts Department of Public Utilities				
Boston Gas Company, Colonial Gas Company each d/b/a National Grid	11/17	Boston Gas Company, Colonial Gas Company each d/b/a National Grid	DPU 17-170	Return on Equity
NSTAR Electric Company Western and Massachusetts Electric Company each d/b/a Eversource Energy	01/17	NSTAR Electric Company Western Massachusetts Electric Company each d/b/a Eversource Energy	DPU 17-05	Return on Equity
National Grid	11/15	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 15-155	Return on Equity
Fitchburg Gas and Electric Light Company d/b/a Unitil	06/15	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 15-80	Return on Equity
NSTAR Gas Company	12/14	NSTAR Gas Company	DPU 14-150	Return on Equity
Fitchburg Gas and Electric Light Company d/b/a Unitil	07/13	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 13-90	Return on Equity
Bay State Gas Company d/b/a Columbia Gas of Massachusetts	04/12	Bay State Gas Company d/b/a Columbia Gas of Massachusetts	DPU 12-25	Capital Cost Recovery
National Grid	08/09	Massachusetts Electric Company d/b/a National Grid	DPU 09-39	Revenue Decoupling and Return on Equity
National Grid	08/09	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 09-38	Return on Equity – Solar Generation
Bay State Gas Company	04/09	Bay State Gas Company	DPU 09-30	Return on Equity
NSTAR Electric	09/04	NSTAR Electric	DTE 04-85	Divestiture of Power Purchase Agreement

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
NSTAR Electric	08/04	NSTAR Electric	DTE 04-78	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	DTE 04-68	Divestiture of Power Purchase Agreement
NSTAR Electric	07/04	NSTAR Electric	DTE 04-61	Divestiture of Power Purchase Agreement
NSTAR Electric	06/04	NSTAR Electric	DTE 04-60	Divestiture of Power Purchase Agreement
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Bay State Gas Company	01/93	Bay State Gas Company	DPU 93-14	Divestiture of Shelf Registration
Bay State Gas Company	01/91	Bay State Gas Company	DPU 91-25	Divestiture of Shelf Registration
Michigan Public Service Commission				
Indiana Michigan Power Company	05/17	Indiana Michigan Power Company	Case No. U-18370	Return on Equity
Minnesota Public Utilities Commission				
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/17	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-17-285	Return on Equity
ALLETE, Inc., d/b/a Minnesota Power Inc.	11/16	ALLETE, Inc., d/b/a Minnesota Power Inc.	Docket No. E015/GR-16-664	Return on Equity
Otter Tail Power Corporation	02/16	Otter Tail Power Company	Docket No. E017/GR-15-1033	Return on Equity
Minnesota Energy Resources Corporation	09/15	Minnesota Energy Resources Corporation	Docket No. G-011/GR-15-736	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-15-424	Return on Equity
Xcel Energy, Inc.	11/13	Northern States Power Company	Docket No. E002/GR-13-868	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/13	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-13-316	Return on Equity
Xcel Energy, Inc.	11/12	Northern States Power Company	Docket No. E002/GR-12-961	Return on Equity
Otter Tail Power Corporation	04/10	Otter Tail Power Company	Docket No. E-017/GR-10-239	Return on Equity
Minnesota Power a division of ALLETE, Inc.	11/09	Minnesota Power	Docket No. E-015/GR-09-1151	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	11/08	CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-08-1075	Return on Equity
Otter Tail Power Corporation	10/07	Otter Tail Power Company	Docket No. E-017/GR-07-1178	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Xcel Energy, Inc.	11/05	Northern States Power Company -Minnesota	Docket No. E-002/GR-05-1428	Return on Equity (electric)
Xcel Energy, Inc.	09/04	Northern States Power Company - Minnesota	Docket No. G-002/GR-04-1511	Return on Equity (gas)
Mississippi Public Service Commission				
CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Mississippi Gas	07/09	CenterPoint Energy Mississippi Gas	Docket No. 09-UN-334	Return on Equity
Missouri Public Service Commission				
KCP&L Greater Missouri Operations Company	01/18	KCP&L Greater Missouri Operations Company	Case No. ER-2018-0146	Return on Equity
Kansas City Power & Light Company	01/18	Kansas City Power & Light Company	Case No. ER-2018-0145	Return on Equity
Laclede Gas Company and Missouri Gas Energy	11/17	Laclede Gas Company and Missouri Gas Energy	Case No. GR-2017-0215 Case No. GR-2017-0216	Goodwill Adjustment on Capital Structure
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a/ Liberty Utilities	09/17	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a/ Liberty Utilities	Case No. GR-2018-0013	New Ratemaking Mechanisms
Union Electric Company d/b/a Ameren Missouri	07/16	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2016-0179	Return on Equity (electric)
Kansas City Power & Light Company	07/16	Kansas City Power & Light Company	Case No. ER-2016-0285	Return on Equity (electric)
Kansas City Power & Light Company	02/16	Kansas City Power & Light Company	Case No. ER-2016-0156	Return on Equity (electric)
Kansas City Power & Light Company	10/14	Kansas City Power & Light Company	Case No. ER-2014-0370	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	07/14	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2014-0258	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	06/14	Union Electric Company d/b/a Ameren Missouri	Case No. EC-2014-0223	Return on Equity (electric)
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	02/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Case No. GR-2014-0152	Return on Equity
Laclede Gas Company	12/12	Laclede Gas Company	Case No. GR-2013-0171	Return on Equity
Union Electric Company d/b/a Ameren Missouri	02/12	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2012-0166	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	09/10	Union Electric Company d/b/a AmerenUE	Case No. ER-2011-0028	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	06/10	Union Electric Company d/b/a AmerenUE	Case No. GR-2010-0363	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Montana Public Service Commission				
Northwestern Corporation	09/12	Northwestern Corporation d/b/a Northwestern Energy	Docket No. D2012.9.94	Return on Equity (gas)
Nevada Public Utilities Commission				
Southwest Gas Corporation	04/12	Southwest Gas Corporation	Docket No. 12-04005	Return on Equity (gas)
Nevada Power Company	06/11	Nevada Power Company	Docket No. 11-06006	Return on Equity (electric)
New Hampshire Public Utilities Commission				
Northern Utilities, Inc.	06/17	Northern Utilities, Inc.	Docket No. DG 17-070	Return on Equity
Liberty Utilities d/b/a EnergyNorth Natural Gas	04/17	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 17-048	Return on Equity
Unitil Energy Systems, Inc.	04/16	Unitil Energy Systems, Inc.	Docket No. DE 16-384	Return on Equity
Liberty Utilities d/b/a Granite State Electric Company	04/16	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 16-383	Return on Equity
Liberty Utilities d/b/a EnergyNorth Natural Gas	08/14	Liberty Utilities d/b/a EnergyNorth Natural Gas	Docket No. DG 14-180	Return on Equity
Liberty Utilities d/b/a Granite State Electric Company	03/13	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 13-063	Return on Equity
EnergyNorth Natural Gas d/b/a National Grid NH	02/10	EnergyNorth Natural Gas d/b/a National Grid NH	Docket No. DG 10-017	Return on Equity
Unitil Energy Systems, Inc., EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	08/08	Unitil Energy Systems, Inc., EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. – New Hampshire Division	Docket No. DG 07-072	Carrying Charge Rate on Cash Working Capital
New Jersey Board of Public Utilities				
Atlantic City Electric Company	03/17	Atlantic City Electric Company	Docket No. ER17030308	Return on Equity
Pivotal Utility Holdings, Inc.	08/16	Elizabethtown Gas	Docket No. GR16090826	Return on Equity
The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	04/16	The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	BPU Docket No. GM15101196	Merger Approval
Atlantic City Electric Company	03/16	Atlantic City Electric Company	Docket No. ER16030252	Return on Equity
Pepco Holdings, Inc.	03/14	Atlantic City Electric Company	Docket No. ER14030245	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Orange and Rockland Utilities	11/13	Rockland Electric Company	Docket No. ER13111135	Return on Equity
Atlantic City Electric Company	12/12	Atlantic City Electric Company	Docket No. ER12121071	Return on Equity
Atlantic City Electric Company	08/11	Atlantic City Electric Company	Docket No. ER11080469	Return on Equity
Pepco Holdings, Inc.	09/06	Atlantic City Electric Company	Docket No. EM06090638	Divestiture and Valuation of Electric Generating Assets
Pepco Holdings, Inc.	12/05	Atlantic City Electric Company	Docket No. EM05121058	Market Value of Electric Generation Assets; Auction
Conectiv	06/03	Atlantic City Electric Company	Docket No. EO03020091	Market Value of Electric Generation Assets; Auction Process
New Mexico Public Regulation Commission				
Public Service Company of New Mexico	12/16	Public Service Company of New Mexico	Case No. 16-00276-UT	Return on Equity (electric)
Public Service Company of New Mexico	08/15	Public Service Company of New Mexico	Case No. 15-00261-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 14-00332-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 13-00390-UT	Cost of Capital and Financial Integrity
Southwestern Public Service Company	02/11	Southwestern Public Service Company	Case No. 10-00395-UT	Return on Equity (electric)
Public Service Company of New Mexico	06/10	Public Service Company of New Mexico	Case No. 10-00086-UT	Return on Equity (electric)
Public Service Company of New Mexico	09/08	Public Service Company of New Mexico	Case No. 08-00273-UT	Return on Equity (electric)
Xcel Energy, Inc.	07/07	Southwestern Public Service Company	Case No. 07-00319-UT	Return on Equity (electric)
New York State Public Service Commission				
Consolidated Edison Company of New York, Inc.	01/15	Consolidated Edison Company of New York, Inc.	Case No. 15-E-0050	Return on Equity (electric)
Orange and Rockland Utilities, Inc.	11/14	Orange and Rockland Utilities, Inc.	Case Nos. 14-E-0493 and 14-G-0494	Return on Equity (electric and gas)
Consolidated Edison Company of New York, Inc.	01/13	Consolidated Edison Company of New York, Inc.	Case No. 13-E-0030	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Electric Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Electric Service	Case No. 12-E-0201	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Gas Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Gas Service	Case No. 12-G-0202	Return on Equity (gas)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Orange and Rockland Utilities, Inc.	07/11	Orange and Rockland Utilities, Inc.	Case No. 11-E-0408	Return on Equity (electric)
Orange and Rockland Utilities, Inc.	07/10	Orange and Rockland Utilities, Inc.	Case No. 10-E-0362	Return on Equity (electric)
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-G-0795	Return on Equity (gas)
Consolidated Edison Company of New York, Inc.	11/09	Consolidated Edison Company of New York, Inc.	Case No. 09-S-0794	Return on Equity (steam)
Niagara Mohawk Power Corporation	07/01	Niagara Mohawk Power Corporation	Case No. 01-E-1046	Power Purchase and Sale Agreement; Standard Offer Service Agreement
North Carolina Utilities Commission				
Duke Energy Carolinas, LLC	08/17	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1146	Return on Equity
Duke Energy Progress, LLC	06/17	Duke Energy Progress, LLC	Docket No. E-2, Sub 1142	Return on Equity
Public Service Company of North Carolina, Inc.	03/16	Public Service Company of North Carolina, Inc.	Docket No. G-5, Sub 565	Return on Equity
Dominion North Carolina Power	03/16	Dominion North Carolina Power	Docket No. E-22, Sub 532	Return on Equity
Duke Energy Carolinas, LLC	02/13	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1026	Return on Equity
Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	10/12	Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc.	Docket No. E-2, Sub 1023	Return on Equity
Virginia Electric and Power Company d/b/a Dominion North Carolina Power	03/12	Virginia Electric and Power Company d/b/a Dominion North Carolina Power	Docket No. E-22, Sub 479	Return on Equity (electric)
Duke Energy Carolinas, LLC	07/11	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 989	Return on Equity (electric)
North Dakota Public Service Commission				
Otter Tail Power Company	11/17	Otter Tail Power Company	Docket No. 17-398	Return on Equity (electric)
Otter Tail Power Company	11/08	Otter Tail Power Company	Docket No. 08-862	Return on Equity (electric)
Oklahoma Corporation Commission				
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/16	CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	Cause No. PUD201600094	Return on Equity
Oklahoma Gas & Electric Company	12/15	Oklahoma Gas & Electric Company	Cause No. PUD201500273	Return on Equity
Public Service Company of Oklahoma	07/15	Public Service Company of Oklahoma	Cause No. PUD201500208	Return on Equity
Oklahoma Gas & Electric Company	07/11	Oklahoma Gas & Electric Company	Cause No. PUD201100087	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas	03/09	CenterPoint Energy Oklahoma Gas	Cause No. PUD200900055	Return on Equity
Pennsylvania Public Utility Commission				
Pike County Light & Power Company	01/14	Pike County Light & Power Company	Docket No. R-2013-2397237	Return on Equity (electric & gas)
Veolia Energy Philadelphia, Inc.	12/13	Veolia Energy Philadelphia, Inc.	Docket No. R-2013-2386293	Return on Equity (steam)
Rhode Island Public Utilities Commission				
The Narragansett Electric Company d/b/a National Grid	11/17	The Narragansett Electric Company d/b/a National Grid	Docket No. 4770	Return on Equity (electric & gas)
The Narragansett Electric Company d/b/a National Grid	04/12	The Narragansett Electric Company d/b/a National Grid	Docket No. 4323	Return on Equity (electric & gas)
National Grid RI – Gas	08/08	National Grid RI – Gas	Docket No. 3943	Revenue Decoupling and Return on Equity
South Carolina Public Service Commission				
South Carolina Electric & Gas	12/17	South Carolina Electric & Gas	Docket No. 2017-305-E	Return on Equity
Duke Energy Progress, LLC	07/16	Duke Energy Progress, LLC	Docket No. 2016-227-E	Return on Equity
Duke Energy Carolinas, LLC	03/13	Duke Energy Carolinas, LLC	Docket No. 2013-59-E	Return on Equity
South Carolina Electric & Gas	06/12	South Carolina Electric & Gas	Docket No. 2012-218-E	Return on Equity
Duke Energy Carolinas, LLC	08/11	Duke Energy Carolinas, LLC	Docket No. 2011-271-E	Return on Equity
South Carolina Electric & Gas	03/10	South Carolina Electric & Gas	Docket No. 2009-489-E	Return on Equity
South Dakota Public Utilities Commission				
Otter Tail Power Company	08/10	Otter Tail Power Company	Docket No. EL10-011	Return on Equity (electric)
Northern States Power Company	06/09	South Dakota Division of Northern States Power	Docket No. EL09-009	Return on Equity (electric)
Otter Tail Power Company	10/08	Otter Tail Power Company	Docket No. EL08-030	Return on Equity (electric)
Texas Public Utility Commission				
Southwestern Public Service Company	08/17	Southwestern Public Service Company	Docket No. 47527	Return on Equity
Oncor Electric Delivery Company, LLC	03/17	Oncor Electric Delivery Company, LLC	Docket No. 46957	Return on Equity
El Paso Electric Company	02/17	El Paso Electric Company	Docket No. 46831	Return on Equity
Southwestern Electric Power Company	12/16	Southwestern Electric Power Company	Docket No. 46449	Return on Equity (electric)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Sharyland Utilities, L.P.	04/16	Sharyland Utilities, L.P.	Docket No. 45414	Return on Equity
Southwestern Public Service Company	02/16	Southwestern Public Service Company	Docket No. 44524	Return on Equity (electric)
Wind Energy Transmission Texas, LLC	05/15	Wind Energy Transmission Texas, LLC	Docket No. 44746	Return on Equity
Cross Texas Transmission	12/14	Cross Texas Transmission	Docket No. 43950	Return on Equity
Southwestern Public Service Company	12/14	Southwestern Public Service Company	Docket No. 43695	Return on Equity (electric)
Sharyland Utilities, L.P.	05/13	Sharyland Utilities, L.P.	Docket No. 41474	Return on Equity
Wind Energy Texas Transmission, LLC	08/12	Wind Energy Texas Transmission, LLC	Docket No. 40606	Return on Equity
Southwestern Electric Power Company	07/12	Southwestern Electric Power Company	Docket No. 40443	Return on Equity
Oncor Electric Delivery Company, LLC	01/11	Oncor Electric Delivery Company, LLC	Docket No. 38929	Return on Equity
Texas-New Mexico Power Company	08/10	Texas-New Mexico Power Company	Docket No. 38480	Return on Equity (electric)
CenterPoint Energy Houston Electric LLC	06/10	CenterPoint Energy Houston Electric LLC	Docket No. 38339	Return on Equity
Xcel Energy, Inc.	05/10	Southwestern Public Service Company	Docket No. 38147	Return on Equity (electric)
Texas-New Mexico Power Company	08/08	Texas-New Mexico Power Company	Docket No. 36025	Return on Equity (electric)
Xcel Energy, Inc.	05/06	Southwestern Public Service Company	Docket No. 32766	Return on Equity (electric)
Texas Railroad Commission				
CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	11/17	CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	GUD 10669	Return on Equity
Atmos Pipeline - Texas	01/17	Atmos Pipeline - Texas	GUD 10580	Return on Equity
CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	12/16	CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas	GUD 10567	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	03/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10432	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/12	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10182	Return on Equity
Atmos Energy Corporation – West Texas Division	06/12	Atmos Energy Corporation – West Texas Division	GUD 10175	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Atmos Energy Corporation – Mid-Texas Division	06/12	Atmos Energy Corporation – Mid-Texas Division	GUD 10171	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	12/10	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10038	Return on Equity
Atmos Pipeline – Texas	09/10	Atmos Pipeline - Texas	GUD 10000	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/09	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 9902	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	03/08	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	GUD 9791	Return on Equity
Utah Public Service Commission				
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Return on Equity
Vermont Public Service Board				
Central Vermont Public Service Corporation; Green Mountain Power	02/12	Central Vermont Public Service Corporation; Green Mountain Power	Docket No. 7770	Merger Policy
Central Vermont Public Service Corporation	12/10	Central Vermont Public Service Corporation	Docket No. 7627	Return on Equity (electric)
Green Mountain Power	04/06	Green Mountain Power	Docket Nos. 7175 and 7176	Return on Equity (electric)
Vermont Gas Systems, Inc.	12/05	Vermont Gas Systems	Docket Nos. 7109 and 7160	Return on Equity (gas)
Virginia State Corporation Commission				
Virginia Electric and Power Company	03/17	Virginia Electric and Power Company	Case No. PUR-2017-00038	Return on Equity
Virginia Natural Gas, Inc.	03/17	Virginia Natural Gas, Inc.	Case No. PUE-2016-00143	Return on Equity
Virginia Electric and Power Company	10/16	Virginia Electric and Power Company	Case No. PUE-2016-00112; PUE-2016-00113; PUE-2016-00136	Return on Equity
Washington Gas Light Company	06/16	Washington Gas Light Company	Case No. PUE-2016-00001	Return on Equity
Virginia Electric and Power Company	06/16	Virginia Electric and Power Company	Case Nos. PUE-2016-00063; PUE-2016-00062; PUE-2016-00061; PUE-2016-00060; PUE-2016-00059	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Virginia Electric and Power Company	12/15	Virginia Electric and Power Company	Case Nos. PUE-2015-0058; PUE-2015-0059; PUE-2015-0060; PUE-2015-0061; PUE-2015-0075; PUE-2015-0089; PUE-2015-0102; PUE-2015-0104	Return on Equity
Virginia Electric and Power Company	03/15	Virginia Electric and Power Company	Case No. PUE-2015-00027	Return on Equity
Virginia Electric and Power Company	03/13	Virginia Electric and Power Company	Case No. PUE-2013-00020	Return on Equity
Virginia Natural Gas, Inc.	02/11	Virginia Natural Gas, Inc.	Case No. PUE-2010-00142	Capital Structure
Columbia Gas of Virginia, Inc.	06/06	Columbia Gas of Virginia, Inc.	Case No. PUE-2005-00098	Merger Synergies
Dominion Resources	10/01	Virginia Electric and Power Company	Case No. PUE000584	Corporate Structure and Electric Generation Strategy

Expert Report

United States District Court, Western District of Texas, Austin Division				
Southwestern Public Service Company	02/12	Southwestern Public Service Company	C.A. No. A-09-CA-917-SS	PURPA and FERC regulations