



Before the North Dakota Public Service Commission
State of North Dakota

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

Case No. PU-17-
Exhibit___(RBH-1)

RETURN ON EQUITY

DIRECT TESTIMONY AND SCHEDULES OF
ROBERT B. HEVERT

November 2, 2017

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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"). My
3 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 North Dakota Public
6 Service Commission ("Commission") on behalf of Otter Tail Power Company ("OTP" or
7 the "Company"), a wholly-owned subsidiary of Otter Tail Corporation ("OTTR").

8 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

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

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

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

II. PURPOSE AND OVERVIEW OF TESTIMONY

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

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

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.

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

14 A. Because all financial models are subject to various assumptions and constraints, equity
15 analysts and investors tend to use multiple methods to develop their return requirements. I
16 therefore relied on three widely accepted approaches to develop my ROE determination:
17 (1) the Discounted Cash Flow ("DCF") model, including the Constant Growth and Multi-
18 Stage forms; (2) the Capital Asset Pricing Model ("CAPM"); and (3) the Bond Yield Plus
19 Risk Premium approach. In addition to the methods noted above, my recommendation also
20 takes into consideration: (1) OTP's planned capital investment program; (2) OTP's small
21 size, which is related to OTTR's low level of institutional ownership and low common
22 stock trading volume; and (3) OTP's customer concentration. OTP has planned capital
23 expenditures in 2017 – 2021 that are approximately 66.00 percent of its net plant in service,
24 the second highest of the companies that I included in my analysis. OTTR has an
25 approximately 52.00 percent level of institutional ownership of its common stock, which
26 is the lowest of any company in my proxy group, and approximately 35.00 percent lower
27 than the average of my proxy group, and has an average trading volume that 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 approximately 18.00 to 19.00 percent of the average for the proxy group. OTP also has a
2 substantial concentration of revenues in its commercial and industrial customers. The
3 combination of those factors indicates a somewhat greater degree of business risk relative
4 to the proxy companies, suggesting an ROE toward the upper end of the range to account
5 for that incremental risk.

6
7 As a practical matter, in light of OTP's substantial capital investment plan, it will be
8 important to set a return that will support and enhance OTP's internally generated funds,
9 and enable it to access capital markets at reasonable terms. The costs at which OTP can
10 obtain capital to fund its capital expenditures will influence customer costs over an
11 extended period (i.e., ten to 30 years). The need to support internal fund generation and
12 efficient capital market access becomes increasingly important as Federal Reserve
13 monetary policy continues its process of "normalization." As discussed later in my Direct
14 Testimony, coincident with monetary policy normalization, economists and market data
15 indicate expectations for increasing interest rates into 2018.

16
17 Lastly, it is appropriate to consider OTP's low customer rates in general and OTP's very
18 high levels of customer satisfaction (as explained by OTP witness Mr. Bruce Gerhardson)
19 and the customer savings that have resulted from OTP's under-budget completion of recent
20 capital expenditures (as explained by OTP witness Mr. Stuart Tommerdahl). As further
21 discussed below, OTP's recent completion of its single largest capital expenditure at
22 approximately 26.00 percent below budget results in North Dakota customer savings of
23 approximately \$3.40 million in the 2018 Test Year, approximately \$32.70 million in the
24 first ten years, and approximately \$69.50 million over 30-year life of the project. Setting
25 an ROE that recognizes overall performance in reducing costs and providing high quality
26 of service is an appropriate element of the Commission's regulatory discretion. The
27 combination of OTP's cost savings and its high quality of service merits consideration by
28 the Commission in determining OTP's ROE.

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 that 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 view
7 of the regulatory environment and, therefore, a utility's risk profile. For example, if a
8 company in a given jurisdiction is authorized a significantly lower ROE than a company
9 of equivalent risk is authorized in another jurisdiction, capital will flow from the lower
10 return to the higher return.

11 Q. PLEASE SUMMARIZE RECENT RETURNS FROM OTHER JURISDICTIONS.

12 A. In 2017, there have been 14 regulatory decisions establishing authorized ROEs for
13 vertically integrated electric utilities. The average of those authorized ROEs was 9.70
14 percent and four of the allowed ROEs were 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 authorized ROEs was 9.77 percent and five of the authorized
17 ROEs were at or above 10.00 percent.

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;
- 24 • Section V – explains my selection of the proxy group used to develop my analytical
25 results;
- 26 • Section VI – explains my analyses and the analytical bases for my ROE
27 determination;

- 1 • Section VII – provides a discussion of specific business risks and other
2 considerations that have a direct bearing on OTP’s Cost of Equity;
3 • Section VIII – highlights the current capital market conditions and their effect on
4 OTP’s Cost of Equity;
5 • Section IX – provides my analysis of OTP’s capital structure; and
6 • Section X – summarizes my conclusions.

7

III. SUMMARY OF ANALYTICAL RESULTS

- 8 Q. WHAT ARE THE RESULTS OF YOUR ANALYTICAL MODELS?
9 A. The analytical results are summarized in Table 1.

1

Table 1: Summary of Analytical Results

Discounted Cash Flow	Mean Low	Mean	Mean High
<i>Constant Growth DCF – Including Flotation Costs²</i>			
30-Day Constant Growth DCF	8.05%	9.26%	10.19%
90-Day Constant Growth DCF	8.12%	9.33%	10.26%
180-Day Constant Growth DCF	8.22%	9.43%	10.36%
<i>Multi-Stage DCF – Including Flotation Costs</i>			
30-Day Multi-Stage DCF	8.49%	9.15%	9.77%
90-Day Multi-Stage DCF	8.65%	9.31%	9.93%
180-Day Multi-Stage DCF	8.91%	9.57%	10.19%
CAPM Results		Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
<i>Average Bloomberg Beta Coefficient</i>			
Current 30-Year Treasury (2.77%)		9.42%	9.72%
Near Term Projected 30-Year Treasury (3.30%)		9.95%	10.25%
<i>Average Value Line Beta Coefficient</i>			
Current 30-Year Treasury (2.77%)		11.13%	11.51%
Near Term Projected 30-Year Treasury (3.30%)		11.65%	12.04%
<i>Bond Yield Plus Risk Premium Approach</i>			
Current 30-Year Treasury (2.77%)		9.96%	
Near Term Projected 30-Year Treasury (3.30%)		10.02%	
Long Term Projected 30-Year Treasury (4.40%)		10.33%	

2

3

4

5

6

Based on the analytical results presented in Table 1, and in light of the considerations discussed throughout the balance of my testimony regarding 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.

² Constant Growth DCF results exclude Hawaiian Electric Industries, Inc., IDACORP, Inc., and Northwestern Corporation.

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

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

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

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

19
20 Although both debt and equity have required costs, they differ in certain fundamental ways.
21 Most noticeably, the Cost of Debt is contractually defined and can be directly observed as
22 the interest rate, or yield, on debt securities.³ The Cost of Equity, on the other hand, is
23 neither directly observable nor a contractual obligation. Rather, equity investors have a
24 claim on cash flows only after debt holders are paid; the uncertainty (or risk) associated
25 with those residual cash flows determines the Cost of Equity. Because equity investors

³ The observed interest rate may be adjusted to reflect issuance or other directly observable costs.

1 bear the “residual risk,” they take greater risks and require higher returns than debt holders.
2 In that basic sense, equity and debt investors differ: they invest in different securities, face
3 different risks, and require different returns.
4

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

16 Q. PLEASE PROVIDE A SUMMARY OF THE GUIDELINES FOR THE PURPOSE OF
17 DETERMINING THE RETURN ON EQUITY.

18 A. The United States Supreme Court (the “Court”) established the guiding principles for
19 establishing a fair return for capital in two cases: (1) *Bluefield Water Works and*
20 *Improvement Co. v. Public Service Comm’n.* (“*Bluefield*”);⁴ and (2) *Federal Power*
21 *Comm’n v. Hope Natural Gas Co.* (“*Hope*”).⁵ In *Bluefield*, the Court stated:

22 A public utility is entitled to such rates as will permit it to earn a return upon
23 the value of the property which it employs for the convenience of the public
24 equal to that generally being made at the same time and in the same general
25 part of the country on investments in other business undertakings which are
26 attended by corresponding risks and uncertainties; but it has no
27 constitutional right to profits such as are realized or anticipated in highly
28 profitable enterprises or speculative ventures. The return should be
29 reasonably sufficient to assure confidence in the financial soundness of the

⁴ See *Bluefield Water Works and Improvement Co. v. Public Service Comm’n.* 262 U.S. 679, 692 (1923).

⁵ See *Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

1 utility and should be adequate, under efficient and economical management,
2 to maintain and support its credit, and enable it to raise the money necessary
3 for the proper discharge of its public duties.⁶

4 The Court therefore recognized that: (1) a regulated public utility cannot remain financially
5 sound unless the return it is allowed to earn on its invested capital is at least equal to the
6 Cost of Capital (the principle relating to the demand for capital); and (2) a regulated public
7 utility will not be able to attract capital if it does not offer investors an opportunity to earn
8 a return on their investment equal to the return they expect to earn on other investments of
9 similar risk (the principle relating to the supply of capital).

10
11 In *Hope*, the Court reiterates the financial integrity and capital attraction principles of the
12 *Bluefield* case:

13 From the investor or company point of view it is important that there be
14 enough revenue not only for operating expenses but also for the capital costs
15 of the business. These include service on the debt and dividends on the
16 stock... By that standard the return to the equity owner should be
17 commensurate with returns on investments in other enterprises having
18 corresponding risks. That return, moreover, should be sufficient to assure
19 confidence in the financial integrity of the enterprise, so as to maintain its
20 credit and to attract capital.⁷

21 In summary, the Court clearly has recognized that the fair rate of return on equity should
22 be: (1) comparable to returns investors expect to earn on other investments of similar risk;
23 (2) sufficient to assure confidence in the company's financial integrity; and (3) adequate to
24 maintain and support the company's credit and to attract capital.

25 Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY
26 TO EARN A RETURN ADEQUATE TO ATTRACT CAPITAL AT REASONABLE
27 TERMS?

28 A. A return that is adequate to attract capital at reasonable terms enables the utility to provide
29 service while maintaining its financial integrity. The ability to attract capital is particularly

⁶ Bluefield, 262 U.S. at 692.

⁷ Hope, 320 U.S. at 603.

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

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

16 A. As noted earlier (and as discussed in more detail later in my Direct Testimony), the Cost
17 of Equity is estimated by the use of various financial models. By their very nature, those
18 models produce a range of results from which the ROE is determined. That determination
19 must be based on a comprehensive review of relevant data and information; it does not
20 necessarily lend itself to a strict mathematical solution. The key consideration in
21 determining the ROE is to ensure that the overall analysis reasonably reflects investors'
22 view of the financial markets in general, and the subject company (in the context of the
23 proxy companies) in particular. Both practitioners and academics, however, recognize that
24 financial models simply are tools to be used in the ROE estimation process, and that strict
25 adherence to any single approach, or to the specific results of any single approach, can lead
26 to flawed or misleading conclusions. That position is consistent with the *Hope* and
27 *Bluefield* principle that it is the analytical result, as opposed to the methodology employed
28 that is controlling in arriving at ROE determinations. Thus, a reasonable ROE estimate
29 appropriately considers alternative methodologies and the reasonableness of their
30 individual and collective results in the context of observable, relevant market information.

V. PROXY GROUP SELECTION

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

4 A. The ROE is a market-based concept and OTP is not a publicly traded entity. Rather, it is
5 a subsidiary of OTTR. Accordingly, it is necessary to establish a group of comparable,
6 publicly traded companies to serve as its "proxy." Even if OTP were a publicly traded
7 entity, short-term events could bias its market value during a given period of time. A
8 significant benefit of using a proxy group is that it moderates the effects of anomalous,
9 short-term events associated with any one company. At the same time, the risk profile of
10 the subject company should be taken into consideration when determining the appropriate
11 ROE.

12 Q. DOES THE SELECTION OF A PROXY GROUP SUGGEST THAT ANALYTICAL
13 RESULTS WILL BE TIGHTLY CLUSTERED AROUND AVERAGE (*I.E.*, MEAN)
14 RESULTS?

15 A. No. For example, the Constant Growth DCF approach defines the Cost of Equity as the
16 sum of the expected dividend yield and projected long-term growth. Despite the care taken
17 to ensure risk comparability, market expectations with respect to future risks and growth
18 opportunities will vary from company to company. Therefore, even within a group of
19 similarly situated companies, it is common for analytical results to reflect a seemingly wide
20 range. Consequently, at issue is how to estimate the Cost of Equity from within that range.
21 Such a determination necessarily must consider a wide range of both quantitative and
22 qualitative information, including the risk profile of the subject company (*i.e.* OTP).

23 Q. PLEASE PROVIDE A SUMMARY PROFILE OF OTP.

24 A. OTP provides electric production, transmission, and distribution services to approximately
25 58,500 customers in North Dakota.⁸ OTP is engaged in an extensive capital expenditure

⁸ Company website.

1 plan that began in 2012 and is expected to continue through 2021. OTP currently has long-
2 term issuer credit ratings of BBB from S&P, A3 from Moody's Investor Service, and
3 BBB+ from Fitch Ratings.⁹ The following table provides summary financial and operating
4 statistics for OTP for the past three years.

5 **Table 2: OTP Operating and Financial Results 2014-2016**¹⁰

<i>(in thousands)</i>	2014	2015	2016
Electric Operations			
ND Electric Customers	58.12	58.30	58.50
Total Electric Customers	130.49	129.99	131.55
Electric Revenues	\$407,743	\$407,131	\$427,383
Electric Net Income	\$43,684	\$48,370	\$49,829
Electric Net Plant	\$1,126,088	\$1,217,931	\$1,307,293
Electric Capital Expenditures	\$148,719	\$135,572	\$149,648

6
7 Q. WHAT ARE THE IMPLICATIONS OF THE COMPANY'S BUSINESS RISKS FOR
8 OTP'S COST OF EQUITY?

9 A. Consistent with the principles established in *Hope*¹¹ and to provide a return to equity
10 holders that is risk appropriate, it is reasonable to consider a proxy group of companies
11 with a commensurate level of risk. Compared to other investor-owned electric utilities, no
12 company has the same service territory and risk profile as OTP. Thus, selecting a proxy
13 group without regard to OTP's size and service territory would be inconsistent with the
14 principles set forth in *Hope* and would lead to an inaccurate ROE analysis. As such, I have
15 included screening criteria that account for OTP's profile relative to its service territory
16 and other operating risk factors.

⁹ SNL Financial.

¹⁰ SNL Financial, Otter Tail Corporation SEC Form 10-K for year ending December 31, 2016, at 77-78, and Company website.

¹¹ *Hope*, 320 U.S. at 603. See, *Bluefield*, 262 U.S. at 692.

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

2 A. A proxy group should consist of companies with risk profiles relatively comparable to the
3 subject company. In selecting a proxy group, my objective was to balance the competing
4 interests of selecting companies that are highly representative of the risks and prospects
5 faced by OTP, while at the same time ensuring that there are a sufficient number of
6 companies in the proxy group. Based on those two considerations, I began with the
7 universe of companies that Value Line classifies as Electric Utilities, and applied the
8 following screening criteria:

- 9 • I excluded companies that do not consistently pay quarterly cash dividends;
- 10 • I excluded companies that were not covered by at least two utility industry equity
11 analysts;
- 12 • I excluded companies that do not have investment grade senior unsecured bond
13 and/or corporate credit ratings from S&P;
- 14 • I excluded companies that were not vertically-integrated, *i.e.* utilities that own and
15 operate regulated generation, transmission and distribution assets;
- 16 • I excluded companies whose regulated operating income over the three most
17 recently reported fiscal years comprised less than 60.00 percent of the respective
18 totals for that company;
- 19 • I excluded companies whose regulated electric operating income over the three
20 most recently reported fiscal years represented less than 60.00 percent of total
21 regulated operating income;
- 22 • I excluded companies with a market capitalization greater than \$10.00 billion, or
23 “large cap” companies (OTTR is a “small cap” company);
- 24 • I excluded companies with more than 250 customers per square mile (OTP has
25 approximately four customers per square mile) to eliminate companies with service
26 territories primarily located in densely populated, or urban areas;¹²

¹² 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, 2016, at 6.

- I eliminated companies that are currently known to be party to a merger or other significant transaction;

Q. DID YOU INCLUDE OTTR IN YOUR ANALYSIS?

A. No. To avoid the circular logic that otherwise would occur, it is my practice to exclude the subject company, or its parent holding company, from the proxy group.

Q. WHAT COMPANIES MET THOSE SCREENING CRITERIA?

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

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

Q. DO YOU BELIEVE THAT A PROXY GROUP OF NINE COMPANIES IS SUFFICIENTLY LARGE?

A. Yes, I do. The analyses performed in estimating the ROE are more likely to be representative of the subject utility's Cost of Equity to the extent that the chosen proxy companies are fundamentally comparable to the subject utility. Because all analysts use some form of screening process to arrive at a proxy group, the group, by definition, is not randomly drawn from a larger population. Consequently, there is no reason to place more reliance on the quantitative results of a larger proxy group simply by virtue of the resulting larger number of observations.

VI. COST OF EQUITY ESTIMATION

1 Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE REGULATED
2 RATE OF RETURN.

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

9 Q. HOW IS THE REQUIRED ROE DETERMINED?

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

18
19 Because the Cost of Equity is not directly observable, it must be estimated based on both
20 quantitative and qualitative information. Although a number of empirical models have
21 been developed for that purpose, all are subject to limiting assumptions or other constraints.
22 Consequently, many finance texts recommend using multiple approaches to estimate the
23 Cost of Equity.¹³ When faced with the task of estimating the Cost of Equity, analysts and
24 investors are inclined to gather and evaluate as much relevant data as reasonably can be
25 analyzed and, therefore, rely on multiple analytical approaches.

26

¹³ 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 I also note that as a practical matter, no individual model is more reliable than all others
2 under all market conditions. Therefore, it is both prudent and appropriate to use multiple
3 methodologies to mitigate the effects of assumptions and inputs associated with any single
4 approach. As such, I have considered the results of the Constant Growth and Multi-Stage
5 forms of the DCF model; the CAPM; and the Bond Yield Plus Risk Premium approach.

6 ***Constant Growth DCF Model***

7 Q. PLEASE DESCRIBE THE CONSTANT GROWTH DCF APPROACH.

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

$$12 \quad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \text{ Equation [1]}$$

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

$$16 \quad k = \frac{D(1+g)}{P_0} + g \text{ Equation [2]}$$

17 Equation [2] is often referred to as the "Constant Growth DCF" model in which the first
18 term is the expected dividend yield and the second term is the expected long-term growth
19 rate.

20 Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF
21 MODEL?

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

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

3 A. The dividend yield is based on the proxy companies' current annualized dividend and
4 average closing stock prices over the 30-, 90-, and 180-trading day periods as of September
5 29, 2017.

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

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

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

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

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

24 A. Yes. In its Constant Growth form, the DCF model (*i.e.*, as presented in Equation [2] above)
25 assumes a single growth estimate in perpetuity. Accordingly, to reduce the long-term
26 growth rate to a single measure, one must assume a fixed payout ratio, and the same
27 constant growth rate for earnings per share ("EPS"), dividends per share, and book value
28 per share. Since dividend growth can only be sustained by earnings growth, the model

1 should incorporate a variety of measures of long-term earnings growth. That can be
2 accomplished by averaging those measures of long-term growth that tend to be least
3 influenced by capital allocation decisions that companies may make in response to near-
4 term changes in the business environment. Because such decisions may directly affect
5 near-term dividend payout ratios, estimates of earnings growth are more indicative of long-
6 term investor expectations than are dividend growth estimates. For the purposes of the
7 Constant Growth DCF model, therefore, growth in EPS represents the appropriate measure
8 of long-term growth.

9 Q. PLEASE SUMMARIZE THE FINDINGS OF ACADEMIC RESEARCH ON THE
10 APPROPRIATE MEASURE FOR ESTIMATING EQUITY RETURNS USING THE
11 DCF MODEL.

12 A. The relationship between various growth rates and stock valuation metrics has been the
13 subject of much academic research.¹⁴ As noted over 40 years ago by Charles Phillips in
14 The Economics of Regulation:

15 For many years, it was thought that investors bought utility stocks largely
16 on the basis of dividends. More recently, however, studies indicate that the
17 market is valuing utility stocks with reference to total per share earnings, so
18 that the earnings-price ratio has assumed increased emphasis in rate cases.¹⁵

19 Phillips' conclusion continues to hold true. Subsequent academic research has clearly and
20 consistently indicated that measures of earnings and cash flow are strongly related to
21 returns, and that analysts' forecasts of growth are superior to other measures of growth in
22 predicting stock prices.¹⁶ For example, Vander Weide and Carleton state that "[our] results
23 ... are consistent with the hypothesis that investors use analysts' forecasts, rather than

¹⁴ See Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

¹⁵ Charles F. Phillips, Jr., The Economics of Regulation, at 285 (Rev. ed. 1969).

¹⁶ 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).

1 historically oriented growth calculations, in making stock buy-and-sell decisions.”¹⁷ Other
2 research specifically notes the importance of analysts’ growth estimates in determining the
3 Cost of Equity, and in the valuation of equity securities. Dr. Robert Harris noted that “a
4 growing body of knowledge shows that analysts’ earnings forecasts are indeed reflected in
5 stock prices.” Citing Cragg and Malkiel, Dr. Harris notes that those authors “found that
6 the evaluations of companies that analysts make are the sorts of ones on which market
7 valuation is based.”¹⁸ Similarly, Brigham, Shome, and Vinson noted that “evidence in the
8 current literature indicates that (i) analysts’ forecasts are superior to forecasts based solely
9 on time series data, and (ii) investors do rely on analysts’ forecasts.”¹⁹

10
11 To that point, the research of Carleton and Vander Weide demonstrates that earnings
12 growth projections have a statistically significant relationship to stock valuation levels,
13 while dividend growth rates do not.²⁰ Those findings suggest that investors form their
14 investment decisions based on expectations of growth in earnings, not dividends.
15 Consequently, earnings growth, not dividend growth, is the appropriate estimate for the
16 purpose of the Constant Growth DCF model.

17 Q. PLEASE SUMMARIZE YOUR INPUTS TO THE CONSTANT GROWTH DCF
18 MODEL.

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

- 21 • The average daily closing prices for the 30-trading days, 90-trading days, and 180-
22 trading days ended September 29, 2017 for the term P_0 ; and

¹⁷ Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988). 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.
¹⁸ Robert S. Harris, *Using Analysts’ Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986).

¹⁹ 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).

²⁰ See Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

1 • The annualized dividend per share as of September 29, 2017 for the term D_0 .

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

- 3 • The Zack's consensus long-term EPS growth estimates;
- 4 • The First Call consensus long-term EPS growth estimates; and
- 5 • The Value Line EPS growth estimates.

6 Q. HOW DID YOU CALCULATE THE DCF RESULTS?

7 A. For each proxy company, I calculated the mean, mean high, and mean low results. For the
8 mean result, I combined the average of the EPS growth rate estimates reported by Value
9 Line, Zacks, and First Call with the subject company's dividend yield for each proxy
10 company and then calculated the average result for those estimates. I calculated the high
11 DCF result by combining the maximum EPS growth rate estimate as reported by Value
12 Line, Zacks, and First Call with the subject company's dividend yield. The mean high
13 result simply is the average of those estimates. I used the same approach to calculate the
14 low DCF result, using instead the minimum of the Value Line, Zacks, and First Call
15 estimate for each proxy company, and calculating the average result for those estimates.

16

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

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

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

25 Q. WHAT ARE FLOTATION COSTS?

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

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

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

11 Q. ARE FLOTATION COSTS PART OF THE UTILITY'S INVESTED COSTS OR PART
12 OF THE UTILITY'S EXPENSES?

13 A. Flotation costs are part of the invested costs of the utility, which are properly reflected on
14 the balance sheet under "paid in capital." They are not current expenses, and therefore are
15 not reflected on the income statement. Rather, like investments in rate base or the issuance
16 costs of long-term debt, flotation costs are incurred over time. As a result, the great
17 majority of a utility's flotation cost is incurred prior to the test year, but remains part of the
18 cost structure that exists during the test year and beyond, and as such, should be recognized
19 for ratemaking purposes. Therefore, even if no new issuances were planned in the near
20 future, recovery of flotation costs would be appropriate because failure to allow such cost
21 recovery could deny OTP the opportunity to earn its required rate of return in the future.
22 In this case, new issuances are planned as described in the Direct Testimony of OTP
23 witness Mr. Kevin G. Moug, which further supports the need for flotation cost recovery.

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

26 A. No. Although the Company is a wholly owned subsidiary of OTTR, it is appropriate to
27 consider flotation costs because wholly owned subsidiaries receive equity capital from their
28 parents and provide returns on the capital that roll up to the parent, which is designated to

1 attract and raise capital based on the returns of those subsidiaries. This is important for
2 companies such as OTP that are planning continued capital expenditures in the near term,
3 and for which access to capital (at reasonable cost rates) to fund such required expenditures
4 will be critical.

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

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

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

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

16 Flotation costs occur when a company issues new stock. The business
17 usually incurs several kinds of flotation or transaction costs, which reduce
18 the actual proceeds received by the business. Some of these are direct out-
19 of-pocket outlays, such as fees paid to underwriters, legal expenses, and
20 prospectus preparation costs. Because of this reduction in proceeds, the
21 business’s required returns must be greater to compensate for the additional
22 costs. Flotation costs can be accounted for either by amortizing the cost,
23 thus reducing the net cash flow to discount, or by incorporating the cost into
24 the cost of equity capital. Since flotation costs typically are not applied to
25 operating cash flow, they must be incorporated into the cost of equity
26 capital.²¹

27 Q. HAS OTTR RECENTLY ISSUED COMMON EQUITY?

28 A. Yes. As stated in the Direct Testimony of Mr. Moug, OTTR has had issuances of common
29 stock in 2014 through 2017, including issuances under OTTR’s “At the Market Program”

²¹ Shannon P. Pratt, Roger J. Grabowski, *Cost of Capital: Applications and Examples*, 4th ed. (John Wiley & Sons, Inc., 2010), page 586.

1 and under OTTR's Employee Stock Purchase Plan and Dividend Reinvestment Plan.²² Mr.
2 Moug further explains that these OTTR common stock issuances are directly related to the
3 Company's current and planned capital expenditures.²³ OTTR has also publicly announced
4 its plans to use these programs to issue approximately \$70 million to \$85 million of
5 common equity during the 2017 through 2021 timeframe.²⁴

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

7 A. Yes, I have. I modified the DCF calculation to derive the dividend yield that would
8 reimburse investors for direct issuance costs. Based on the weighted average issuance costs
9 shown in Exhibit __ (RBH-1), Schedule 2, a reasonable estimate of flotation costs is
10 approximately 0.11 percent (11 basis points).

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

13 A. It is important to review the extent of model results within the context of the current capital
14 market environment. That is especially true with DCF-based models, which assume that
15 the conditions prevailing at the time the model is applied will remain in place in perpetuity.
16 The point simply is that in the short-run, prices may be influenced by temporary demand,
17 with utility stocks subject to the type of "risk-on/risk-off" dynamics that cause investors to
18 move into or out of securities for reasons other than long-term, fundamental valuation.
19 Because DCF-based models assume current prices measure long-term, fundamental value,
20 it is extremely important to interpret their results in the context of other observable data.
21 Failing to do so could produce results that fall far from investors' required returns, putting
22 the Company at a significant disadvantage in its ability to raise capital.

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

²² Direct Testimony of Kevin G. Moug, at 21; Exhibit __ (KGM-1), Schedule 8.

²³ *Ibid.*

²⁴ *Ibid.*

1 A. Yes, I did. I first estimated the Constant Growth DCF results of each of the proxy
2 companies. Three companies, Hawaiian Electric Industries, Inc., IDACORP, Inc., and
3 Northwestern Corporation, had Constant Growth DCF results of 6.04 percent to 6.65
4 percent using the 30-day average stock price. Those results are approximately 305 to 365
5 basis points below the average authorized return in 2017, and approximately 235 to 295
6 basis points below the lowest authorized return ever for a vertically integrated electric
7 utility. As such, I believe it is more reasonable to consider the Constant Growth DCF
8 results excluding those companies. These results also underscore the need to consider the
9 results of approaches other than the Constant Growth DCF under current market
10 conditions.

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

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

14 **Table 4: Constant Growth DCF Results²⁵**

	Mean Low	Mean	Mean High
30-Day Average	8.05%	9.26%	10.19%
90-Day Average	8.12%	9.33%	10.26%
180-Day Average	8.22%	9.43%	10.36%

15
16 As noted above, current market conditions are incompatible with the underlying
17 assumptions of the Constant Growth DCF model. Considering the results of the other
18 analytical models and the business risks faced by the Company, the mean high results in
19 Table 4 represent a more reasonable estimate of the Company's ROE.

20
21 ***Multi-Stage Discounted Cash Flow Model***

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

²⁵ Results include flotation costs. *See*, also Exhibit __ (RBH-1), Schedule 1.

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

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

11 A. First, it is both prudent and appropriate to use multiple methodologies to mitigate the
12 effects of assumptions and inputs associated with any single approach. Second, the
13 Constant Growth DCF model assumes earnings, dividends, and book value will grow at
14 the same, constant rate in perpetuity; that the payout ratio will remain constant in
15 perpetuity; and that the P/E ratio will remain constant. The Constant Growth DCF model
16 further assumes that the return required today will be the same return required every year
17 in the future. Those assumptions, however, are not likely to hold. In particular, it is likely
18 that over time, payout ratios will increase from their current levels and, to the extent long-
19 term interest rates increase over the next few years, it is likely the Cost of Equity also will
20 increase. In my view, the Multi-Stage DCF model enables analysts to consider those
21 issues, and to address the limiting and likely unrealistic assumptions underlying the
22 Constant Growth form of the model.

23 Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-STAGE
24 MODEL.

25 A. As noted above, the model sets the subject company's stock price equal to the present value
26 of future cash flows received over three "stages." In the first two stages, "cash flows" are
27 defined as projected dividends. In the third stage, "cash flows" equal both dividends and
28 the expected price at which the stock will be sold at the end of the period (*i.e.*, the "terminal
29 price"). I calculated the terminal price based on the Gordon model, which defines the price

1 as the expected dividend divided by the difference between the Cost of Equity (*i.e.*, the
 2 discount rate) and the long-term expected growth rate. In essence, the terminal price is
 3 defined by the present value of the remaining “cash flows” in perpetuity. In each of the
 4 three stages, the dividend is the product of the projected earnings per share and the expected
 5 dividend payout ratio. A summary description of the model is provided in Table 5 (below).

6 **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

7
 8 Q. WHAT ARE THE ANALYTICAL BENEFITS OF YOUR THREE-STAGE MODEL?

9 A. The principal benefits relate to the flexibility provided by the model’s formulation.
 10 Because the model provides the ability to specify near-term, intermediate, and long-term
 11 growth rates, for example, it avoids the sometimes-limiting assumption that the subject
 12 company will grow at the same, constant rate in perpetuity. In addition, by calculating the
 13 dividend as the product of earnings and the payout ratio, the model enables analysts to
 14 reflect assumptions regarding the timing and extent of changes in the payout ratio to reflect,
 15 for example, increases or decreases in expected capital spending, or transition from current
 16 payout levels to long-term expected levels. In that regard, because the model is not limited

1 to a single provider, such as Value Line, for all inputs, it mitigates the potential bias
2 associated with relying on a single source of growth rate projections.²⁶

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

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

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

²⁶ See, for example, Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts*, Financial Management, 21 (Summer 1992).

Table 6: Multi-Stage DCF Model Assumptions

Stage	Initial	First	Transition	Terminal
Stock Price	30-, 90-, and 180-day average stock price as of September 29, 2017			
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 5.35 percent is based on the real GDP growth rate of 3.22
5 percent from 1929 through 2016, and an inflation rate of 2.05 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 2016.²⁷ The rate of inflation of 2.05 percent is an average of two
8 components: (1) the compound annual forward rate starting in ten years (*i.e.*, 2027, which
9 is the beginning of the terminal period) based on the 30-day average spread between yields
10 on long-term nominal Treasury Securities and long-term Treasury Inflation Protected

²⁷ See, Bureau of Economic Analysis, "Current-Dollar and 'Real' Gross Domestic Product," September 28, 2017 update.

1 Securities, known as the “TIPS spread” of 1.91 percent;²⁸ and (2) and the projected Blue
2 Chip Financial Forecast of the CPI for 2024 – 2028 of 2.20 percent.²⁹

3
4 In essence, the real GDP growth rate projection is based on the assumption that absent
5 specific knowledge to the contrary, it is reasonable to assume that over time, real GDP
6 growth will revert to its long-term mean. In addition, because estimating the Cost of Equity
7 is a market-based exercise, it is important to reflect, to the extent possible, the sentiments
8 and expectations of investors; those expectations are directly captured in the market-based
9 measure of inflation. In that important respect, the TIPS spread represents the collective
10 views of investors regarding long-term inflation expectations. Equally important, by using
11 forward yields, we are able to infer the level of long-term inflation expected by investors
12 as of the terminal period of the Multi-Stage model (that is, ten years in the future).

13 Q. WHAT WERE YOUR SPECIFIC ASSUMPTIONS WITH RESPECT TO THE PAYOUT
14 RATIO?

15 A. As noted in Table 6, for the first two periods I relied on the first year and long-term
16 projected payout ratios reported by Value Line³⁰ for each of the proxy group companies. I
17 then assumed that, by the end of the second period (*i.e.*, the end of year 10), the payout
18 ratio will converge to the long-term industry average of 64.42 percent.³¹

19 Q. WHAT WAS YOUR PRINCIPAL ASSUMPTION REGARDING THE TERMINAL
20 VALUE?

21 A. Although I performed a series of analyses in which the terminal value is calculated based
22 on the assumed long-term nominal GDP growth rate,³² I also performed a series of analyses

²⁸ See, Board of Governors of the Federal Reserve System, “Table H.15 Selected Interest Rates.”

²⁹ *Blue Chip Financial Forecasts*, June 1, 2017, at 14.

³⁰ As reported in the Value Line Investment Survey as “All Div’ds to Net Prof.”

³¹ 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.

³² See, Exhibit __ (RBH-1), Schedule 3.

1 in which the terminal value is based on the current P/E ratio.³³ The results of that analysis
2 are shown in Table 7, below (see also Exhibit __ (RBH-1), Schedule 3).

3 **Table 7: Multi-Stage DCF Results, Terminal P/E Method³⁴**

	<i>Low</i>	<i>Mean</i>	<i>High</i>
30-Day Average	8.49%	9.15%	9.77%
90-Day Average	8.65%	9.31%	9.93%
180-Day Average	8.91%	9.57%	10.19%

4
5 Q. DID YOU UNDERTAKE ANY ADDITIONAL ANALYSES TO SUPPORT YOUR
6 RECOMMENDATION?

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

8
9 ***CAPM Analysis***

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

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

16
$$K_e = r_f + \beta(r_m - r_f) \text{ Equation [3]}$$

17 where:

18 K_e = the required market ROE;

19 β = Beta of an individual security;

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

21 r_m = the required return on the market as a whole.

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

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

1
2 In Equation [3], the term $(r_m - r_f)$ represents the Market Risk Premium.³⁵ According to the
3 theory underlying the CAPM, since unsystematic risk can be diversified away by adding
4 securities to investment portfolios, investors should be concerned only with systematic or
5 non-diversifiable risk. Non-diversifiable risk is measured by the Beta coefficient, which is
6 defined as:

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

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

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

18 A. Since utility equity is a long duration investment, I used two different measures of the risk-
19 free rate: (1) the current 30-day average yield on 30-year Treasury bonds (*i.e.*, 2.77
20 percent); and (2) the near-term projected 30-year Treasury yield (*i.e.*, 3.30 percent).

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

23 A. In determining the security most relevant to the application of the CAPM, it is important
24 to select the term (or maturity) that best matches the life of the underlying investment.

³⁵ The Market Risk Premium is defined as the incremental return of the market portfolio over the risk-free rate.

1 Electric utilities typically are long-duration investments and, as such, the 30-year Treasury
2 yield is more suitable for the purpose of calculating the Cost of Equity.

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

5 A. The approach is based on the market-required return, less the current 30-year Treasury
6 yield. To estimate the market required return, I calculated the market capitalization
7 weighted average total return based on the Constant Growth DCF model. To do so, I relied
8 on data from two sources: (1) Bloomberg; and (2) Value Line. With respect to Bloomberg-
9 derived growth estimates, I calculated the expected dividend yield (using the same one-
10 half growth rate assumption described earlier), and combined that amount with the
11 projected earnings growth rate to arrive at the market capitalization weighted average DCF
12 result. I performed that calculation for each of the S&P 500 companies for which
13 Bloomberg provided consensus growth rates. I then subtracted the current 30-year
14 Treasury yield from that amount to arrive at the market DCF-derived *ex-ante* market risk
15 premium estimate. In the case of Value Line, I performed the same calculation, again using
16 all companies for which five-year earnings growth rates were available. The results of
17 those calculations are provided in Exhibit __ (RBH-1), Schedule 4.

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

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

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

23 A. As shown in Exhibit __ (RBH-1), Schedule 5, I considered the Beta coefficients reported
24 by Bloomberg and Value Line. While both of those services adjust their calculated (or
25 "raw") Beta coefficients to reflect the tendency of the Beta coefficient to regress to the
26 market mean of 1.00, Value Line calculates the Beta coefficient over a five-year period,
27 while Bloomberg's calculation is based on two years of data.

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

1 A. As shown in Table 8 (below) the CAPM analyses suggest an ROE range of 9.42 percent to
2 12.04 percent (see also Exhibit __ (RBH-1), Schedule 6).

3 **Table 8: Summary of CAPM Results³⁶**

	Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
<i>Average Bloomberg Beta Coefficient</i>		
Current 30-Year Treasury (2.77%)	9.42%	9.72%
Near Term Projected 30-Year Treasury (3.30%)	9.95%	10.25%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (2.77%)	11.13%	11.51%
Near Term Projected 30-Year Treasury (3.30%)	11.65%	12.04%

4
5 ***Bond Yield Plus Risk Premium Analysis***

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

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

18 Q. PLEASE EXPLAIN HOW YOU PERFORMED YOUR BOND YIELD PLUS RISK
19 PREMIUM ANALYSIS.

³⁶ See Exhibit __ (RBH-1), Schedule 6.

1 A. As suggested above, I first defined the Risk Premium as the difference between the
2 authorized ROE and the then-prevailing level of long-term (*i.e.*, 30-year) Treasury yield. I
3 used the current and near-term 30-year Treasury yield discussed earlier and a long-term
4 projected 30-year Treasury yield as well. I then gathered data for 1,522 electric utility rate
5 proceedings between January 1980 and September 29, 2017. In addition to the authorized
6 ROE, I also calculated the average period between the filing of the case and the date of the
7 final order (the “lag period”). To reflect the prevailing level of interest rates during the
8 pendency of the proceedings, I calculated the average 30-year Treasury yield over the
9 average lag period (approximately 201 days).

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

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

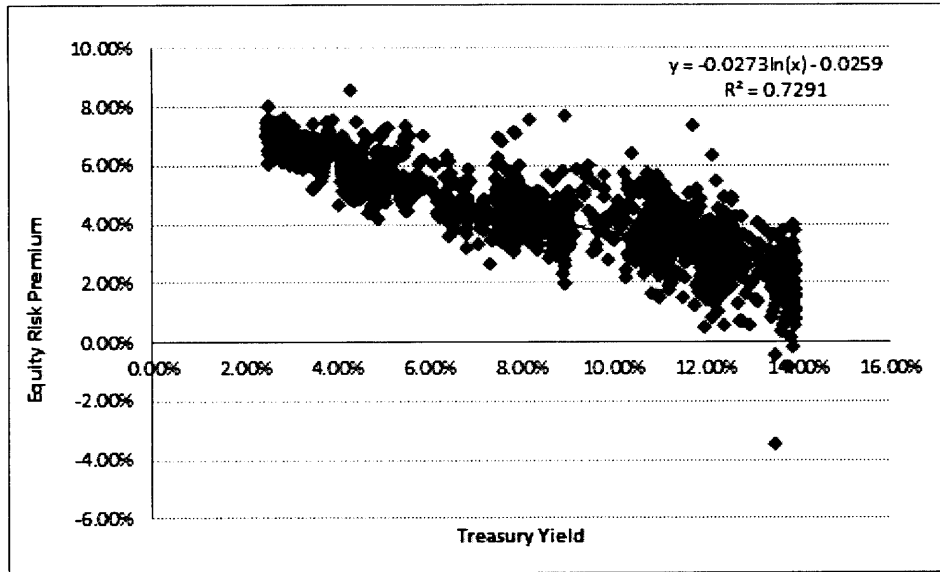
18 A. The basic method used was regression analysis, in which the observed Equity Risk
19 Premium is the dependent variable, and the average 30-year Treasury yield is the
20 independent variable. Relative to the long-term historical average, the analytical period
21 includes interest rates and authorized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

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

25
26 As shown on Chart 1 (below), the semi-log form is useful when measuring an absolute
27 change in the dependent variable (in this case, the Risk Premium) relative to a proportional
28 change in the independent variable (the 30-year Treasury yield).

1

Chart 1: Equity Risk Premium³⁷



2

3

4

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6

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9

As Chart 1 illustrates, over time there has been a statistically significant, negative relationship between the 30-year Treasury yield and the Equity Risk Premium. Consequently, simply applying the long-term average Equity Risk Premium of 4.49 percent would significantly understate the Cost of Equity and produce results well below any reasonable estimate. Based on the regression coefficients in Chart 1, however, the implied ROE is between 9.96 percent and 10.33 percent (see Table 9 and Exhibit __ (RBH-1), Schedule 7).

10

Table 9: Summary of Bond Yield Plus Risk Premium Results³⁸

	Return on Equity
Current 30-Year Treasury (2.77%)	9.96%
Near Term Projected 30-Year Treasury (3.30%)	10.02%
Long-Term Projected 30-Year Treasury (4.40%)	10.33%

11

³⁷ See Exhibit __ (RBH-1), Schedule 7.

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

VII. BUSINESS RISKS AND OTHER CONSIDERATIONS

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

3 A. Because the analytical methods discussed above provide a range of estimates, there are
4 several additional factors that should be taken into consideration when establishing a
5 reasonable range for the Company's Cost of Equity. In my view, there are additional
6 factors that must be taken into consideration when determining where OTP's Cost of
7 Equity falls within the range of results for the Proxy Group. 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. Those factors, which are discussed below, should be considered in terms
11 of their overall effect on OTP's business risk and, therefore, its Cost of Equity. Doing so
12 is consistent with both cost-based regulations. And as noted earlier, given the Company's
13 substantial capital investment plan, it will be important to set a return that will enhance
14 internally generated funds and enable access to capital markets at reasonable terms. OTP's
15 combination of low customer rates, cost savings, and providing a high quality of service
16 also merit consideration by the Commission in determining OTP's ROE. Considering
17 these factors when setting the ROE is consistent with the long-standing latitude of
18 regulators to recognize low cost, efficient service in setting a compensating return.

19

20 *Capital Expenditures*

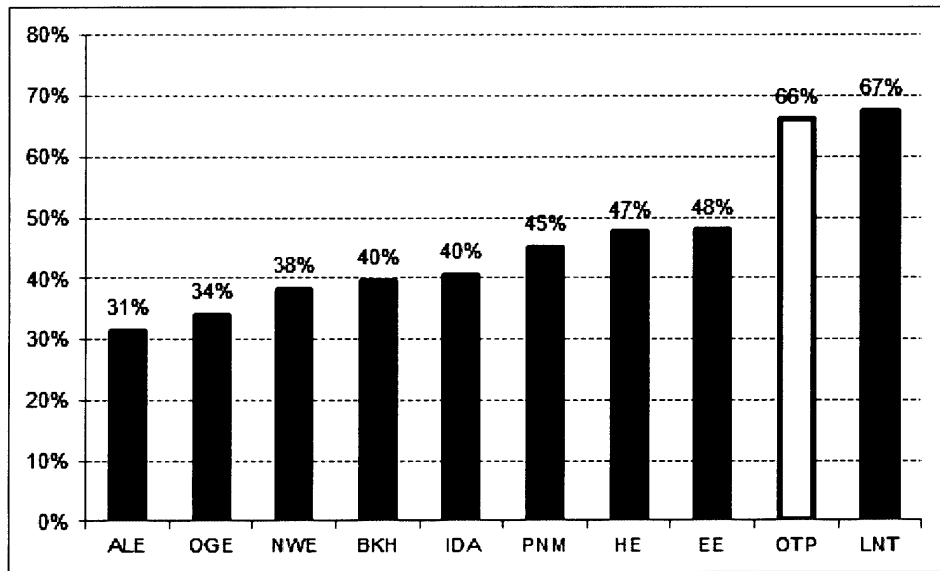
21 Q. PLEASE SUMMARIZE OTP'S CAPITAL EXPENDITURE PLANS.

22 A. The Company's capital expenditure program is significant. As discussed in more detail
23 below, that investment represents a significant increase over its existing net plant. As also
24 discussed below, in the context of existing net plant, the Company's capital investment
25 plans are substantial relative to the proxy companies' projected capital expenditures and
26 are substantially above the average of the proxy companies.

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

1 A. OTP currently plans to invest approximately \$862 million of additional capital over the
 2 five-year period from 2017-2021.³⁹ To reasonably compare that level of investment to the
 3 proxy companies, I calculated the ratio of expected capital expenditures to net plant for
 4 each of the companies in the proxy group. For the period 2017-2021, I performed that
 5 calculation using the Company’s projected capital expenditures relative to its total net plant
 6 as of December 31, 2016. As shown in Exhibit __ (RBH-1), Schedule 8, and Chart 2 below,
 7 relative to the proxy group, OTP’s ratio of projected capital expenditures to net plant is
 8 65.94 percent, which is the second highest of any of the proxy companies. OTP’s ratio of
 9 projected capital expenditures to net plant is only approximately 1.00 percentage point
 10 lower than the company with the highest ratio, but is over 18.00 percentage points above
 11 the next highest proxy company.

12 **Chart 2: Capital Expenditures**



13
 14
 15 As a further point of reference, I compared OTP’s ratio of projected capital expenditures
 16 to net plant to the comparable ratio for Northern States Power Company and for MDU
 17 Resources Group Inc. (“MDU”). OTP’s 65.94 percent projected capital expenditure ratio
 18 is higher than Northern States Power Company’s 48.91 percent ratio and MDU’s 56.27

³⁹ Direct Testimony of Kevin G. Moug, at 11.

1 percent ratio. As described in more detail below, pressure on cash flows from high levels
2 of capital expenditures places downward pressure on credit metrics.

3 Q. DO CREDIT RATING AGENCIES RECOGNIZE RISK ASSOCIATED WITH
4 INCREASED CAPITAL EXPENDITURES?

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

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

11 ***

12 To retain critical access to the debt markets, utilities will need to continue
13 to seek and receive supportive cost recovery from regulators.⁴⁰

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

21 Q. DO SUBSTANTIAL CAPITAL EXPENDITURES DIRECTLY RELATE TO A
22 UTILITY TO BEING ALLOWED THE OPPORTUNITY TO EARN A RETURN
23 ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

24 A. Yes, they do. The allowed ROE should enable the subject utility to finance capital
25 expenditures and working capital requirements at reasonable rates, and to maintain its
26 financial integrity in a variety of economic and capital market conditions. As discussed
27 throughout my Direct Testimony, a return that is adequate to attract capital at reasonable

⁴⁰ Standard & Poor's, *U.S. Utilities' Capital Spending is Rising, and Cost-Recovery is Vital*, RatingsDirect, May 14, 2012, at 6.

1 terms enables the utility to provide safe, reliable service while maintaining its financial
2 soundness. To the extent a utility is provided the opportunity to earn its market-based cost
3 of capital, neither customers nor shareholders should be disadvantaged. These
4 requirements are of particular importance to a utility when it is engaged in a substantial
5 capital expenditure program.

6
7 The ratemaking process is predicated on the principle that, for investors and companies to
8 commit the capital needed to provide safe and reliable utility services, the utility must have
9 the opportunity to recover the return of, and the market-required return on, invested capital.
10 Regulatory commissions recognize that since utility operations are capital intensive,
11 regulatory decisions should enable the utility to attract capital at reasonable terms; doing
12 so balances the long-term interests of the utility and its ratepayers.

13
14 Further, the financial community carefully monitors the current and expected financial
15 condition of utility companies, as well as the regulatory environment in which those
16 companies operate. In that respect, the regulatory environment is one of the most important
17 factors considered in both debt and equity investors' assessments of risk. That is especially
18 important during periods in which the utility expects to make significant capital
19 investments and, therefore, may require access to capital markets.

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

22 A. Yes. As discussed by Mr. Moug, although OTP has been retaining a significant portion of
23 its earnings which are being used to finance its capital expenditures, it will require
24 continued access to the capital markets, at reasonable terms, to finance its capital
25 expenditure plan.⁴¹

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

⁴¹ Direct Testimony of Kevin G. Moug, at 12.

1 A. It is clear that OTP is projecting a substantial capital expenditure program over the next
2 five years that will require continued access to the capital markets. It also is clear that
3 equity investors and credit rating agencies recognize the additional risks associated with
4 substantial capital expenditures. These additional risk factors suggest that an ROE toward
5 the upper end of the reasonable range of returns would be appropriate. As such, the
6 Commission's decision in this proceeding will have a direct bearing on OTP's ability to
7 maintain its financial profile, and its ability to access the capital market at reasonable cost
8 rates.

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

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

15

16 ***Small Size***

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

18 A. Both the financial and academic communities have long accepted the proposition that the
19 Cost of Equity for small firms is subject to a "size effect".⁴² Although empirical evidence
20 of the size effect often is based on studies of industries beyond regulated utilities, utility
21 analysts also have noted the risks with associated small market capitalizations.
22 Specifically, Ibbotson Associates noted:

23 For small utilities, investors face additional obstacles, such as smaller
24 customer base, limited financial resources, and a lack of diversification

⁴² See, Mario Levis, The record on small companies: A review of the evidence, *Journal of Asset Management* 2, March 2002, at 368-397, for a review of literature relating to the size effect.

1 across customers, energy sources, and geography. These obstacles imply
2 a higher investor return.⁴³

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

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

7 A. OTP is substantially smaller than the average for the proxy group companies both in terms
8 of numbers of customers and annual revenues. Exhibit __ (RBH-1), Schedule 9 estimates
9 the implied market capitalization for OTP (*i.e.*, the implied market capitalization if the
10 Company were a stand-alone, publicly traded entity). That is, since OTP is a subsidiary of
11 OTTR, an estimated stand-alone market capitalization for OTP must be calculated. To do
12 so, I applied the median market to book ratio for the nine member proxy group to OTP's
13 implied equity of \$186 million.⁴⁴ The implied market capitalization based on that
14 calculation is \$382 million, which is approximately 10.00 percent of the median level of
15 the proxy group and approximately 17.00 percent of the smallest of the proxy companies.
16 I also note that OTTR's market capitalization of \$1.68 billion is smaller than any of the
17 proxy companies.

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

20 A. In general, smaller companies are less able to withstand adverse events that affect their
21 revenues and expenses. The effect of weather variability, the loss of large customers to
22 bypass opportunities, or the destruction of demand as a result of general macroeconomic
23 conditions or fuel price volatility will have a proportionately greater impact on the earnings
24 and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue
25 producing investments such as system maintenance and replacements will put
26 proportionately greater pressure on customer costs, potentially leading to customer attrition

⁴³ Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995.

⁴⁴ The implied market capitalization was calculated by applying the proposed equity ratio of 52.50 percent to the proposed rate base for the Company (*i.e.*, \$354 million).

1 or demand reduction. Taken together, these risks affect the return required by investors for
2 smaller companies.

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

5 A. Yes, there have been several studies conducted that demonstrate the size premium. One of
6 the earliest works in this area found that over a period of 40 years “the common stock of
7 small firms had, on average, higher risk-adjusted returns than the common stock of large
8 firms.”⁴⁵ The author, who referred to that finding as the “size effect,” suggested that the
9 CAPM was mis-specified in that on average, smaller firms had significantly larger risk-
10 adjusted returns than larger firms. The author also concluded that the size effect was “most
11 pronounced for the smallest firms in the sample.”⁴⁶ Since then, additional empirical
12 research has focused on explaining the size effect as a function of lower trading volume
13 and other factors, but the proposition that Beta fails to reflect the risks of smaller firms
14 persists.⁴⁷

15
16 In 1994, Fama and French also focused on the issue of whether the CAPM adequately
17 explained security returns and proposed a "three factor" model for expected security
18 returns. Those factors include: (1) the covariance with the market; (2) size; and (3)
19 financial risk as determined by the book-to-market ratio. As explained by Morningstar,
20 Fama and French “found that the returns on stocks are better explained as a function of size
21 and book-to-market value in addition to the single market factor of the CAPM, with the
22 company’s size capturing the size effect and its book-to-market ratio capturing the financial
23 distress of a firm.”⁴⁸

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

⁴⁵ R. W. Banz, *The Relationship Between Return and Market Value of Common Stocks*, Journal of Financial Economics, 9, 1981.

⁴⁶ *Ibid.*

⁴⁷ See, for example, Mario Levis, *The record on small companies: A review of the evidence*, Journal of Asset Management, March, 2002.

⁴⁸ Morningstar, Ibbotson SBBI 2013 Valuation Yearbook, at 109.

1 A. In its *2017 Valuation Handbook*, Duff & Phelps presents its calculation of the size premium
2 for deciles of market capitalizations relative to the S&P 500 Index. An additional estimate
3 of the size premium associated with OTP, therefore, is the difference in the Duff & Phelps
4 size risk premiums for the proxy group median market capitalization relative to the implied
5 market capitalization for OTP.

6
7 As shown on Exhibit __ (RBH-1), Schedule 9, based on recent market data, the median
8 market capitalization of the proxy group was approximately \$3.72 billion, which
9 corresponds to the fourth decile of Duff & Phelps's market capitalization data. Based on
10 the Duff & Phelps analysis, that decile has a size premium of 0.98 percent (or 98 basis
11 points). The implied market capitalization for OTP is approximately \$382 million, which
12 falls within the ninth decile and corresponds to a size premium of 2.68 percent (or 268
13 basis points). The difference between those size premiums is 176 basis points (2.68 percent
14 – 0.98 percent).

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

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

21
22 ***Customer Concentration***

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

24 A. OTP's customer base is largely comprised of commercial and industrial customers.
25 Approximately 69.50 percent of OTP's total revenues, and 74.30 percent of its total sales
26 volume are attributable to sales to commercial and industrial customers.⁴⁹ Relative to the
27 proxy group, OTP has the second highest commercial customer concentration by percent

⁴⁹ Estimated as total sales less residential sales based on 2016 data.

1 of revenues, and the second highest commercial customer concentration by percent of
2 volume (in kilowatt-hours) (*see* Exhibit __ (RBH-1), Schedule 10). OTP's dependence on
3 sales to commercial users subjects its operations to greater cash flow volatility, and risk of
4 demand destruction and bypass. Although OTP currently believes its rates are sufficiently
5 competitive to retain its commercial customers, OTP remains highly exposed to such risks.

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

8 A. Yes. OTP's service territory is predominantly agricultural.⁵⁰ It generally is understood
9 that diversity is an important factor in the economic stability of a given market area. That
10 is, a diversified economy is less susceptible to the economic cycles of, or shocks associated
11 with a single industry. Consequently, a relatively undiversified market, such as that served
12 by OTP, represents meaningful financial risks to the host utility.

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

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

20
21 ***Other Evidence of OTP's Relatively Higher Cost of Equity***

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

25 A. Yes, there are. The Company's relatively low degree of institutional ownership and the
26 low trading volume of its common stock indicate that investors require a "liquidity

⁵⁰ Otter Tail Corporation, SEC Form 10-K for the Period Ending December 31, 2016, at 6.

1 premium". Although that premium is difficult to quantify, it does support the position that
2 OTP's ROE should be set toward the upper end of the range of results. The position that
3 the ROE falls in the upper end of the range also is supported by OTTR's relative risk as
4 measured by Beta coefficients. Those issues, and their implications for the Company's
5 Cost of Equity, are discussed in more detail below.

6 **Institutional Ownership**

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

9 A. Institutional ownership refers to the extent to which a given company's common stock is
10 owned by large financial institutions, mutual funds, insurance companies, and
11 endowments.⁵¹ Because they tend to have more resources than retail investors, institutional
12 investors are able to perform more in-depth research, and tend to take larger positions in a
13 given company's stock. A significant benefit of institutional investors to capital-intensive
14 companies such as OTP is that they tend to be an efficient source of equity capital. In
15 addition, because they buy and sell large stock positions based on their individual research
16 and portfolio objectives, institutional investors provide a significant source of liquidity. As
17 discussed below, a more liquid market means that an investor can sell stocks without the
18 risk of losing value.

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

⁵¹ As opposed to institutional ownership, "retail" ownership refers to ownership by individual investors.

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

3 A. OTTR's 51.94 percent institutional ownership is significantly lower than any of the proxy
4 companies. More specifically, OTTR's institutional ownership is significantly below the
5 86.89 percent average institutional ownership of my proxy group. OTTR's institutional
6 ownership is also below that of MDU and Xcel Energy, Inc. ("Xcel Energy"), 66.23 percent
7 and 77.71 percent, respectively. The relative portions of institutional ownership are
8 provided in Exhibit__(RBH-1), Schedule 11. Because OTTR's level of institutional
9 ownership is significantly below its peers, there is a lower level of equity capital available
10 from institutional investors to OTTR and OTP.

11 **Trading Volume and Liquidity Risk**

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

14 A. Yes. Smaller companies (such as OTTR) typically have fewer shares outstanding, and
15 fewer shares traded than their larger counterparts. This is significant to institutional
16 investors, who typically hold larger numbers of shares in each of their investments as a
17 matter of management efficiency. In other words, institutional investors tend to have
18 minimum dollar amounts for individual investments, which lead to positions involving
19 larger numbers of shares. If an institutional investor holds a relatively large portion of the
20 shares of a company, its ability to sell its position (without adversely affecting the market
21 price of shares) may be limited by the volume of shares traded each day. That uncertainty,
22 which often is referred to as "liquidity risk", requires a higher expected return (that is, the
23 "liquidity premium" noted earlier). As noted by Amihud and 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.⁵²

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

⁵² Yakov Amihud, Haim Mendelson, *Liquidity, Asset Prices and Financial Policy*, Financial Analysts Journal, Vol. 47, No. 6 (Nov-Dec 1991), at 56.

1 A. The daily trading volume of OTTR shares is far below the average volume of my proxy
 2 group. As Table 10 (below) indicates, OTTR's average daily volume has been only about
 3 18.00 to 19.00 percent of the average daily volume for the Proxy Group. Again, that low
 4 volume indicates low liquidity and the corresponding requirement for a liquidity premium.

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

Group	Jan 2013 – Sep 2017	Jan 2014 – Sep 2017	Jan 2015 – Sep 2017	Jan 2016 – Sep 2017	Jan 2017 – Sep 2017
OTTR	95,617	97,503	96,781	104,286	96,766
Proxy Group	508,954	536,151	547,036	550,354	496,761
OTTR Volume as a % of:					
Proxy Group	18.79%	18.19%	17.69%	18.95%	19.48%

6 OTTR's average daily trading volume is also significantly lower than the averages for Xcel
 7 Energy and MDU, which were approximately 3.00 million (3.00 percent) and 1.00 million
 8 (10.00 percent), respectively.

9
 10 Taken from a slightly different perspective, OTTR's average daily trading volume is less
 11 than one-half of its peers' (see Table 11, below). Again, that low volume indicates a degree
 12 of illiquidity that strongly suggests the need for a liquidity premium.

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

Group	Jan 2013 – Sep 2017	Jan 2014 – Sep 2017	Jan 2015 – Sep 2017	Jan 2016 – Sep 2017	Jan 2017 – Sep 2017
OTTR	0.255%	0.257%	0.252%	0.268%	0.245%
Proxy Group	0.547%	0.571%	0.579%	0.579%	0.529%

14
 15 OTTR's average daily trading volume is also significantly lower than the averages for Xcel
 16 Energy and MDU, which were approximately 0.600 percent and 0.500 percent,
 17 respectively.

18 Q. WHAT DO YOU CONCLUDE FROM THAT DATA?

19 A. First, there is little question that OTTR has a small percentage of institutional ownership,
 20 and very low daily trading volumes relative to its peers. As a consequence, equity investors
 21 face greater liquidity risk for which they would require a liquidity premium. Because
 22 OTP's Cost of Equity is estimated based on a proxy group of companies with greater
 23 degrees of institutional ownership and higher daily trading volumes, the liquidity premium

1 required to invest in OTTR's shares is not reflected in the analytical results. Although it is
2 difficult to estimate the required liquidity premium, OTTR's relatively illiquid shares
3 provide further support for moving toward the upper end of the range of analytical results.

4 **Relative Beta Coefficients**

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

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

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

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

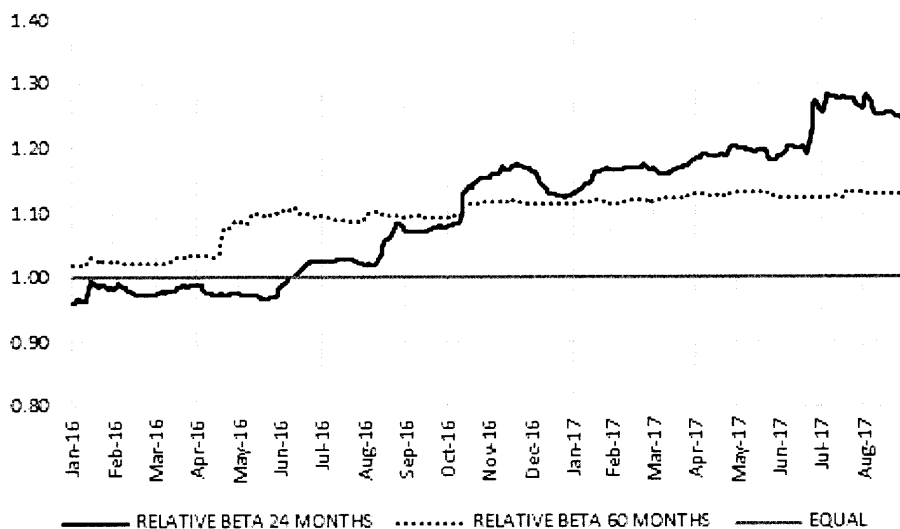
19 Q. PLEASE DESCRIBE THE ANALYSES YOU PERFORMED REGARDING RELATIVE
20 BETA COEFFICIENTS.

21 A. I calculated OTTR's Beta coefficient over both 24- and 60-month periods (that is, the same
22 periods used by Value Line and Bloomberg⁵³); I performed that calculation each day from
23 January 2016 through September 2017. I then took the ratio of OTTR's calculated Beta
24 coefficient to the proxy group, and plotted that ratio each day over the calculation period.
25 Those results are provided in Chart 3, below.

⁵³ 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.

1

Chart 3: Relative Beta Coefficients⁵⁴



2

3 Q. WHAT ARE YOUR CONCLUSIONS OF YOUR ANALYSIS RELATIVE BETA
4 COEFFICIENTS?

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

10

11 **Cost Savings for Customers**

12 Q. HAS OTP DEMONSTRATED THE COMBINATION OF SUBSTANTIAL COST
13 SAVINGS FOR CUSTOMERS AND VERY HIGH LEVELS OF CUSTOMER
14 SATISFACTION?

15 A. Yes. OTP witnesses Mr. Kirk A. Phinney has explained that OTP has completed the largest
16 capital project it has undertaken, the Big Stone Air Quality Control System project (“AQCS
17 Project”), on time and approximately 26.00 percent under budget. Mr. Phinney also

⁵⁴ Source: SNL Financial.

1 explained that the smaller Hoot Lake Mercury Air Toxins Standard project has also been
2 completed substantially under budget.

3
4 OTP witnesses Mr. Stuart Tommerdahl has explained the very substantial savings to all
5 OTP customers, including approximately \$3.40 million in the 2018 Test Year,
6 approximately \$32.70 million in the first 10 years, and approximately \$69.50 million over
7 30-year life of the AQCS Project. OTP witness Mr. Bruce Gerhardson explains the high
8 levels of customer satisfaction and low rates that OTP has maintained for a number of
9 years.

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

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

17 In essence, an incentive premium in excess of the authorized rate of return
18 is granted as an incentive device and/or to reward the attainment of a certain
19 performance objective. Benefits accrue to both investors and ratepayers,
20 the former in the form of enhanced profitability, and the latter in the form
21 of reduced costs. The ROE increment is frequently tied to a specific
22 performance target, for example a given ratio of actual/filed capital
23 spending program. More importantly, the ROE increment is applied in
24 order to reward overall management performance as opposed to the
25 attainment of a narrow, specific objective.⁵⁵

26
27 Although Dr. Morin's discussion specifically addresses formal incentive plans, I believe
28 that the same rationale applies to setting the ROE in a traditional rate case.

⁵⁵ Morin in New Regulatory Finance, Chapter 20, section 20.3 Alternatives To Rate Of Return/Rate Base Regulation, p. 539.

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

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

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

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

12

VIII. CAPITAL MARKET ENVIRONMENT

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

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

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

25 A. Yes, I do. Much has been reported about the Federal Reserve's Quantitative Easing policy
26 and its effect on interest rates. Although the Federal Reserve completed its Quantitative
27 Easing initiative in October 2014, it was not until December 2015 that it raised the Federal

1 Funds rate, and began the process of rate normalization.⁵⁶ Therefore, a significant issue is
2 how investors will react as that process continues, and eventually is completed. A viable
3 outcome is that investors will perceive greater prospects of macroeconomic growth, which
4 will increase the growth rates included in the Constant Growth DCF model. At the same
5 time, higher growth and the absence of Federal market intervention could provide the
6 opportunity for interest rates to increase, thereby increasing the dividend yield portion of
7 the DCF model. In that case, both terms of the Constant Growth DCF model would
8 increase, producing increased ROE estimates.

9
10 As noted below, market-based data indicate that investors see a probability of increasing
11 interest rates. Because those dynamics affect different models in different ways, it would
12 be inappropriate to rely on a single method to estimate the Company's Cost of Equity. A
13 more reasoned approach is to understand the relationships among Federal monetary policy,
14 interest rates, and measures of market risk, and to consider how those factors may affect
15 different models and their results. As discussed throughout my Direct Testimony, it
16 remains important to consider a broad range of data and models when determining the
17 Company's Cost of Equity.

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

20 A. Beginning in 2008, the Federal Reserve proceeded on a steady path of initiatives intended
21 to lower long-term Treasury yields.⁵⁷ The Federal Reserve's policy actions "were designed
22 to put downward pressure on longer-term interest rates by having the Federal Reserve take
23 onto its balance sheet some of the duration and prepayment risks that would otherwise have
24 been borne by private investors."⁵⁸ Under that policy, "Securities held outright" on the
25 Federal Reserve's balance sheet increased from approximately \$489 billion at the
26 beginning of October 2008 to \$4.25 trillion by September 2017.⁵⁹ To put that increase in

⁵⁶ See Federal Reserve Press Release (December 16, 2015).

⁵⁷ See Federal Reserve Press Release, dated June 19, 2013.

⁵⁸ Federal Reserve Bank of New York, *Domestic Open Market Operations During 2012*, April 2013, at 29.

⁵⁹ Source: Federal Reserve Board Schedule H.4.1. "Securities held outright" include U.S. Treasury securities,

1 context, the securities held by the Federal Reserve represented approximately 3.29 percent
2 of Gross Domestic Product (GDP) at the end of September 2008, and had risen to
3 approximately 22.06 percent of GDP in September 2017.⁶⁰ As such, the Federal Reserve
4 provided a significant source of liquidity, and had a substantial effect on capital markets.

5 Q. DOES YOUR RECOMMENDATION CONSIDER THE INTEREST RATE
6 ENVIRONMENT?

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

15
16 The low interest rate environment associated with central bank intervention may lead some
17 analysts to conclude that current capital costs, including the Cost of Equity, are low and
18 will remain as such. However, that conclusion only holds true under the hypothesis of
19 Perfectly Competitive Capital Markets (“PCCM”) and the classical valuation framework
20 which, under normal economic and capital market conditions, underpin the traditional Cost
21 of Equity models. Perfectly Competitive Capital Markets are those in which no single
22 trader, or “market-mover”, would have the power to change the prices of goods or services,
23 including bond and common stock securities. In other words, under the PCCM hypothesis,
24 no single trader would have a significant effect on market prices.

25 Classic valuation theory assumes investors trade securities rationally, with prices reflecting
26 their perceptions of value. Although central banks may set benchmark interest rates, they
27 have maintained below-normal rates to stimulate economic expansion and capital market

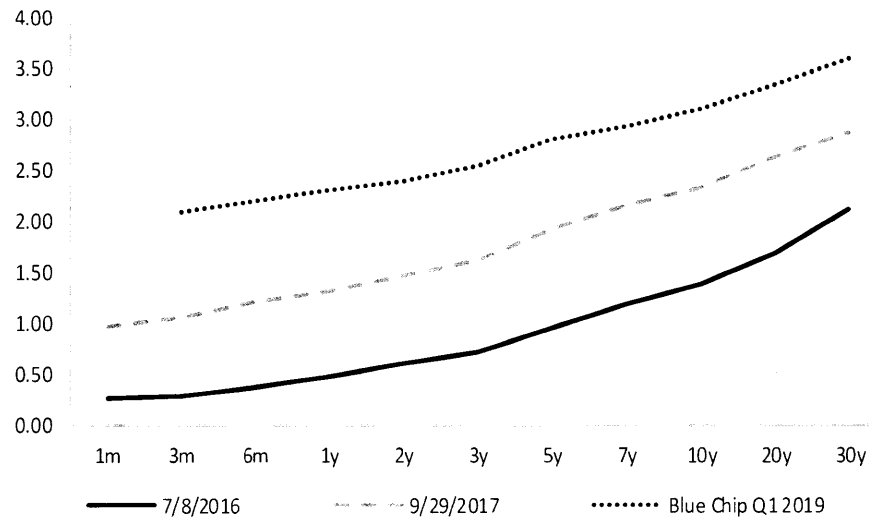
⁶⁰ Federal agency debt securities, and mortgage-backed securities
Source: Federal Reserve Board Schedule H.4.1; Bureau of Economic Analysis.

1 recovery. It therefore is reasonable to conclude that the Federal Reserve and other central
2 banks have been acting as market-movers, thereby having a significant effect on the market
3 prices of both bonds and stocks. The presence of market-movers, such as the Federal
4 Reserve, runs counter to the PCCM hypothesis, which underlies traditional Cost of Equity
5 models. Consequently, the results of those models should be considered in the context of
6 both quantitative and qualitative information.

7
8 Although the Federal Reserve's market intervention policies have kept interest rates
9 historically low, since July 8, 2016 (when the 30-year Treasury yield hit an all-time low of
10 2.11 percent), rates have risen. As the Federal Reserve increased the Federal Funds target
11 rate by 25 basis points in December 2016 (from 0.25 percent - 0.50 percent to 0.50 percent
12 - 0.75 percent), March 2017 (to 0.75 percent - 1.00 percent) and June 2017 (to 1.00 percent
13 - 1.25 percent), short-term and long-term interest rates increased by a corresponding
14 amount (*see* Chart 4 below).⁶¹

⁶¹ Federal Reserve Board Schedule H.15. 6-month and 1-year Treasury yields increased by 84 basis points and 83 basis points, respectively, July 8, 2016 to September 29, 2017. The ten-year and 30-year Treasury yields increasing by 96 basis points and 75 basis points, respectively, by September 29, 2017.

1 **Chart 4: Treasury Yield Curve: 7/8/2016, 9/29/2017 and Projected Q1 2019⁶²**



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10
 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.”⁶³ 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.⁶⁴ 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 85.00 percent likelihood of further rate increases by January 2018.

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

13 A. Yes. Forward Treasury yields implied by the slope of the yield curve and published
14 projections by sources such as *Blue Chip Financial Forecasts* (which provides consensus
15 estimates from approximately 50 professional economists) indicate investors expect long-

⁶² Sources: Federal Reserve Board Schedule H.15.; Blue Chip Financial Forecasts, Vol. 36, No. 10, October 1, 2017, at 2. 3-year, 7-year and 20-year projected Treasury yields interpolated.

⁶³ Federal Reserve Press Release, September 20, 2017.

⁶⁴ Federal Reserve Addendum to the Policy Normalization Principles and Plans As adopted effective June 13, 2017.

1 term interest rates to increase. Similarly, investors' expectations for increased long-term
 2 Treasury yields are apparent in the prices investors are willing to pay today for the option
 3 to buy or sell long-term Government bonds, at today's price, in the future. Because the
 4 value of bonds falls as interest rates increase, the option to sell bonds at today's price
 5 becomes more valuable when interest rates are expected to increase.⁶⁵ Currently option
 6 prices show that investors are willing to pay about 50.00 percent more for the option to sell
 7 bonds in the future (at today's price) than they are willing to pay for the option to buy those
 8 bonds.⁶⁶ That market-based data tells us that investors consider an increase in interest rates
 9 as likely.

10
 11 Looking to short-term interest rates, data compiled by CME Groups indicates that investors
 12 see a high likelihood of further Federal Funds rate increases, even after the three increases
 13 between December 14, 2016 and June 14, 2017. As shown in Table 12, (below) the market
 14 is now anticipating at least one additional rate hike (95.10 percent probability) and possibly
 15 two or more (64.50 percent) by September 2018.

16 **Table 12: Probability of Federal Funds Rate Increases⁶⁷**

Target Rate (bps)	Federal Reserve Meeting Date							
	11/1/17	12/13/17	1/31/18	3/21/18	5/2/18	6/13/18	8/1/18	9/26/18
100-125	98.5%	17.1%	16.4%	11.8%	11.3%	7.3%	7.2%	4.9%
125-150	1.5%	81.7%	79.0%	61.4%	59.3%	42.5%	41.8%	30.6%
150-175		1.2%	4.6%	25.5%	27.0%	38.3%	38.4%	39.5%
175-200			0.1%	1.3%	2.3%	11.0%	11.5%	20.2%
200-225					0.1%	0.9%	1.1%	4.4%
225-250								0.4%

17
 65 In other words, if there is a high probability that interest rates will increase and bond prices will fall, there is value in the option to sell those bonds in the future at today's price. Conversely, if there is a strong probability that interest rates will decrease (price of bonds will increase), there is value in the option to buy those bonds in the future at today's price.

66 The option to sell the TLT index in January 2018 at today's price is approximately one and a half times the value of the option to buy the fund. Source: <http://www.nasdaq.com/symbol/tlt/option-chain?dateindex=7> accessed October 4, 2017.

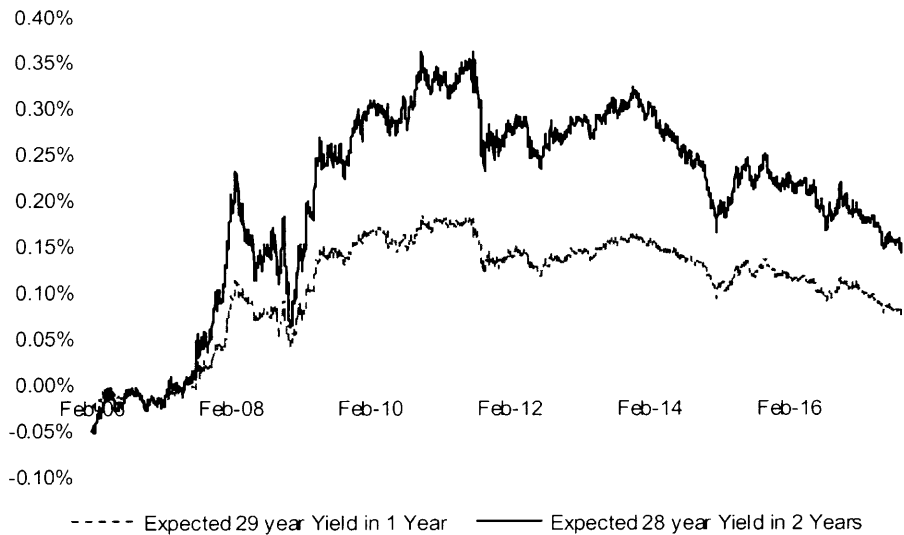
67 Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed October 4, 2017.

1 Lastly, we can view the market's expectations of future interest rates based on the current
2 yield curve. Those expected rates, often referred to as "forward yields" are derived from
3 the "Expectations" theory, which states that (for example) the current 30-year Treasury
4 yield equals the combination of the current one-year Treasury yield, and the 29-year
5 Treasury yield expected in one year. That is, an investor would be indifferent to (1) holding
6 a 30-year Treasury to maturity, or (2) holding a one-year Treasury to maturity, then a 29-
7 year Treasury bond, also to maturity.⁶⁸ Chart 5, below, shows the difference between the
8 forward and spot Treasury yields over time. As Chart 5 indicates, since 2006 the implied
9 forward 29- and 28- year yields (one and two years hence, respectively) consistently
10 exceeded the (interpolated) spot yields. That is, just as economists' projections implied
11 increased interest rates, so did observable Treasury yields.

⁶⁸ In addition to the Expectations theory, there are other theories regarding the term structure of interest rates including: the Liquidity Premium Theory, which asserts that investors require a premium for holding long term bonds; the Market Segmentation Theory, which states that securities of different terms are not substitutable and, as such, the supply of and demand for short-term and long-term instruments is developed independently; and the Preferred Habitat Theory, which states that in addition to interest rate expectations, certain investors have distinct investment horizons and will require a return premium for bonds with maturities outside of that preference.

1

Chart 5: Forward vs. Interpolated Treasury Yields⁶⁹



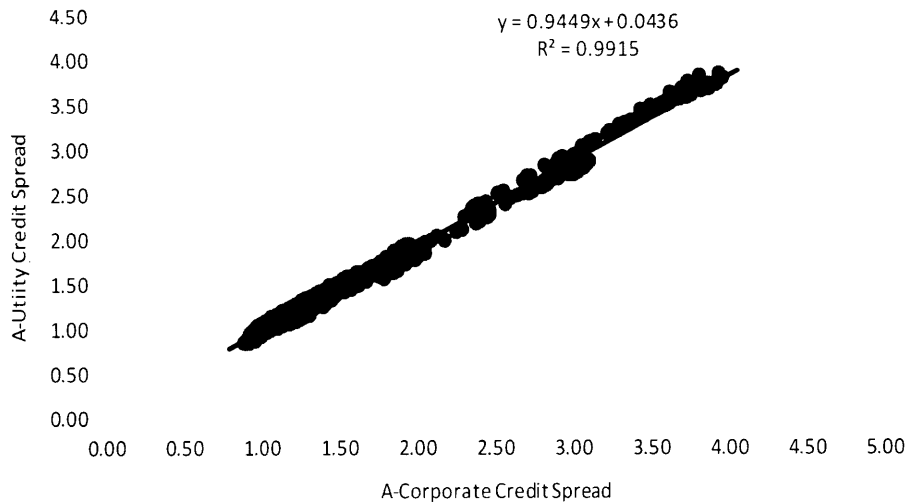
2

3 Q. HAVE YOU ALSO REVIEWED THE RELATIONSHIP BETWEEN CREDIT
 4 SPREADS FOR A-RATED UTILITY DEBT RELATIVE TO A-RATED CORPORATE
 5 DEBT?

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

⁶⁹ Source: Federal Reserve Schedule H.15. Spot yields are interpolated.

1 **Chart 6: Corporate and Utility Credit Spreads (A-Rated)⁷⁰**



2
3 Q. WHAT DO YOU CONCLUDE FROM THOSE ANALYSES?

4 A. First, it is clear that interest rates have increased from the low levels experienced in early
5 2016. Second, it is clear that market-based data indicate investors' expectations of rising
6 interest rates in the near- and longer-term. The observation that interest rates have
7 increased indicates that the financial community sees the strong prospect of increased
8 growth throughout the economy. As that occurs, and as interest rates continue to rise, it
9 would be reasonable to expect lower utility valuations, higher dividend yields, and higher
10 growth rates. In the context of the Discounted Cash Flow model, those variables would
11 combine to indicate increases in the Cost of Equity.

12
13 Although the market data discussed above indicate increasing costs of capital, it is
14 important to keep in mind that estimating the Cost of Equity is an empirical exercise, but
15 rote application of a specific form of an analysis, or the mechanical use of specific model
16 inputs, may well produce misleading results. The methods used to estimate the Cost of
17 Equity, or the weight given to any one method, may change from case to case; and that the
18 returns authorized in other jurisdictions provide a relevant, observable, and verifiable

⁷⁰ Source: Federal Reserve Schedule H.15.

1 benchmark for assessing the reasonableness of analytical assumptions, results, and
2 conclusions.

3 Q. HAVE THERE BEEN RECENT PERIODS WHEN UTILITY VALUATION LEVELS
4 WERE HIGH RELATIVE TO BOTH THEIR LONG-TERM AVERAGE AND THE
5 MARKET?

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

14 Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSES OF THE
15 CURRENT CAPITAL MARKET ENVIRONMENT, AND HOW DO THOSE
16 CONCLUSIONS AFFECT YOUR ROE RECOMMENDATION?

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

22
23 From an analytical perspective, it is important that the inputs and assumptions used to
24 arrive at an ROE determination, including assessments of capital market conditions, are
25 consistent with the conclusion itself. Although all analyses require an element of judgment,
26 the application of that judgment must be made in the context of the quantitative and
27 qualitative information available to the analyst and the capital market environment in
28 which the analyses were undertaken. Because the application of financial models and
29 interpretation of their results often is the subject of differences among analysts in regulatory

1 proceedings, I believe that it is important to review and consider a variety of data points;
2 doing so enables us to put in context both quantitative analyses and the associated
3 recommendations.

4
5 Because not all models used to estimate the Cost of Equity adequately reflect those
6 changing market dynamics, it is important to give appropriate weight to the methods and
7 to their results. Moreover, because those models produce a range of results, it is important
8 to consider the type of data discussed above in determining where the Companies' ROE
9 falls within that range. As described in Section VII, on balance, I believe that the DCF-
10 based results should be viewed very carefully, and that somewhat more weight should be
11 afforded the Risk Premium-based methods. I believe that doing so supports my
12 recommended range of 10.00 percent to 10.60 percent, and my ROE recommendation of
13 10.30 percent.

14 15 **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 52.50 percent common equity, 46.00 percent long-term debt and 1.50 percent
19 short-term debt.

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

23 A. Yes, there is. In general, it is important to consider the capital structure in light of industry
24 norms and investor requirements. That is, the capital structure should be reasonably
25 consistent with industry practice, and enable the subject company to maintain its financial
26 integrity, thereby enabling access to capital at competitive rates under a variety of
27 economic and financial market conditions.

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

1 A. It is well understood that from a financial perspective, there are two general categories of
2 risk: business risk and financial risk. Business risk includes operating, market, regulatory,
3 and competitive uncertainties, while financial risk is the incremental risk to investors
4 associated with additional levels of debt. As such, the capital structure relates to a
5 Company's financial risk, which represents the risk that a company may not have adequate
6 cash flows to meet its financial obligations, and is a function of the percentage of debt (or
7 financial leverage) in its capital structure. In that regard, as the percentage of debt in the
8 capital structure increases, so do the fixed obligations for the repayment of that debt.
9 Consequently, as the degree of financial leverage increases, the risk of financial distress
10 (*i.e.*, financial risk) also increases.⁷¹

11 Q. PLEASE SUMMARIZE YOUR ANALYSIS OF THE PROXY COMPANIES' CAPITAL
12 STRUCTURES?

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

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

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

25 Q. HOW DOES OTP'S RATIO OF COMMON EQUITY TO TOTAL DEBT COMPARE
26 TO YOUR PROXY GROUP?

⁷¹ See Roger A. Morin, *New Regulatory Finance, Public Utility Reports, Inc.*, 2006, at 45-46.

1 A. The mean of the proxy group actual capital structures over the last eight quarters is 51.45
2 percent common equity and the median is 52.56 percent. The common equity ratios of the
3 proxy group range from 44.59 percent to 59.14 percent.⁷² OTP's proposed 52.50 percent
4 equity ratio is above the mean and approximately equal to the median of the proxy
5 companies' equity ratios.

6 Q. IS THE PROPOSED CAPITAL STRUCTURE CONSISTENT WITH PRIOR
7 COMMISSION DECISIONS?

8 A. Yes, it is. As Mr. Moug notes in his Direct Testimony, OTP's proposed 52.50 percent
9 equity ratio is somewhat below the Company's current equity ratio approved by the
10 Commission in Docket No. PU-08-862 and comparable to the capital structures authorized
11 for Northern States Power and MDU in their most recent rate cases.⁷³

12 Q. WILL THE CAPITAL STRUCTURE AND ROE AUTHORIZED IN THIS
13 PROCEEDING AFFECT OTP'S ABILITY TO COMPLETE ITS CAPITAL
14 EXPENDITURE PLAN?

15 A. Yes, I believe so. As Mr. Moug states in his Direct Testimony, the level of earnings
16 authorized by the Commission directly affects the Company's ability to fund capital
17 investment with internally generated funds; and both lenders and equity investors expect a
18 significant portion of on-going capital investments to be financed with internally generated
19 funds.⁷⁴

20
21 It also is important to realize that investors weigh a given utility's authorized ROE in the
22 context of the nature of its expected capital investments. Because a utility's investment
23 horizon is very long, investors require the assurance of a sufficiently high return to satisfy
24 the long-run financing requirements of the assets put into service. Those assurances, which

⁷² Source: SNL Financial.

⁷³ MDU was authorized an equity ratio of 51.40 percent in Case No. PU-16-666. *See, Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc. 2016 Electric Rate Increase Application, Finding of Fact, Conclusions of Law and Order, June 16, 2017.* Northern States Power was authorized an equity ratio of 52.56 percent. *See, Northern States Power Company 2013 Electric Rate Increase Application, Order Adopting Settlement, Case No. PU-12-813, February 26, 2014.*

⁷⁴ Direct Testimony of Kevin G. Moug, at 12.

1 often are measured by the relationship between internally generated cash flows and debt
 2 (or interest expense), depend quite heavily on the capital structure. As a consequence, both
 3 the ROE and capital structure are very important to both debt and equity investors.

4 Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL
 5 STRUCTURE FOR OTP?

6 A. I believe that the Company's proposed capital structure, which consists of 52.50 percent
 7 common equity 46.00 percent long-term debt and 1.50 percent short-term debt, is
 8 appropriate.

9
 X. CONCLUSIONS AND RECOMMENDATION

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

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

Table 13a: Summary of DCF Results⁷⁵

	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
<i>Constant Growth DCF – Including Flotation Costs⁷⁶</i>			
30-Day Constant Growth DCF	8.05%	9.26%	10.19%
90-Day Constant Growth DCF	8.12%	9.33%	10.26%
180-Day Constant Growth DCF	8.22%	9.43%	10.36%
<i>Multi-Stage DCF – Including Flotation Costs</i>			
30-Day Multi-Stage DCF	8.49%	9.15%	9.77%
90-Day Multi-Stage DCF	8.65%	9.31%	9.93%
180-Day Multi-Stage DCF	8.91%	9.57%	10.19%

⁷⁵ See, also Exhibit __ (RBH-1), Schedules 1 and 3.

⁷⁶ Constant Growth DCF results exclude Hawaiian Electric Industries, Inc., IDACORP, Inc., and Northwestern Corporation.

Table 13b: Summary of Risk Premium Results⁷⁷

	<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 (2.77%)	9.42%	9.72%
Near Term Projected 30-Year Treasury (3.30%)	9.95%	10.25%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (2.77%)	11.13%	11.51%
Near Term Projected 30-Year Treasury (3.30%)	11.65%	12.04%
<i>Bond Yield Plus Risk Premium Approach</i>		
Current 30-Year Treasury (2.77%)	9.96%	
Near Term Projected 30-Year Treasury (3.30%)	10.02%	
Long Term Projected 30-Year Treasury (4.40%)	10.33%	

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 balanced
9 approach is to consider additional methods, including the CAPM approach, and the Bond
10 Yield Plus Risk Premium model. Based on that data, I believe that an ROE in the range of
11 10.00 percent to 10.60 percent represents the range of equity investors' required ROE for
12 investment in OTP in today's capital markets. Within that range, I conclude that an ROE
13 of 10.30 percent represents the Cost of Equity for OTP and an appropriate ROE in this
14 matter.

⁷⁷ See, also Exhibit __ (RBH-1), Schedule 6 and Schedule 7.

1
2 My conclusion reflects OTP's risk profile relative to the proxy group, along with market
3 indications of increasing capital costs. My analysis demonstrates that OTP's level of
4 projected capital expenditures (65.94 percent of net plant) is higher than all but one proxy
5 company, and is substantially higher than the proxy group mean (43.45 percent of net
6 plant). My analysis also shows that OTP's estimated stand-alone market capitalization is
7 approximately 17.00 percent of the smallest company in the proxy group. In addition,
8 OTTR's level of institutional ownership, trading volume, and liquidity are all below the
9 proxy group, and the relative Beta coefficient is above 1.00 suggesting that OTTR is riskier
10 than the proxy group. Although I have not made a specific adjustment for any of these
11 factors, these factors support an ROE above the mean analytical results.
12

13 My recommendation is also supported by the substantial customer savings that OTP has
14 achieved while maintaining the highest levels of customer service and satisfaction. Mr.
15 Tommerdahl has demonstrated that North Dakota customers will receive customer savings
16 of approximately (approximately \$3.40 million in the 2018 Test Year, approximately
17 \$32.70 million in the first ten years, and approximately \$69.50 million over 30 years) as
18 the result of OTP's under-budget completion of the AQCS Project. Mr. Gerhardson has
19 explained the high levels of customer satisfaction with OTP service. Here too, although I
20 have not made a specific adjustment for these factors, they do support my recommended
21 10.30 percent ROE.
22

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

25 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

26 A. Yes, it does.

Constant Growth Discounted Cash Flow Model
30 Day Average Stock Price

Company	Ticker	[1] Annualized Dividend	[2] Average Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks Earnings Growth	[6] First Call Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.14	\$77.39	2.77%	2.84%	6.10%	5.00%	6.00%	5.70%	7.83%	8.54%	8.95%
Alliant Energy Corporation	LNT	\$1.26	\$42.56	2.96%	3.05%	5.50%	6.90%	6.00%	6.13%	8.54%	9.18%	9.96%
Black Hills Corporation	BKH	\$1.78	\$89.64	2.56%	2.64%	5.00%	7.65%	7.50%	6.72%	7.62%	9.36%	10.30%
EI Paso Electric Company	EE	\$1.34	\$55.14	2.43%	2.51%	7.20%	6.50%	5.00%	6.23%	7.49%	8.74%	9.72%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.54	3.70%	3.74%	4.00%	1.40%	1.50%	2.30%	5.12%	6.04%	7.77%
IDACORP, Inc.	IDA	\$2.36	\$89.09	2.65%	2.70%	4.50%	3.80%	3.50%	3.93%	6.20%	6.63%	7.21%
Northwestern Corporation	NWE	\$2.10	\$89.29	3.54%	3.60%	1.60%	3.05%	4.50%	3.05%	5.17%	6.65%	8.12%
OGE Energy Corp.	OGE	\$1.33	\$36.07	3.69%	3.80%	5.30%	6.30%	6.00%	5.87%	9.08%	9.66%	10.10%
PNM Resources, Inc.	PNM	\$0.97	\$42.01	2.31%	2.39%	4.70%	7.35%	9.00%	7.02%	7.06%	9.41%	11.41%
Proxy Group Mean				2.96%	3.03%	4.88%	5.33%	5.44%	5.22%	7.12%	8.25%	9.28%
Proxy Group Median				2.77%	2.84%	5.00%	6.30%	6.00%	5.87%	7.49%	8.74%	9.72%
Proxy Group Mean - Including Flotation Costs										7.24%	8.36%	9.40%
Proxy Group Median - Including Flotation Costs										7.60%	8.85%	9.83%
Proxy Group Mean Excl. HE, IDA, NWE										7.94%	9.15%	10.07%
Proxy Group Median Excl. HE, IDA, NWE										7.73%	9.27%	10.03%
Proxy Group Mean Excl. HE, IDA, NWE - Including Flotation Costs										8.05%	9.26%	10.19%
Proxy Group Median Excl. HE, IDA, NWE - Including Flotation Costs										7.84%	9.38%	10.15%
Flotation Costs										0.11%	0.11%	0.11%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of September 29, 2017
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.5 x [8])
- [5] Source: Zacks
- [6] Source: Yahoo! Finance
- [7] Source: Value Line
- [8] Equals Average([5], [6], [7])
- [9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

Company	Ticker	[1] Annualized Dividend	[2] Average Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks Earnings Growth	[6] First Call Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.14	\$74.35	2.88%	2.96%	6.10%	5.00%	6.00%	5.70%	7.95%	8.66%	9.07%
Alliant Energy Corporation	LNT	\$1.26	\$41.54	3.03%	3.13%	5.50%	6.90%	6.00%	6.13%	8.62%	9.26%	10.04%
Black Hills Corporation	BKH	\$1.78	\$69.61	2.56%	2.64%	5.00%	7.65%	7.50%	6.72%	7.62%	9.36%	10.31%
EI Paso Electric Company	EE	\$1.34	\$53.56	2.50%	2.58%	7.20%	6.50%	5.00%	6.23%	7.56%	8.81%	9.79%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.13	3.74%	3.79%	4.00%	1.40%	1.50%	2.30%	5.17%	6.09%	7.82%
IDACORP, Inc.	IDA	\$2.36	\$87.63	2.69%	2.75%	4.50%	3.80%	3.50%	3.93%	6.24%	6.68%	7.25%
Northwestern Corporation	NWE	\$2.10	\$60.48	3.47%	3.53%	1.60%	3.05%	4.50%	3.05%	5.10%	6.58%	8.05%
OGE Energy Corp.	OGE	\$1.33	\$35.62	3.73%	3.84%	5.30%	6.30%	6.00%	5.87%	9.13%	9.71%	10.15%
PNM Resources, Inc.	PNM	\$0.97	\$40.17	2.41%	2.50%	4.70%	7.35%	9.00%	7.02%	7.17%	9.52%	11.52%
Proxy Group Mean				3.00%	3.08%	4.88%	5.33%	5.44%	5.22%	7.17%	8.30%	9.33%
Proxy Group Median				2.88%	2.96%	5.00%	6.30%	6.00%	5.87%	7.56%	8.81%	9.79%
Proxy Group Mean - Including Flotation Costs										7.29%	8.41%	9.45%
Proxy Group Median - Including Flotation Costs										7.68%	8.93%	9.90%
Proxy Group Mean Excl. HE, IDA, NWE										8.01%	9.22%	10.15%
Proxy Group Median Excl. HE, IDA, NWE										7.79%	9.31%	10.09%
Proxy Group Mean Excl. HE, IDA, NWE - Including Flotation Costs										8.12%	9.33%	10.26%
Proxy Group Median Excl. HE, IDA, NWE - Including Flotation Costs										7.90%	9.42%	10.21%
Flotation Costs										0.11%	0.11%	0.11%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of September 29, 2017
- [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

Company	Ticker	[1] Annualized Dividend	[2] Average Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Zacks Earnings Growth	[6] First Call Earnings Growth	[7] Value Line Earnings Growth	[8] Average Earnings Growth	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.14	\$70.80	3.02%	3.11%	6.10%	5.00%	6.00%	5.70%	8.10%	8.81%	9.21%
Alliant Energy Corporation	LNT	\$1.26	\$40.26	3.13%	3.23%	5.50%	6.90%	6.00%	6.13%	8.72%	9.36%	10.14%
Black Hills Corporation	BKH	\$1.78	\$67.46	2.64%	2.73%	5.00%	7.65%	7.50%	6.72%	7.70%	9.44%	10.39%
EI Paso Electric Company	EE	\$1.34	\$51.32	2.61%	2.69%	7.20%	6.50%	5.00%	6.23%	7.68%	8.93%	9.91%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.18	3.74%	3.78%	4.00%	1.40%	1.50%	2.30%	5.16%	6.08%	7.81%
IDACORP, Inc.	IDA	\$2.36	\$84.87	2.78%	2.84%	4.50%	3.80%	3.50%	3.93%	6.33%	6.77%	7.34%
Northwestern Corporation	NWE	\$2.10	\$59.48	3.53%	3.58%	1.60%	3.05%	4.50%	3.05%	5.16%	6.63%	8.11%
OGE Energy Corp.	OGE	\$1.33	\$35.23	3.78%	3.89%	5.30%	6.30%	6.00%	5.87%	9.18%	9.75%	10.19%
PNM Resources, Inc.	PNM	\$0.97	\$38.21	2.54%	2.63%	4.70%	7.35%	9.00%	7.02%	7.30%	9.64%	11.65%
Proxy Group Mean				3.08%	3.16%	4.88%	5.33%	5.44%	5.22%	7.26%	8.38%	9.42%
Proxy Group Median				3.02%	3.11%	5.00%	6.30%	6.00%	5.87%	7.68%	8.93%	9.91%
Proxy Group Mean - Including Flotation Costs										7.37%	8.49%	9.53%
Proxy Group Median - Including Flotation Costs										7.79%	9.04%	10.02%
Proxy Group Mean Excl. HE, IDA, NWE										8.11%	9.32%	10.25%
Proxy Group Median Excl. HE, IDA, NWE										7.90%	9.40%	10.17%
Proxy Group Mean Excl. HE, IDA, NWE - Including Flotation Costs										8.22%	9.43%	10.36%
Proxy Group Median Excl. HE, IDA, NWE - Including Flotation Costs										8.01%	9.51%	10.28%
Flotation Costs										0.11%	0.11%	0.11%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals indicated number of trading day average as of September 29, 2017
- [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

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
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Otter Tail Corporation	12/7/2004	3,075,000	\$25.45	\$0.9500	\$391,452	\$24.37	\$3,312,702	\$78,258,760	\$74,946,048	4.233%
Otter Tail Corporation	9/18/2008	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	\$39.85	\$367	\$210,585	\$210,218	0.174%
Otter Tail Corporation - DRIP	2004	223,165	\$19.30	\$0.0000	\$0	\$19.30	\$4,308,033	\$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	\$6,545	\$8,566,009	\$8,509,464	0.660%
Otter Tail Corporation - DRIP	2016	302,524	\$36.68	\$0.0000	\$0	\$36.57	\$32,973	\$11,095,328	\$11,062,355	0.297%
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	\$5,336,352	\$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	\$19,559,633		3.581%

WEIGHTED AVERAGE FLOTATION COSTS: 3.581% [10]

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

Company	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Current Dividend	Adjusted for Flot. Costs	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Flotation Adjusted DCF k(e)
		[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[21]
ALLETE, Inc.	ALE	\$2.14	\$77.39	2.77%	2.84%	2.95%	6.10%	5.00%	6.00%	5.70%	8.65%
Alliant Energy Corporation	LNT	\$1.26	\$42.56	2.96%	3.05%	3.16%	5.50%	6.90%	6.00%	6.13%	9.30%
Black Hills Corporation	BKH	\$1.78	\$69.64	2.56%	2.74%	2.74%	5.00%	7.65%	7.50%	6.72%	9.46%
El Paso Electric Company	EE	\$1.34	\$53.14	2.51%	2.51%	2.60%	7.20%	6.50%	5.00%	6.23%	8.83%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$33.54	3.70%	3.74%	3.88%	4.00%	1.40%	1.50%	2.30%	6.18%
IDACORP, Inc.	IDA	\$2.36	\$69.09	2.65%	2.70%	2.80%	4.50%	3.80%	3.50%	3.93%	6.73%
Northwestern Corporation	NWE	\$2.10	\$59.29	3.54%	3.60%	3.73%	1.60%	3.05%	4.50%	3.05%	6.78%
OGE Energy Corp.	OGE	\$1.33	\$36.07	3.69%	3.80%	3.94%	5.30%	6.30%	6.00%	5.87%	9.80%
PNM Resources, Inc.	PNM	\$0.97	\$42.01	2.31%	2.39%	2.48%	4.70%	7.35%	9.00%	7.02%	9.50%
PROXY GROUP MEAN							8.25%	8.25%	8.25%	8.25%	8.36%

DCF Result Adjusted For Flotation Costs: 8.36%
DCF Result Unadjusted For Flotation Costs: 8.25%
Difference (Flotation Cost Adjustment): 0.11% [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 - 0.0358)
- [16] Source: Zacks
- [17] Source: Yahoo! Finance
- [18] Source: Value Line
- [19] Equals Average([16], [17], [18])
- [20] Equals [14] + [19]
- [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	Stock	EPS Growth Rate Estimates					Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal	
		[1]	[2]	[3]	[4]	[5]		[6]	[7]	[8]				[9]
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.41%	22.63	4.23
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	\$0.00	8.39%	22.83	4.27
Black Hills Corporation	BKH	\$69.84	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.33%	23.28	4.36
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.70%	20.67	3.87
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	\$0.00	9.69%	15.99	2.99
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	\$0.00	8.31%	23.40	4.38
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	9.00%	19.01	3.56
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.04%	18.81	3.52
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.54%	21.75	4.07

DCF Result		DCF Result	
Mean	8.71%		8.82%
Max	9.69%		9.80%
Min	8.31%		8.42%

Projected Annual Earnings per Share																		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.32	\$3.51	\$3.71	\$3.92	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27

Projected Annual Dividend Payout Ratio																	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows															[63]			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$167.68
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$91.66
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$151.21
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$121.02
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$87.61
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$191.72
Northwestern Corporation	NWE	\$2.13	\$2.20	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$125.69
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$75.91
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$92.91

Projected Annual Data Investor Cash Flows															[81]					
Company	Ticker	Initial Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.18	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$172.56
Alliant Energy Corporation	LNT	(\$42.56)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$94.31
Black Hills Corporation	BKH	(\$69.84)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$159.61
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$124.88
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$107.40
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$197.12
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$130.05
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$78.57
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$95.73

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

Inputs	Stock	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution	Terminal	Terminal		
		[1]	[2]	[3]	[4]		[5]	[6]	[7]				[8]	[9]
Company	Ticker	Price	Zacks	First Call	Line	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio	
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	6.10%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.49%	22.05	4.12
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	6.90%	5.35%	63.00%	63.00%	65.91%	\$0.00	8.54%	21.72	4.06
Black Hills Corporation	BKH	\$69.64	5.00%	7.65%	7.50%	7.65%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.51%	21.93	4.10
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	7.20%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.92%	19.42	3.63
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	4.00%	5.35%	77.00%	70.00%	65.91%	\$0.00	10.21%	14.26	2.67
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	4.50%	5.35%	55.00%	61.00%	65.91%	\$0.00	8.43%	22.53	4.22
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	4.50%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	9.37%	17.26	3.23
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	6.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.14%	18.29	3.42
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	9.00%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.97%	19.18	3.59

DCF Result		DCF Result	
Mean	8.95%		9.07%
Max	10.21%		10.33%
Min	8.43%		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	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.87	\$6.19	\$6.52	\$6.87	\$7.23	\$7.62
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.89	\$2.02	\$2.15	\$2.30	\$2.46	\$2.61	\$2.77	\$2.94	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.05	\$3.28	\$3.53	\$3.80	\$4.08	\$4.36	\$4.64	\$4.93	\$5.21	\$5.49	\$5.78	\$6.09	\$6.41	\$6.76	\$7.12
El Paso Electric Company	EE	\$2.39	\$2.56	\$2.75	\$2.94	\$3.16	\$3.38	\$3.62	\$3.85	\$4.10	\$4.34	\$4.59	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95	\$6.27
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.17	\$3.33	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.54	\$4.78
IDACORP, Inc.	IDA	\$3.94	\$4.12	\$4.30	\$4.50	\$4.70	\$4.91	\$5.14	\$5.38	\$5.65	\$5.93	\$6.24	\$6.58	\$6.93	\$7.30	\$7.69	\$8.10	\$8.53
Northwestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.37	\$5.66	\$5.96	\$6.28	\$6.62	\$6.97	\$7.34
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.04	\$3.21	\$3.38	\$3.56	\$3.75	\$3.95	\$4.16
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.59	\$3.78	\$3.98	\$4.20	\$4.42	\$4.66	\$4.91

Projected Annual Dividend Payout Ratio	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.85%	63.70%	64.55%	65.40%	66.25%	67.10%	67.95%	68.80%	69.65%	70.50%	71.35%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows	[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Value
ALLETE, Inc.	ALE	\$2.13	\$2.21	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02	\$168.03
Alliant Energy Corporation	LNT	\$1.11	\$1.19	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$92.01
Black Hills Corporation	BKH	\$1.42	\$1.53	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69	\$156.10
El Paso Electric Company	EE	\$1.36	\$1.49	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$121.74
Hawaiian Electric Industries, Inc.	HE	\$1.83	\$1.86	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15	\$68.25
IDACORP, Inc.	IDA	\$2.26	\$2.43	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62	\$192.26
Northwestern Corporation	NWE	\$2.16	\$2.27	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84	\$126.76
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74	\$76.07
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23	\$94.08

Projected Annual Data Investor Cash Flows	[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]	
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.20	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$173.06
Alliant Energy Corporation	LNT	(\$42.56)	\$0.00	\$0.28	\$1.15	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$94.81
Black Hills Corporation	BKH	(\$69.64)	\$0.00	\$0.36	\$1.47	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$160.79
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.35	\$1.41	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$125.87
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.47	\$1.87	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$71.40
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.58	\$2.32	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$197.88
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.55	\$2.21	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$131.60
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.30	\$1.20	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$78.82
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.24	\$0.98	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$97.31

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

Inputs	Stock	EPS Growth Rate Estimates										Long-Term Growth	Payout Ratio			Iterative Solution	Terminal	Terminal
		Value		Line		Growth		2017			2021							
		Zacks	First Call	Line	Growth	2017	2021	2027	Proof	IRR	P/E Ratio		PEG Ratio					
Company	Ticker	Price																
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	5.00%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.27%	23.71	4.43				
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	5.50%	5.35%	63.00%	63.00%	65.91%	\$0.00	8.26%	23.81	4.45				
Black Hills Corporation	BKH	\$69.64	5.00%	7.65%	7.50%	5.00%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.01%	26.04	4.87				
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	5.00%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.44%	22.40	4.19				
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	1.40%	5.35%	77.00%	70.00%	65.91%	\$0.00	9.43%	17.00	3.18				
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	3.50%	5.35%	55.00%	61.00%	65.91%	\$0.00	8.23%	24.10	4.51				
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	1.60%	5.35%	61.00%	62.00%	65.91%	\$0.00	8.66%	20.97	3.92				
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	5.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	8.90%	19.53	3.65				
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	4.70%	5.35%	52.00%	56.00%	65.91%	\$0.00	8.09%	25.31	4.73			Including Flotation Costs	

DCF Result		DCF Result	
Mean	8.48%		8.59%
Max	9.43%		9.54%
Min	8.01%		8.12%

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	\$4.43	\$4.66	\$4.90	\$5.16	\$5.43	\$5.72	\$6.03	\$6.36	\$6.69	\$7.05
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$3.28	\$3.46	\$3.64	\$3.84
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.10	\$4.32	\$4.55	\$4.79	\$5.05	\$5.32	\$5.60	\$5.90
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.73	\$3.93	\$4.13	\$4.36	\$4.59	\$4.83	\$5.09	\$5.36
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.35	\$2.39	\$2.42	\$2.45	\$2.51	\$2.57	\$2.66	\$2.77	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.53	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54	\$7.94
Northwestern Corporation	NWE	\$3.39	\$3.44	\$3.50	\$3.56	\$3.61	\$3.67	\$3.75	\$3.86	\$3.99	\$4.16	\$4.35	\$4.58	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.49	\$3.68	\$3.88
PNM Resources, Inc.	PNM	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.08	\$2.18	\$2.28	\$2.40	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.44	\$3.63

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.11	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$4.65	\$167.08	
Alliant Energy Corporation	LNT	\$1.10	\$1.16	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$91.39	
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$3.89	\$153.74	
El Paso Electric Company	EE	\$1.33	\$1.43	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$120.18	
Hawaiian Electric Industries, Inc.	HE	\$1.79	\$1.77	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$2.61	\$67.32	
IDACORP, Inc.	IDA	\$2.24	\$2.38	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$5.23	\$191.33	
Northwestern Corporation	NWE	\$2.10	\$2.14	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$124.76	
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$2.55	\$75.70	
PNM Resources, Inc.	PNM	\$0.90	\$0.96	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$91.75	

Projected Annual Data Investor Cash Flows		[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$171.73
Alliant Energy Corporation	LNT	(\$69.64)	\$0.00	\$0.28	\$1.13	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$93.92
Black Hills Corporation	BKH	(\$69.64)	\$0.00	\$0.35	\$1.42	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$157.63
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.34	\$1.36	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$123.72
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.46	\$1.80	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$69.93
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.57	\$2.28	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$196.57
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.54	\$2.12	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$128.68
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.29	\$1.19	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$78.25
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.23	\$0.92	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$94.14

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

Inputs	Stock	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13]				Terminal	Terminal																								
		EPS Growth Rate Estimates						Long-Term	Payout Ratio			Iterative Solution	P/E Ratio	PEG Ratio																	
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																	
ALLETE, Inc.	ALE	\$74.35	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	8.54%	21.75	4.07																	
Alliant Energy Corporation	LNT	\$41.54	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.46%	22.29	4.17																	
Black Hills Corporation	BKH	\$69.61	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.33%	23.27	4.35																	
El Paso Electric Company	EE	\$53.56	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.80%	20.08	3.76																	
Hawaiian Electric Industries, Inc.	HE	\$33.13	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	\$0.00	9.75%	15.77	2.95																	
IDACORP, Inc.	IDA	\$87.63	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	\$0.00	8.36%	23.02	4.31																	
Northwestern Corporation	NWE	\$60.48	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	\$0.00	8.93%	19.39	3.63																	
OGE Energy Corp.	OGE	\$35.62	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.08%	18.57	3.47																	
PNM Resources, Inc.	PNM	\$40.17	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.68%	20.81	3.89																	
											DCF Result		DCF Result																		
											Mean	8.77%	8.88%																		
											Max	9.75%	9.66%																		
											Min	8.33%	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	\$3.32	\$3.51	\$3.71	\$3.82	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41													
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01													
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67													
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86													
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23													
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19													
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61													
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03													
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27													
Projected Annual Dividend Payout Ratio														[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032														
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.83%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.88%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Projected Annual Cash Flows														[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value													
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$161.11													
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$89.46													
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$155.14													
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$117.61													
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$66.72													
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$188.58													
Northwestern Corporation	NWE	\$2.13	\$2.20	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$128.25													
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$74.93													
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$88.92													
Projected Annual Data Investor Cash Flows														[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$74.35)	\$0.00	\$0.54	\$2.18	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$165.99												
Alliant Energy Corporation	LNT	(\$41.54)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$92.11												
Black Hills Corporation	BKH	(\$69.61)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$159.53												
El Paso Electric Company	EE	(\$53.56)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$121.47													
Hawaiian Electric Industries, Inc.	HE	(\$33.13)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$69.51												
IDACORP, Inc.	IDA	(\$87.63)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$193.98												
Northwestern Corporation	NWE	(\$60.48)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$132.61												
OGE Energy Corp.	OGE	(\$35.62)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$77.59												
PNM Resources, Inc.	PNM	(\$40.17)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$91.74												

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

Inputs	[1] Stock	[3] [4] [5] EPS Growth Rate Estimates				[6] Long-Term Growth	[7] 2017	[8] 2021	[9] 2027	[10] Iterative Solution Proof	[11] IRR	[12] Terminal P/E Ratio	[13] Terminal PEG Ratio																							
		Value	Line	High	Growth																															
Company	Ticker	Price	Zacks	First Call	Line	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																							
ALLETE, Inc.	ALE	\$74.35	6.10%	5.00%	6.00%	6.10%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.62%	21.19	3.96																						
Alliant Energy Corporation	LNT	\$41.54	5.50%	6.90%	6.00%	6.90%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.62%	21.20	3.97																						
Black Hills Corporation	BKH	\$69.61	5.00%	7.65%	7.50%	7.65%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.51%	21.92	4.10																						
El Paso Electric Company	EE	\$53.56	7.20%	6.50%	5.00%	7.20%	5.35%	53.00%	58.00%	65.91%	\$0.00	9.02%	18.88	3.53																						
Hawaiian Electric Industries, Inc.	HE	\$33.13	4.00%	1.40%	1.50%	4.00%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	10.28%	14.08	2.63																						
IDACORP, Inc.	IDA	\$87.63	4.50%	3.80%	3.50%	4.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.48%	22.16	4.15																						
Northwestern Corporation	NWE	\$60.48	1.80%	3.05%	4.50%	4.50%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	8.29%	17.61	3.30																						
OGE Energy Corp.	OGE	\$35.82	5.30%	6.30%	6.00%	6.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.19%	18.05	3.38																						
PNM Resources, Inc.	PNM	\$40.17	4.70%	7.35%	9.00%	9.00%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	9.13%	18.36	3.44																						
										DCF Result		Including Flotation Costs																								
										Mean	9.02%	9.13%																								
										Max	10.28%	10.39%																								
										Min	8.48%	8.59%																								
Projected Annual Earnings per Share														[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]						
Company	Ticker	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	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.87	\$6.19	\$6.52	\$6.87	\$7.23	\$7.62																		
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.89	\$2.02	\$2.15	\$2.30	\$2.46	\$2.61	\$2.77	\$2.94	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24																		
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.05	\$3.28	\$3.53	\$3.80	\$4.08	\$4.36	\$4.64	\$4.93	\$5.21	\$5.49	\$5.78	\$6.09	\$6.41	\$6.76	\$7.12																		
El Paso Electric Company	EE	\$2.39	\$2.56	\$2.75	\$2.94	\$3.16	\$3.38	\$3.62	\$3.85	\$4.10	\$4.34	\$4.59	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95	\$6.27																		
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.17	\$3.33	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.54	\$4.78																		
IDACORP, Inc.	IDA	\$3.94	\$4.12	\$4.30	\$4.50	\$4.70	\$4.91	\$5.14	\$5.38	\$5.65	\$5.93	\$6.24	\$6.58	\$6.93	\$7.30	\$7.69	\$8.10	\$8.53																		
Northwestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.37	\$5.66	\$5.96	\$6.28	\$6.62	\$6.97	\$7.34																		
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.04	\$3.21	\$3.38	\$3.56	\$3.75	\$3.95	\$4.16																		
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.59	\$3.78	\$3.98	\$4.20	\$4.42	\$4.66	\$4.91																		
Projected Annual Dividend Payout Ratio																			[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032																			
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
El Paso Electric Company	EE	77.00%	75.25%	73.50%	71.75%	70.00%	59.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Hawaiian Electric Industries, Inc.	HE	55.00%	58.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Projected Annual Cash Flows																			[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63] Terminal Value	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032																			
ALLETE, Inc.	ALE	\$2.13	\$2.21	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02																			
Alliant Energy Corporation	LNT	\$1.11	\$1.19	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79																			
Black Hills Corporation	BKH	\$1.42	\$1.53	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69																			
El Paso Electric Company	EE	\$1.36	\$1.49	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13																			
Hawaiian Electric Industries, Inc.	HE	\$1.83	\$1.86	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15																			
IDACORP, Inc.	IDA	\$2.26	\$2.43	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62																			
Northwestern Corporation	NWE	\$2.16	\$2.27	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84																			
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74																			
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23																			
Projected Annual Data Investor Cash Flows																			[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$74.35)	\$0.00	\$0.54	\$2.20	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02																	
Alliant Energy Corporation	LNT	(\$41.54)	\$0.00	\$0.28	\$1.15	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79																	
Black Hills Corporation	BKH	(\$69.61)	\$0.00	\$0.36	\$1.47	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69																	
El Paso Electric Company	EE	(\$53.56)	\$0.00	\$0.35	\$1.41	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13																	
Hawaiian Electric Industries, Inc.	HE	(\$33.13)	\$0.00	\$0.47	\$1.87	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15																	
IDACORP, Inc.	IDA	(\$87.63)	\$0.00	\$0.58	\$2.32	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62																	
Northwestern Corporation	NWE	(\$60.48)	\$0.00	\$0.55	\$2.21	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84																	
OGE Energy Corp.	OGE	(\$35.82)	\$0.00	\$0.30	\$1.20	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74																	
PNM Resources, Inc.	PNM	(\$40.17)	\$0.00	\$0.24	\$0.98	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23																	

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

Inputs	Stock	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution	Terminal	Terminal		
		[1]	[2]	[3]	[4]		[5]	[6]	[7]				[8]	[9]
Company	Ticker	Price	Zacks	First Call	Value Line	Low Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio	
ALLETE, Inc.	ALE	\$74.35	6.10%	5.00%	6.00%	5.00%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.39%	22.77	4.26
Alliant Energy Corporation	LNT	\$41.54	5.50%	6.90%	6.00%	5.50%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.33%	23.24	4.35
Black Hills Corporation	BKH	\$69.61	5.00%	7.65%	7.50%	5.00%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.01%	26.03	4.87
El Paso Electric Company	EE	\$53.56	7.20%	6.50%	5.00%	5.00%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	8.53%	21.77	4.07
Hawaiian Electric Industries, Inc.	HE	\$33.13	4.00%	1.40%	1.50%	1.40%	5.35%	77.00%	70.00%	65.91%	\$0.00	9.48%	16.78	3.14
IDACORP, Inc.	IDA	\$87.63	4.50%	3.80%	3.50%	3.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.27%	23.70	4.43
Northwestern Corporation	NWE	\$60.48	1.80%	3.05%	4.50%	1.80%	5.35%	61.00%	62.00%	65.91%	\$0.00	8.59%	21.40	4.00
OGE Energy Corp.	OGE	\$35.62	5.30%	6.30%	6.00%	5.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	8.95%	19.28	3.61
PNM Resources, Inc.	PNM	\$40.17	4.70%	7.35%	9.00%	4.70%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.21%	24.21	4.53

DCF Result		DCF Result	
Mean	8.53%		8.64%
Max	9.48%		9.60%
Min	8.01%		8.13%

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	\$4.43	\$4.65	\$4.90	\$5.16	\$5.43	\$5.72	\$6.03	\$6.35	\$6.69	\$7.05
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$3.28	\$3.46	\$3.64	\$3.84
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.10	\$4.32	\$4.55	\$4.79	\$5.05	\$5.32	\$5.60	\$5.90
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.73	\$3.93	\$4.13	\$4.36	\$4.59	\$4.83	\$5.09	\$5.36
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.35	\$2.39	\$2.42	\$2.45	\$2.51	\$2.57	\$2.66	\$2.77	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.53	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54	\$7.94
Northwestern Corporation	NWE	\$3.39	\$3.44	\$3.50	\$3.56	\$3.61	\$3.67	\$3.75	\$3.86	\$3.99	\$4.16	\$4.35	\$4.58	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.49	\$3.68	\$3.88
PNM Resources, Inc.	PNM	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.08	\$2.18	\$2.28	\$2.40	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.44	\$3.63

Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	Terminal Value
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	\$2.11	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$4.19	\$4.41	\$4.65	\$4.91	\$160.51	
Alliant Energy Corporation	LNT	\$1.10	\$1.16	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$69.19	
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$3.89	\$153.66	
El Paso Electric Company	EE	\$1.33	\$1.43	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$116.77	
Hawaiian Electric Industries, Inc.	HE	\$1.79	\$1.77	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$2.61	\$66.43	
IDACORP, Inc.	IDA	\$2.24	\$2.38	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$5.23	\$188.19	
Northwestern Corporation	NWE	\$2.10	\$2.14	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$127.31	
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$2.55	\$74.72	
PNM Resources, Inc.	PNM	\$0.90	\$0.96	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$87.77	

Projected Annual Data Investor Cash Flows		[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$74.35)	\$0.00	\$0.54	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$4.19	\$4.41	\$4.65	\$165.16
Alliant Energy Corporation	LNT	(\$69.61)	\$0.00	\$0.28	\$1.13	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$91.72
Black Hills Corporation	BKH	(\$69.61)	\$0.00	\$0.35	\$1.42	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$157.55
El Paso Electric Company	EE	(\$53.56)	\$0.00	\$0.34	\$1.36	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$120.31
Hawaiian Electric Industries, Inc.	HE	(\$33.13)	\$0.00	\$0.46	\$1.80	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$69.04
IDACORP, Inc.	IDA	(\$87.63)	\$0.00	\$0.57	\$2.28	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$193.43
Northwestern Corporation	NWE	(\$60.48)	\$0.00	\$0.54	\$2.12	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$131.23
OGE Energy Corp.	OGE	(\$35.62)	\$0.00	\$0.29	\$1.19	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$77.28
PNM Resources, Inc.	PNM	(\$40.17)	\$0.00	\$0.23	\$0.92	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$90.16

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

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]					
		Stock	EPS Growth Rate Estimates			Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal							
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$70.80	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	8.70%	20.71	3.87					
Alliant Energy Corporation	LNT	\$40.26	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.56%	21.60	4.04					
Black Hills Corporation	BKH	\$67.46	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.42%	22.57	4.22					
El Paso Electric Company	EE	\$51.32	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.95%	19.25	3.60					
Hawaiian Electric Industries, Inc.	HE	\$33.18	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	\$0.00	9.74%	15.80	2.96					
IDACORP, Inc.	IDA	\$84.87	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	\$0.00	8.46%	22.29	4.17					
Northwestern Corporation	NWE	\$59.48	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	\$0.00	8.99%	19.07	3.57					
OGE Energy Corp.	OGE	\$35.23	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.13%	18.37	3.44					
PNM Resources, Inc.	PNM	\$38.21	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.85%	19.82	3.71					
											DCF Result		DCF Result						
											Mean	8.87%	8.98%						
											Max	9.74%	9.85%						
											Min	8.42%	8.53%						
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	\$3.32	\$3.51	\$3.71	\$3.92	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41	
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01	
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67	
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23	
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19	
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61	
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03	
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27	
Projected Annual Dividend Payout Ratio		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value	
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$153.43	
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$86.69	
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$150.50	
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$112.75	
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$66.83	
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$162.62	
Northwestern Corporation	NWE	\$2.13	\$2.20	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$126.10	
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$74.10	
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$84.67	
Projected Annual Data Investor Cash Flows		[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$70.80)	\$0.00	\$0.54	\$2.18	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$158.32
Alliant Energy Corporation	LNT	(\$40.26)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$89.34
Black Hills Corporation	BKH	(\$67.46)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$154.89
El Paso Electric Company	EE	(\$51.32)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$116.61
Hawaiian Electric Industries, Inc.	HE	(\$33.18)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$69.61
IDACORP, Inc.	IDA	(\$84.87)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$188.02
Northwestern Corporation	NWE	(\$59.48)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$130.46
OGE Energy Corp.	OGE	(\$35.23)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$76.76
PNM Resources, Inc.	PNM	(\$38.21)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$87.48

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

Inputs	Stock	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Price	EPS Growth Rate Estimates			Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal		
Company	Ticker		Zacks	First Call	Line	Low	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$70.80	6.10%	5.00%	6.00%	5.00%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.55%	21.69	4.06
Alliant Energy Corporation	LNT	\$40.26	5.50%	6.90%	6.00%	5.50%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.43%	22.52	4.21
Black Hills Corporation	BKH	\$67.46	5.00%	7.65%	7.50%	5.00%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.10%	25.24	4.72
El Paso Electric Company	EE	\$51.32	7.20%	6.50%	5.00%	5.00%	5.35%	53.00%	58.00%	65.91%	\$0.00	8.67%	20.86	3.90
Hawaiian Electric Industries, Inc.	HE	\$33.18	4.00%	1.40%	1.50%	1.40%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	9.48%	16.80	3.14
IDACORP, Inc.	IDA	\$84.87	4.50%	3.80%	3.50%	3.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.37%	22.95	4.29
Northwestern Corporation	NWE	\$59.48	1.60%	3.05%	4.50%	1.60%	5.35%	61.00%	62.00%	65.91%	\$0.00	8.64%	21.04	3.94
OGE Energy Corp.	OGE	\$35.23	5.30%	6.30%	6.00%	5.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	8.99%	19.07	3.57
PNM Resources, Inc.	PNM	\$38.21	4.70%	7.35%	9.00%	4.70%	5.35%	52.00%	56.00%	65.91%	\$0.00	8.36%	23.04	4.31

DCF Result		DCF Result
Mean	8.62%	8.73%
Max	9.48%	9.59%
Min	8.10%	8.21%

Projected Annual Earnings per Share																		
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	\$4.43	\$4.65	\$4.90	\$5.16	\$5.43	\$5.72	\$6.03	\$6.35	\$6.69	\$7.05
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$3.28	\$3.46	\$3.64	\$3.84
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.10	\$4.32	\$4.55	\$4.79	\$5.05	\$5.32	\$5.60	\$5.90
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.73	\$3.93	\$4.13	\$4.36	\$4.59	\$4.83	\$5.09	\$5.36
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.35	\$2.39	\$2.42	\$2.45	\$2.51	\$2.57	\$2.66	\$2.77	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.53	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54	\$7.94
Northwestern Corporation	NWE	\$3.39	\$3.44	\$3.50	\$3.56	\$3.61	\$3.67	\$3.75	\$3.86	\$3.99	\$4.16	\$4.35	\$4.58	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.49	\$3.68	\$3.88
PNM Resources, Inc.	PNM	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.08	\$2.18	\$2.28	\$2.40	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.44	\$3.63

Projected Annual Dividend Payout Ratio																	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows																		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.11	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$4.65	\$152.84
Alliant Energy Corporation	LNT	\$1.10	\$1.16	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$86.42
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$3.89	\$149.02
El Paso Electric Company	EE	\$1.33	\$1.43	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$111.92
Hawaiian Electric Industries, Inc.	HE	\$1.79	\$1.77	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$2.61	\$66.53
IDACORP, Inc.	IDA	\$2.24	\$2.38	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$5.23	\$182.23
Northwestern Corporation	NWE	\$2.10	\$2.14	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$125.17
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$2.55	\$73.89
PNM Resources, Inc.	PNM	\$0.90	\$0.96	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$83.52

Projected Annual Data Investor Cash Flows																			
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$70.80)	\$0.00	\$0.54	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$157.49
Alliant Energy Corporation	LNT	(\$40.26)	\$0.00	\$0.28	\$1.13	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$88.95
Black Hills Corporation	BKH	(\$67.46)	\$0.00	\$0.35	\$1.42	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$152.91
El Paso Electric Company	EE	(\$51.32)	\$0.00	\$0.34	\$1.36	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$115.45
Hawaiian Electric Industries, Inc.	HE	(\$33.18)	\$0.00	\$0.46	\$1.80	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$69.14
IDACORP, Inc.	IDA	(\$84.87)	\$0.00	\$0.57	\$2.28	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$187.47
Northwestern Corporation	NWE	(\$59.48)	\$0.00	\$0.54	\$2.12	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$129.09
OGE Energy Corp.	OGE	(\$35.23)	\$0.00	\$0.29	\$1.19	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$76.45
PNM Resources, Inc.	PNM	(\$38.21)	\$0.00	\$0.23	\$0.92	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$85.91

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of September 29, 2017
- [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 [64]
- [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
- [12] Equals Column [63] / Column [30]
- [13] Equals Column [12] / (Column [6] x 100)
- [14] Source: Value Line
- [15] Equals Column [14] x (1 + Column [5])
- [16] Equals Column [15] x (1 + Column [5])
- [17] Equals Column [16] x (1 + Column [5])
- [18] Equals Column [17] x (1 + Column [5])
- [19] Equals Column [18] x (1 + Column [5])
- [20] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2022 - 2021)))) x Column [19]
- [21] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2023 - 2021)))) x Column [20]
- [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2024 - 2021)))) x Column [21]
- [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2025 - 2021)))) x Column [22]
- [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2026 - 2021)))) x Column [23]
- [25] Equals Column [24] x (1 + Column [6])
- [26] Equals Column [25] x (1 + Column [6])
- [27] Equals Column [26] x (1 + Column [6])
- [28] Equals Column [27] x (1 + Column [6])
- [29] Equals Column [28] x (1 + Column [6])
- [30] Equals Column [29] x (1 + Column [6])
- [31] Equals Column [7]
- [32] Equals Column [31] + ((Column [35] - Column [31]) / 4)
- [33] Equals Column [32] + ((Column [35] - Column [31]) / 4)
- [34] Equals Column [33] + ((Column [35] - Column [31]) / 4)
- [35] Equals Column [8]
- [36] Equals Column [35] + ((Column [41] - Column [35]) / 6)
- [37] Equals Column [36] + ((Column [41] - Column [35]) / 6)
- [38] Equals Column [37] + ((Column [41] - Column [35]) / 6)
- [39] Equals Column [38] + ((Column [41] - Column [35]) / 6)
- [40] Equals Column [39] + ((Column [41] - Column [35]) / 6)
- [41] Equals Column [9]
- [42] Equals Column [9]
- [43] Equals Column [9]
- [44] Equals Column [9]
- [45] Equals Column [9]
- [46] Equals Column [9]
- [47] Equals Column [15] x Column [31]
- [48] Equals Column [16] x Column [32]
- [49] Equals Column [17] x Column [33]
- [50] Equals Column [18] x Column [34]
- [51] Equals Column [19] x Column [35]
- [52] Equals Column [20] x Column [36]
- [53] Equals Column [21] x Column [37]
- [54] Equals Column [22] x Column [38]
- [55] Equals Column [23] x Column [39]
- [56] Equals Column [24] x Column [40]
- [57] Equals Column [25] x Column [41]
- [58] Equals Column [26] x Column [42]
- [59] Equals Column [27] x Column [43]
- [60] Equals Column [28] x Column [44]
- [61] Equals Column [29] x Column [45]
- [62] Equals Column [30] x Column [46]
- [63] Equals (Column [62] x (1 + Column [6])) / (Column [11] - Column [6])
- [64] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [65] through Column [81]
- [65] Equals \$0.00
- [66] Equals Column [47] x (12/31/2017 - 09/29/2017) / 365
- [67] Equals Column [47] x (1 + (0.5 x Column [5]))
- [68] Equals Column [49]
- [69] Equals Column [50]
- [70] Equals Column [51]
- [71] Equals Column [52]
- [72] Equals Column [53]
- [73] Equals Column [54]
- [74] Equals Column [55]
- [75] Equals Column [56]
- [76] Equals Column [57]
- [77] Equals Column [58]
- [78] Equals Column [59]
- [79] Equals Column [60]
- [80] Equals Column [61]
- [81] Equals Column [62] + [63]

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

Inputs	[1] Stock	[2] [3] [4] [5] EPS Growth Rate Estimates				[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]																						
		Price	Zacks	First Call	Line	Average	Long-Term	Payout Ratio	Iterative Solution	Terminal	Terminal	Terminal																							
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																					
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	8.26%	22.05	4.12																					
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.18%	22.05	4.12																					
Black Hills Corporation	BKH	\$69.64	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.01%	22.05	4.12																					
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	9.08%	22.05	4.12																					
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	\$0.00	11.45%	22.05	4.12																					
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	7.96%	22.05	4.12																					
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	9.84%	22.05	4.12																					
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.93%	22.05	4.12																					
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	8.62%	22.05	4.12																					
											DCF Result		DCF Result																						
											Mean	9.04%	9.15%																						
											Max	11.45%	11.57%																						
											Min	7.96%	8.08%																						
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	\$3.32	\$3.51	\$3.71	\$3.92	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41																	
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01																	
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67																	
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86																	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23																	
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19																	
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61																	
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03																	
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27																	
Projected Annual Dividend Payout Ratio																		[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032																		
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																		
Projected Annual Cash Flows																		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value																	
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$163.33																	
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$88.50																	
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$147.00																	
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$129.10																	
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$2.93	\$93.25																	
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$180.62																	
Northwestern Corporation	NWE	\$2.13	\$2.20	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$145.79																	
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$88.95																	
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$94.19																	
Projected Annual Data Investor Cash Flows																		[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.13	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$168.21																
Alliant Energy Corporation	LNT	(\$42.56)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$91.15																
Black Hills Corporation	BKH	(\$69.64)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$151.39																
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$132.96																
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$96.04																	
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$186.02																
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$150.15																
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$91.61																
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$97.00																

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

Inputs	[1] Stock	[3] EPS Growth Rate Estimates				[5] Value High	[6] Long-Term Growth	[7] 2017	[8] 2021	[9] 2027	[10] Iterative Solution Proof	[11] IRR	[12] Terminal P/E Ratio	[13] Terminal PEG Ratio					
		Zacks	First Call	Line	High														
Company	Ticker	Price	Zacks	First Call	Line	High	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	6.10%	5.35%	64.00%	58.00%	65.91%	\$0.00	8.49%	22.05	4.12					
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	6.90%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.63%	22.05	4.12					
Black Hills Corporation	BKH	\$69.64	5.00%	7.65%	7.50%	7.65%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.54%	22.05	4.12					
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	7.20%	5.35%	53.00%	58.00%	65.91%	\$0.00	9.65%	22.05	4.12					
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	4.00%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	12.56%	22.05	4.12					
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	4.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.30%	22.05	4.12					
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	4.50%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	10.74%	22.05	4.12					
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	6.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	10.20%	22.05	4.12					
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	9.00%	5.35%	52.00%	56.00%	65.91%	\$0.00	9.77%	22.05	4.12					
											DCF Result		DCF Result						
											Mean	9.65%	9.77%						
											Max	12.56%	12.67%						
											Min	8.30%	8.41%						
Including Flotation Costs																			
Projected Annual Earnings per Share																			
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	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.87	\$6.19	\$6.52	\$6.87	\$7.23	\$7.62	
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.89	\$2.02	\$2.15	\$2.30	\$2.46	\$2.61	\$2.77	\$2.94	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.05	\$3.28	\$3.53	\$3.80	\$4.08	\$4.36	\$4.64	\$4.93	\$5.21	\$5.49	\$5.78	\$6.09	\$6.41	\$6.76	\$7.12	
El Paso Electric Company	EE	\$2.39	\$2.56	\$2.75	\$2.94	\$3.16	\$3.38	\$3.62	\$3.85	\$4.10	\$4.34	\$4.59	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95	\$6.27	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.17	\$3.33	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.54	\$4.78	
IDACORP, Inc.	IDA	\$3.94	\$4.12	\$4.30	\$4.50	\$4.70	\$4.91	\$5.14	\$5.38	\$5.65	\$5.93	\$6.24	\$6.58	\$6.93	\$7.30	\$7.69	\$8.10	\$8.53	
Northwestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.37	\$5.66	\$5.96	\$6.28	\$6.62	\$6.97	\$7.34	
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.04	\$3.21	\$3.38	\$3.56	\$3.75	\$3.95	\$4.16	
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.59	\$3.78	\$3.98	\$4.20	\$4.42	\$4.66	\$4.91	
Projected Annual Dividend Payout Ratio																			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Projected Annual Cash Flows																			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value	
ALLETE, Inc.	ALE	\$2.13	\$2.21	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02	\$168.03	
Alliant Energy Corporation	LNT	\$1.11	\$1.19	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$93.42	
Black Hills Corporation	BKH	\$1.42	\$1.53	\$1.65	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69	\$158.94	
El Paso Electric Company	EE	\$1.36	\$1.49	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$138.20	
Hawaiian Electric Industries, Inc.	HE	\$1.83	\$1.96	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15	\$105.49	
IDACORP, Inc.	IDA	\$2.26	\$2.43	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62	\$188.13	
Northwestern Corporation	NWE	\$2.16	\$2.27	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84	\$161.87	
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74	\$91.72	
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23	\$108.14	
Projected Annual Data Investor Cash Flows																			
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.20	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$173.05
Alliant Energy Corporation	LNT	(\$42.56)	\$0.00	\$0.28	\$1.15	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$96.21
Black Hills Corporation	BKH	(\$69.64)	\$0.00	\$0.36	\$1.47	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$161.63
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.35	\$1.41	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$142.33
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.47	\$1.87	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$108.64
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.58	\$2.32	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$193.75
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.55	\$2.21	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$166.71
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.30	\$1.20	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$94.46
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.24	\$0.98	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$111.38

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

Inputs	Stock	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution	Terminal	Terminal		
		[1]	[2]	[3]	[4]		[5]	[6]	[7]				[8]	[9]
Company	Ticker	Price	Zacks	First Call	Value Line	Low Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio	
ALLETE, Inc.	ALE	\$77.39	6.10%	5.00%	6.00%	5.00%	5.35%	64.00%	58.00%	65.91%	\$0.00	7.85%	22.05	4.12
Alliant Energy Corporation	LNT	\$42.56	5.50%	6.90%	6.00%	5.50%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	7.81%	22.05	4.12
Black Hills Corporation	BKH	\$69.64	5.00%	7.65%	7.50%	5.00%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	7.02%	22.05	4.12
El Paso Electric Company	EE	\$55.14	7.20%	6.50%	5.00%	5.00%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	8.35%	22.05	4.12
Hawaiian Electric Industries, Inc.	HE	\$33.54	4.00%	1.40%	1.50%	1.40%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	10.87%	22.05	4.12
IDACORP, Inc.	IDA	\$89.09	4.50%	3.80%	3.50%	3.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	7.71%	22.05	4.12
Northwestern Corporation	NWE	\$59.29	1.60%	3.05%	4.50%	1.60%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	8.94%	22.05	4.12
OGE Energy Corp.	OGE	\$36.07	5.30%	6.30%	6.00%	5.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	9.59%	22.05	4.12
PNM Resources, Inc.	PNM	\$42.01	4.70%	7.35%	9.00%	4.70%	5.35%	52.00%	56.00%	65.91%	\$0.00	7.27%	22.05	4.12

DCF Result		DCF Result	
Mean	8.38%		8.49%
Max	10.87%		10.98%
Min	7.02%		7.14%

Projected Annual Earnings per Share																		
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	\$4.43	\$4.65	\$4.90	\$5.16	\$5.43	\$5.72	\$6.03	\$6.35	\$6.69	\$7.05
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.66	\$2.81	\$2.96	\$3.12	\$3.28	\$3.46	\$3.64	\$3.84
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.10	\$4.32	\$4.55	\$4.79	\$5.05	\$5.32	\$5.60	\$5.90
El Paso Electric Company	EE	\$2.39	\$2.51	\$2.63	\$2.77	\$2.91	\$3.05	\$3.20	\$3.37	\$3.54	\$3.73	\$3.93	\$4.13	\$4.36	\$4.59	\$4.83	\$5.09	\$5.36
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.32	\$2.35	\$2.39	\$2.42	\$2.45	\$2.51	\$2.57	\$2.66	\$2.77	\$2.90	\$3.05	\$3.22	\$3.39	\$3.57	\$3.76	\$3.96
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.53	\$5.81	\$6.12	\$6.45	\$6.79	\$7.16	\$7.54	\$7.94
Northwestern Corporation	NWE	\$3.39	\$3.44	\$3.50	\$3.56	\$3.61	\$3.67	\$3.75	\$3.86	\$3.99	\$4.16	\$4.35	\$4.58	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.49	\$3.68	\$3.88
PNM Resources, Inc.	PNM	\$1.65	\$1.73	\$1.81	\$1.89	\$1.98	\$2.08	\$2.18	\$2.28	\$2.40	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.44	\$3.63

Projected Annual Dividend Payout Ratio																	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows																		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value
ALLETE, Inc.	ALE	\$2.11	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$4.65	\$155.39
Alliant Energy Corporation	LNT	\$1.10	\$1.16	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$84.62
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$3.89	\$130.15
El Paso Electric Company	EE	\$1.33	\$1.43	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$3.54	\$118.28
Hawaiian Electric Industries, Inc.	HE	\$1.79	\$1.77	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$2.61	\$87.30
IDACORP, Inc.	IDA	\$2.24	\$2.38	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$5.23	\$175.06
Northwestern Corporation	NWE	\$2.10	\$2.14	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$131.15
OGE Energy Corp.	OGE	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$2.55	\$85.44
PNM Resources, Inc.	PNM	\$0.90	\$0.96	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$2.39	\$79.92

Projected Annual Data Investor Cash Flows																			
Company	Ticker	Outflow	9/29/17	12/31/17	6/30/18	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	(\$77.39)	\$0.00	\$0.54	\$2.16	\$2.22	\$2.27	\$2.32	\$2.50	\$2.68	\$2.88	\$3.10	\$3.33	\$3.58	\$3.77	\$3.97	\$4.19	\$4.41	\$160.04
Alliant Energy Corporation	LNT	(\$42.56)	\$0.00	\$0.28	\$1.13	\$1.22	\$1.29	\$1.36	\$1.44	\$1.53	\$1.63	\$1.73	\$1.84	\$1.95	\$2.05	\$2.16	\$2.28	\$2.40	\$87.15
Black Hills Corporation	BKH	(\$69.64)	\$0.00	\$0.35	\$1.42	\$1.54	\$1.62	\$1.71	\$1.89	\$2.07	\$2.28	\$2.50	\$2.74	\$3.00	\$3.16	\$3.33	\$3.51	\$3.69	\$134.04
El Paso Electric Company	EE	(\$55.14)	\$0.00	\$0.34	\$1.36	\$1.54	\$1.65	\$1.77	\$1.90	\$2.04	\$2.19	\$2.36	\$2.54	\$2.73	\$2.87	\$3.02	\$3.19	\$3.36	\$121.81
Hawaiian Electric Industries, Inc.	HE	(\$33.54)	\$0.00	\$0.46	\$1.80	\$1.75	\$1.74	\$1.72	\$1.74	\$1.77	\$1.81	\$1.86	\$1.93	\$2.01	\$2.12	\$2.23	\$2.35	\$2.48	\$89.91
IDACORP, Inc.	IDA	(\$89.09)	\$0.00	\$0.57	\$2.28	\$2.53	\$2.69	\$2.85	\$3.00	\$3.17	\$3.35	\$3.55	\$3.78	\$4.03	\$4.25	\$4.48	\$4.72	\$4.97	\$180.29
Northwestern Corporation	NWE	(\$59.29)	\$0.00	\$0.54	\$2.12	\$2.19	\$2.23	\$2.28	\$2.35	\$2.44	\$2.55	\$2.68	\$2.84	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$135.07
OGE Energy Corp.	OGE	(\$36.07)	\$0.00	\$0.29	\$1.19	\$1.35	\$1.46	\$1.58	\$1.64	\$1.70	\$1.76	\$1.83	\$1.90	\$1.97	\$2.07	\$2.18	\$2.30	\$2.42	\$88.00
PNM Resources, Inc.	PNM	(\$42.01)	\$0.00	\$0.23	\$0.92	\$1.02	\$1.09	\$1.16	\$1.25	\$1.35	\$1.46	\$1.58	\$1.70	\$1.84	\$1.94	\$2.04	\$2.15	\$2.27	\$82.31

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

Inputs	Stock	EPS Growth Rate Estimates					Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal						
		[1]	[2]	[3]	[4]	[5]		[6]	[7]	[8]				[9]	[10]	[11]	[12]	[13]	
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$74.35	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	8.62%	22.05	4.12					
Alliant Energy Corporation	LNT	\$41.54	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.40%	22.05	4.12					
Black Hills Corporation	BKH	\$69.61	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.01%	22.05	4.12					
El Paso Electric Company	EE	\$53.56	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	9.34%	22.05	4.12					
Hawaiian Electric Industries, Inc.	HE	\$33.13	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	\$0.00	11.58%	22.05	4.12					
IDACORP, Inc.	IDA	\$87.63	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.11%	22.05	4.12					
Northwestern Corporation	NWE	\$60.48	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	\$0.00	9.66%	22.05	4.12					
OGE Energy Corp.	OGE	\$35.82	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	10.05%	22.05	4.12					
PNM Resources, Inc.	PNM	\$40.17	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	58.00%	65.91%	\$0.00	9.01%	22.05	4.12					
											DCF Result								
											Mean	9.20%							
											Max	11.58%							
											Min	8.01%							
											DCF Result								
													9.31%						
													11.69%						
													8.12%						
Projected Annual Earnings per Share																			
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$3.14	\$3.32	\$3.51	\$3.71	\$3.92	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41	
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01	
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67	
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86	
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23	
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19	
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61	
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03	
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27	
Projected Annual Dividend Payout Ratio																			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032		
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	56.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%		
Projected Annual Cash Flows																			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value	
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$163.33	
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$86.50	
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$147.00	
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$129.10	
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$93.25	
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$180.62	
Northwestern Corporation	NWE	\$2.13	\$2.00	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$145.79	
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$88.95	
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$94.19	
Projected Annual Data Investor Cash Flows																			
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$74.35)	\$0.00	\$0.54	\$2.18	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$168.21
Alliant Energy Corporation	LNT	(\$69.61)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$91.15
Black Hills Corporation	BKH	(\$69.61)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$151.39
El Paso Electric Company	EE	(\$53.56)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$132.96
Hawaiian Electric Industries, Inc.	HE	(\$33.13)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$96.04
IDACORP, Inc.	IDA	(\$87.63)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$186.02
Northwestern Corporation	NWE	(\$60.48)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$150.15
OGE Energy Corp.	OGE	(\$35.82)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$91.61
PNM Resources, Inc.	PNM	(\$40.17)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$97.00

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

Inputs	Stock	EPS Growth Rate Estimates				Long-Term Growth	Payout Ratio			Iterative Solution	Terminal	Terminal																			
		[1]	[2]	[3]	[4]		[5]	[6]	[7]				[8]	[9]	[10]	[11]	[12]	[13]													
		Value																													
Company	Ticker	Price	Zacks	First Call	Line	High	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																		
ALLETE, Inc.	ALE	\$74.35	6.10%	5.00%	6.00%	6.10%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	8.85%	22.05	4.12																	
Alliant Energy Corporation	LNT	\$41.54	5.50%	6.90%	6.00%	6.90%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.85%	22.05	4.12																	
Black Hills Corporation	BKH	\$69.61	5.00%	7.65%	7.50%	7.65%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.55%	22.05	4.12																	
El Paso Electric Company	EE	\$53.56	7.20%	6.50%	5.00%	7.20%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	9.91%	22.05	4.12																	
Hawaiian Electric Industries, Inc.	HE	\$33.13	4.00%	1.40%	1.50%	4.00%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	12.69%	22.05	4.12																	
IDACORP, Inc.	IDA	\$87.63	4.50%	3.80%	3.50%	4.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.45%	22.05	4.12																	
Northwestern Corporation	NWE	\$60.48	1.60%	3.05%	4.50%	4.50%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	10.55%	22.05	4.12																	
OGE Energy Corp.	OGE	\$35.62	5.30%	6.30%	6.00%	6.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	10.32%	22.05	4.12																	
PNM Resources, Inc.	PNM	\$40.17	4.70%	7.35%	9.00%	9.00%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	10.17%	22.05	4.12	Including Flotation Costs																
										DCF Result		DCF Result																			
										Mean	9.82%	9.93%																			
										Max	12.69%	12.80%																			
										Min	8.45%	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	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.87	\$6.19	\$6.52	\$6.87	\$7.23	\$7.62													
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.89	\$2.02	\$2.15	\$2.30	\$2.46	\$2.61	\$2.77	\$2.94	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24													
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.05	\$3.28	\$3.53	\$3.80	\$4.08	\$4.36	\$4.64	\$4.93	\$5.21	\$5.49	\$5.78	\$6.09	\$6.41	\$6.76	\$7.12													
El Paso Electric Company	EE	\$2.39	\$2.56	\$2.75	\$2.94	\$3.16	\$3.38	\$3.62	\$3.85	\$4.10	\$4.34	\$4.59	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95	\$6.27													
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.17	\$3.33	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.54	\$4.78													
IDACORP, Inc.	IDA	\$3.94	\$4.12	\$4.30	\$4.50	\$4.70	\$4.91	\$5.14	\$5.38	\$5.65	\$5.93	\$6.24	\$6.58	\$6.93	\$7.30	\$7.69	\$8.10	\$8.53													
Northwestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.37	\$5.66	\$5.96	\$6.28	\$6.62	\$6.97	\$7.34													
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.04	\$3.21	\$3.38	\$3.56	\$3.75	\$3.95	\$4.16													
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.59	\$3.78	\$3.98	\$4.20	\$4.42	\$4.66	\$4.91													
Projected Annual Dividend Payout Ratio														[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032														
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%														
Projected Annual Cash Flows														[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value													
ALLETE, Inc.	ALE	\$2.13	\$2.21	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02	\$168.03													
Alliant Energy Corporation	LNT	\$1.11	\$1.19	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$93.42													
Black Hills Corporation	BKH	\$1.42	\$1.53	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69	\$156.94													
El Paso Electric Company	EE	\$1.36	\$1.49	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$138.20													
Hawaiian Electric Industries, Inc.	HE	\$1.83	\$1.86	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15	\$105.49													
IDACORP, Inc.	IDA	\$2.26	\$2.43	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62	\$188.13													
Northwestern Corporation	NWE	\$2.16	\$2.27	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84	\$161.87													
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74	\$91.72													
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23	\$108.14													
Projected Annual Data Investor Cash Flows														[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$74.35)	\$0.00	\$0.54	\$2.20	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$173.05												
Alliant Energy Corporation	LNT	(\$41.55)	\$0.00	\$0.28	\$1.15	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$96.21												
Black Hills Corporation	BKH	(\$69.61)	\$0.00	\$0.36	\$1.47	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$161.63												
El Paso Electric Company	EE	(\$53.56)	\$0.00	\$0.35	\$1.41	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$142.33												
Hawaiian Electric Industries, Inc.	HE	(\$33.13)	\$0.00	\$0.47	\$1.87	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$108.64												
IDACORP, Inc.	IDA	(\$87.63)	\$0.00	\$0.58	\$2.32	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$193.75												
Northwestern Corporation	NWE	(\$60.48)	\$0.00	\$0.55	\$2.21	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$166.71												
OGE Energy Corp.	OGE	(\$35.62)	\$0.00	\$0.30	\$1.20	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$94.46												
PNM Resources, Inc.	PNM	(\$40.17)	\$0.00	\$0.24	\$0.98	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$111.38												

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

Inputs	Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio	Iterative Solution	Terminal	Terminal				
		[1]	[2]	[3]	[4]									
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	\$70.80	6.10%	5.00%	6.00%	5.70%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	9.06%	22.05	4.12
Alliant Energy Corporation	LNT	\$40.26	5.50%	6.90%	6.00%	6.13%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	8.68%	22.05	4.12
Black Hills Corporation	BKH	\$67.46	5.00%	7.65%	7.50%	6.72%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.28%	22.05	4.12
El Paso Electric Company	EE	\$51.32	7.20%	6.50%	5.00%	6.23%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	9.73%	22.05	4.12
Hawaiian Electric Industries, Inc.	HE	\$33.18	4.00%	1.40%	1.50%	2.30%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	11.56%	22.05	4.12
IDACORP, Inc.	IDA	\$84.87	4.50%	3.80%	3.50%	3.93%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.40%	22.05	4.12
Northwestern Corporation	NWE	\$59.48	1.60%	3.05%	4.50%	3.05%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	9.81%	22.05	4.12
OGE Energy Corp.	OGE	\$35.23	5.30%	6.30%	6.00%	5.87%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	10.15%	22.05	4.12
PNM Resources, Inc.	PNM	\$38.21	4.70%	7.35%	9.00%	7.02%	5.35%	52.00%	56.00%	65.91%	\$0.00	9.46%	22.05	4.12

DCF Result		DCF Result
Mean	9.46%	9.57%
Max	11.56%	11.68%
Min	8.28%	8.40%

Projected Annual Earnings per Share																		
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.32	\$3.51	\$3.71	\$3.92	\$4.14	\$4.38	\$4.62	\$4.88	\$5.14	\$5.42	\$5.71	\$6.02	\$6.34	\$6.68	\$7.03	\$7.41
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.86	\$1.97	\$2.09	\$2.22	\$2.36	\$2.49	\$2.64	\$2.78	\$2.94	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.01
Black Hills Corporation	BKH	\$2.63	\$2.81	\$3.00	\$3.20	\$3.41	\$3.64	\$3.88	\$4.12	\$4.37	\$4.62	\$4.88	\$5.14	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.70	\$2.87	\$3.04	\$3.23	\$3.43	\$3.63	\$3.84	\$4.06	\$4.28	\$4.51	\$4.75	\$5.01	\$5.28	\$5.56	\$5.86
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.34	\$2.40	\$2.45	\$2.51	\$2.57	\$2.64	\$2.73	\$2.83	\$2.95	\$3.09	\$3.26	\$3.43	\$3.62	\$3.81	\$4.02	\$4.23
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.26	\$4.42	\$4.60	\$4.78	\$4.98	\$5.20	\$5.44	\$5.70	\$5.99	\$6.31	\$6.65	\$7.01	\$7.38	\$7.78	\$8.19
Northwestern Corporation	NWE	\$3.39	\$3.49	\$3.60	\$3.71	\$3.82	\$3.94	\$4.07	\$4.23	\$4.41	\$4.61	\$4.84	\$5.10	\$5.37	\$5.66	\$5.96	\$6.28	\$6.61
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.01	\$2.12	\$2.25	\$2.38	\$2.51	\$2.65	\$2.80	\$2.95	\$3.11	\$3.28	\$3.45	\$3.64	\$3.83	\$4.03
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.89	\$2.02	\$2.16	\$2.32	\$2.47	\$2.63	\$2.79	\$2.96	\$3.13	\$3.29	\$3.47	\$3.65	\$3.85	\$4.06	\$4.27

Projected Annual Dividend Payout Ratio																	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%

Projected Annual Cash Flows															Terminal			
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Value
ALLETE, Inc.	ALE	\$2.12	\$2.19	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$4.88	\$163.33
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$88.50
Black Hills Corporation	BKH	\$1.40	\$1.51	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$4.39	\$147.00
El Paso Electric Company	EE	\$1.35	\$1.46	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$3.86	\$129.10
Hawaiian Electric Industries, Inc.	HE	\$1.80	\$1.80	\$1.80	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.79	\$93.25
IDACORP, Inc.	IDA	\$2.25	\$2.40	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$5.40	\$180.62
Northwestern Corporation	NWE	\$2.13	\$2.20	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$4.36	\$146.79
OGE Energy Corp.	OGE	\$1.16	\$1.26	\$1.37	\$1.49	\$1.62	\$1.69	\$1.78	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$88.95
PNM Resources, Inc.	PNM	\$0.92	\$1.00	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$2.82	\$94.19

Projected Annual Data Investor Cash Flows															Terminal				
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$70.80)	\$0.00	\$0.54	\$2.18	\$2.26	\$2.33	\$2.40	\$2.60	\$2.80	\$3.02	\$3.25	\$3.50	\$3.76	\$3.96	\$4.18	\$4.40	\$4.63	\$168.21
Alliant Energy Corporation	LNT	(\$40.26)	\$0.00	\$0.28	\$1.14	\$1.24	\$1.32	\$1.40	\$1.50	\$1.60	\$1.70	\$1.81	\$1.92	\$2.04	\$2.15	\$2.26	\$2.38	\$2.51	\$91.15
Black Hills Corporation	BKH	(\$67.46)	\$0.00	\$0.36	\$1.45	\$1.61	\$1.73	\$1.86	\$2.07	\$2.31	\$2.55	\$2.82	\$3.09	\$3.39	\$3.57	\$3.76	\$3.96	\$4.17	\$151.39
El Paso Electric Company	EE	(\$51.32)	\$0.00	\$0.34	\$1.39	\$1.59	\$1.73	\$1.88	\$2.03	\$2.20	\$2.38	\$2.57	\$2.77	\$2.97	\$3.13	\$3.30	\$3.48	\$3.66	\$132.96
Hawaiian Electric Industries, Inc.	HE	(\$33.18)	\$0.00	\$0.46	\$1.82	\$1.80	\$1.80	\$1.83	\$1.87	\$1.92	\$1.99	\$2.06	\$2.15	\$2.26	\$2.38	\$2.51	\$2.65	\$2.85	\$96.04
IDACORP, Inc.	IDA	(\$84.87)	\$0.00	\$0.57	\$2.30	\$2.57	\$2.74	\$2.91	\$3.08	\$3.25	\$3.45	\$3.67	\$3.90	\$4.16	\$4.38	\$4.62	\$4.87	\$5.13	\$186.02
Northwestern Corporation	NWE	(\$59.48)	\$0.00	\$0.54	\$2.16	\$2.28	\$2.36	\$2.44	\$2.55	\$2.68	\$2.82	\$2.98	\$3.16	\$3.36	\$3.54	\$3.73	\$3.93	\$4.14	\$150.15
OGE Energy Corp.	OGE	(\$35.23)	\$0.00	\$0.30	\$1.20	\$1.37	\$1.49	\$1.62	\$1.69	\$1.76	\$1.83	\$1.90	\$1.98	\$2.05	\$2.16	\$2.27	\$2.40	\$2.52	\$91.61
PNM Resources, Inc.	PNM	(\$38.21)	\$0.00	\$0.23	\$0.95	\$1.09	\$1.19	\$1.30	\$1.43	\$1.56	\$1.70	\$1.85	\$2.01	\$2.17	\$2.29	\$2.41	\$2.54	\$2.67	\$97.00

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

Inputs	[1] Stock	[3] EPS Growth Rate Estimates				[6] Long-Term Growth	[7] 2017	[8] 2021	[9] 2027	[10] Iterative Solution Proof	[11] IRR	[12] Terminal P/E Ratio	[13] Terminal PEG Ratio																							
		Value		High																																
		[4] Zacks	[5] First Call Line	[4] Zacks	[5] First Call Line																															
Company	Ticker	Price	Zacks	First Call	Line	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																							
ALLETE, Inc.	ALE	\$70.80	6.10%	5.00%	6.00%	6.10%	5.35%	64.00%	58.00%	65.91%	(\$0.00)	9.30%	22.05	4.12																						
Alliant Energy Corporation	LNT	\$40.26	5.50%	6.90%	6.00%	6.90%	5.35%	63.00%	63.00%	65.91%	(\$0.00)	9.13%	22.05	4.12																						
Black Hills Corporation	BKH	\$67.46	5.00%	7.65%	7.50%	7.65%	5.35%	50.00%	51.00%	65.91%	(\$0.00)	8.82%	22.05	4.12																						
El Paso Electric Company	EE	\$51.32	7.20%	6.50%	5.00%	7.20%	5.35%	53.00%	58.00%	65.91%	(\$0.00)	10.31%	22.05	4.12																						
Hawaiian Electric Industries, Inc.	HE	\$33.18	4.00%	1.40%	1.50%	4.00%	5.35%	77.00%	70.00%	65.91%	(\$0.00)	12.68%	22.05	4.12																						
IDACORP, Inc.	IDA	\$84.87	4.50%	3.80%	3.50%	4.50%	5.35%	55.00%	61.00%	65.91%	(\$0.00)	8.73%	22.05	4.12																						
Northwestern Corporation	NWE	\$59.48	1.60%	3.05%	4.50%	4.50%	5.35%	61.00%	62.00%	65.91%	(\$0.00)	10.71%	22.05	4.12																						
OGE Energy Corp.	OGE	\$35.23	5.30%	6.30%	6.00%	6.30%	5.35%	65.00%	72.00%	65.91%	(\$0.00)	10.42%	22.05	4.12																						
PNM Resources, Inc.	PNM	\$38.21	4.70%	7.35%	9.00%	9.00%	5.35%	52.00%	56.00%	65.91%	(\$0.00)	10.63%	22.05	4.12																						
										DCF Result		DCF Result																								
										Mean	10.08%	10.19%																								
										Max	12.68%	12.79%																								
										Min	8.73%	8.85%																								
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	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.87	\$6.19	\$6.52	\$6.87	\$7.23	\$7.62																		
Alliant Energy Corporation	LNT	\$1.65	\$1.76	\$1.89	\$2.02	\$2.15	\$2.30	\$2.46	\$2.61	\$2.77	\$2.94	\$3.10	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24																		
Black Hills Corporation	BKH	\$2.63	\$2.83	\$3.05	\$3.28	\$3.53	\$3.80	\$4.08	\$4.36	\$4.64	\$4.93	\$5.21	\$5.49	\$5.78	\$6.09	\$6.41	\$6.76	\$7.12																		
El Paso Electric Company	EE	\$2.39	\$2.56	\$2.75	\$2.94	\$3.16	\$3.38	\$3.62	\$3.85	\$4.10	\$4.34	\$4.59	\$4.83	\$5.09	\$5.36	\$5.65	\$5.95	\$6.27																		
Hawaiian Electric Industries, Inc.	HE	\$2.29	\$2.38	\$2.48	\$2.58	\$2.68	\$2.79	\$2.90	\$3.03	\$3.17	\$3.33	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.54	\$4.78																		
IDACORP, Inc.	IDA	\$3.94	\$4.12	\$4.30	\$4.50	\$4.70	\$4.91	\$5.14	\$5.38	\$5.65	\$5.93	\$6.24	\$6.58	\$6.93	\$7.30	\$7.69	\$8.10	\$8.53																		
Northwestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.37	\$5.66	\$5.96	\$6.28	\$6.62	\$6.97	\$7.34																		
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.04	\$3.21	\$3.38	\$3.56	\$3.75	\$3.95	\$4.16																		
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.59	\$3.78	\$3.98	\$4.20	\$4.42	\$4.66	\$4.91																		
Projected Annual Dividend Payout Ratio																			[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]		
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032																			
ALLETE, Inc.	ALE	64.00%	62.50%	61.00%	59.50%	58.00%	59.32%	60.84%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.97%	64.45%	64.94%	65.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Black Hills Corporation	BKH	50.00%	50.25%	50.50%	50.75%	51.00%	53.48%	55.97%	58.45%	60.94%	63.42%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
El Paso Electric Company	EE	53.00%	54.25%	55.50%	56.75%	58.00%	59.32%	60.64%	61.95%	63.27%	64.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Hawaiian Electric Industries, Inc.	HE	77.00%	75.25%	73.50%	71.75%	70.00%	69.32%	68.64%	67.95%	67.27%	66.59%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
IDACORP, Inc.	IDA	55.00%	56.50%	58.00%	59.50%	61.00%	61.82%	62.64%	63.45%	64.27%	65.09%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Northwestern Corporation	NWE	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.95%	64.60%	65.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
OGE Energy Corp.	OGE	65.00%	66.75%	68.50%	70.25%	72.00%	70.98%	69.97%	68.95%	67.94%	66.92%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.95%	62.60%	64.25%	65.91%	65.91%	65.91%	65.91%	65.91%	65.91%																			
Projected Annual Cash Flows																			[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	[63]	
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Terminal Value																		
ALLETE, Inc.	ALE	\$2.13	\$2.21	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.02	\$168.03																		
Alliant Energy Corporation	LNT	\$1.11	\$1.19	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$93.42																		
Black Hills Corporation	BKH	\$1.42	\$1.53	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$4.69	\$156.94																		
El Paso Electric Company	EE	\$1.36	\$1.49	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$138.20																		
Hawaiian Electric Industries, Inc.	HE	\$1.83	\$1.86	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$3.15	\$105.49																		
IDACORP, Inc.	IDA	\$2.26	\$2.43	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$5.62	\$188.13																		
Northwestern Corporation	NWE	\$2.16	\$2.27	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$4.84	\$161.87																		
OGE Energy Corp.	OGE	\$1.17	\$1.27	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$2.74	\$91.72																		
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$3.23	\$108.14																		
Projected Annual Data Investor Cash Flows																			[64]	[65]	[66]	[67]	[68]	[69]	[70]	[71]	[72]	[73]	[74]	[75]	[76]	[77]	[78]	[79]	[80]	[81]
Company	Ticker	Initial	9/29/17	12/31/17	6/30/18	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	(\$70.80)	\$0.00	\$0.54	\$2.20	\$2.29	\$2.37	\$2.45	\$2.65	\$2.87	\$3.10	\$3.35	\$3.60	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$173.05																	
Alliant Energy Corporation	LNT	(\$40.26)	\$0.00	\$0.28	\$1.15	\$1.27	\$1.36	\$1.45	\$1.56	\$1.67	\$1.79	\$1.91	\$2.03	\$2.15	\$2.27	\$2.39	\$2.52	\$2.65	\$96.21																	
Black Hills Corporation	BKH	(\$67.46)	\$0.00	\$0.36	\$1.47	\$1.66	\$1.79	\$1.94	\$2.18	\$2.44	\$2.71	\$3.00	\$3.30	\$3.62	\$3.81	\$4.01	\$4.23	\$4.45	\$161.63																	
El Paso Electric Company	EE	(\$51.32)	\$0.00	\$0.35	\$1.41	\$1.63	\$1.79	\$1.96	\$2.15	\$2.34	\$2.54	\$2.75	\$2.96	\$3.18	\$3.35	\$3.53	\$3.72	\$3.92	\$142.33																	
Hawaiian Electric Industries, Inc.	HE	(\$33.18)	\$0.00	\$0.47	\$1.87	\$1.89	\$1.92	\$1.95	\$2.01	\$2.08	\$2.16	\$2.24	\$2.33	\$2.43	\$2.56	\$2.70	\$2.84	\$2.99	\$108.64																	
IDACORP, Inc.	IDA	(\$84.87)	\$0.00	\$0.58	\$2.32	\$2.61	\$2.80	\$3.00	\$3.18	\$3.37	\$3.58	\$3.81	\$4.06	\$4.33	\$4.57	\$4.81	\$5.07	\$5.34	\$193.75																	
Northwestern Corporation	NWE	(\$59.48)	\$0.00	\$0.55	\$2.21	\$2.38	\$2.50	\$2.62	\$2.77	\$2.93	\$3.11	\$3.30	\$3.51	\$3.73	\$3.93	\$4.14	\$4.36	\$4.59	\$166.71																	
OGE Energy Corp.	OGE	(\$35.23)	\$0.00	\$0.30	\$1.20	\$1.39	\$1.52	\$1.65	\$1.73	\$1.81	\$1.88	\$1.96	\$2.04	\$2.11	\$2.23	\$2.35	\$2.47	\$2.60	\$94.46																	
PNM Resources, Inc.	PNM	(\$38.21)	\$0.00	\$0.24	\$0.98	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.49	\$2.62	\$2.77	\$2.91	\$3.07	\$111.38																	

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of September 29, 2017
- [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 [64]
- [11] Equals result of Excel Solver function; goal: Column [10] equals \$0.00
- [12] Equals Proxy Group 30-day average PE ratio. Source: SNL Financial
- [13] Equals Column [12] / (Column [6] x 100)
- [14] Source: Value Line
- [15] Equals Column [14] x (1 + Column [5])
- [16] Equals Column [15] x (1 + Column [5])
- [17] Equals Column [16] x (1 + Column [5])
- [18] Equals Column [17] x (1 + Column [5])
- [19] Equals Column [18] x (1 + Column [5])
- [20] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2022 - 2021)))) x Column [19]
- [21] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2023 - 2021)))) x Column [20]
- [22] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2024 - 2021)))) x Column [21]
- [23] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2025 - 2021)))) x Column [22]
- [24] Equals (1 + (Column [5] + (((Column [6] - Column [5]) / (2027 - 2022 + 1)) x (2026 - 2021)))) x Column [23]
- [25] Equals Column [24] x (1 + Column [6])
- [26] Equals Column [25] x (1 + Column [6])
- [27] Equals Column [26] x (1 + Column [6])
- [28] Equals Column [27] x (1 + Column [6])
- [29] Equals Column [28] x (1 + Column [6])
- [30] Equals Column [29] x (1 + Column [6])
- [31] Equals Column [7]
- [32] Equals Column [31] + ((Column [35] - Column [31]) / 4)
- [33] Equals Column [32] + ((Column [35] - Column [31]) / 4)
- [34] Equals Column [33] + ((Column [35] - Column [31]) / 4)
- [35] Equals Column [8]
- [36] Equals Column [35] + ((Column [41] - Column [35]) / 6)
- [37] Equals Column [36] + ((Column [41] - Column [35]) / 6)
- [38] Equals Column [37] + ((Column [41] - Column [35]) / 6)
- [39] Equals Column [38] + ((Column [41] - Column [35]) / 6)
- [40] Equals Column [39] + ((Column [41] - Column [35]) / 6)
- [41] Equals Column [9]
- [42] Equals Column [9]
- [43] Equals Column [9]
- [44] Equals Column [9]
- [45] Equals Column [9]
- [46] Equals Column [9]
- [47] Equals Column [15] x Column [31]
- [48] Equals Column [16] x Column [32]
- [49] Equals Column [17] x Column [33]
- [50] Equals Column [18] x Column [34]
- [51] Equals Column [19] x Column [35]
- [52] Equals Column [20] x Column [36]
- [53] Equals Column [21] x Column [37]
- [54] Equals Column [22] x Column [38]
- [55] Equals Column [23] x Column [39]
- [56] Equals Column [24] x Column [40]
- [57] Equals Column [25] x Column [41]
- [58] Equals Column [26] x Column [42]
- [59] Equals Column [27] x Column [43]
- [60] Equals Column [28] x Column [44]
- [61] Equals Column [29] x Column [45]
- [62] Equals Column [30] x Column [46]
- [63] Equals Column [12] x Column [30]
- [64] Equals negative net present value; discount rate equals Column [11], cash flows equal Column [65] through Column [81]
- [65] Equals \$0.00
- [66] Equals Column [47] x (12/31/2017 - 09/29/2017) / 365
- [67] Equals Column [47] x (1 + (0.5 x Column [5]))
- [68] Equals Column [49]
- [69] Equals Column [50]
- [70] Equals Column [51]
- [71] Equals Column [52]
- [72] Equals Column [53]
- [73] Equals Column [54]
- [74] Equals Column [55]
- [75] Equals Column [56]
- [76] Equals Column [57]
- [77] Equals Column [58]
- [78] Equals Column [59]
- [79] Equals Column [60]
- [80] Equals Column [61]
- [81] Equals Column [62] + [63]

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

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
13.83%	2.77%	11.06%

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	20,661.36	0.09%	0.82%	9.53%	10.39%	0.0097%
AMERICAN AIRLINES GROUP INC	AAL	23,128.07	0.10%	0.89%	-3.23%	-2.35%	-0.0024%
ADVANCE AUTO PARTS INC	AAP	7,327.17	0.03%	0.26%	8.96%	9.23%	0.0030%
APPLE INC	AAPL	796,064.94	3.58%	1.55%	10.98%	12.61%	0.4516%
ABBVIE INC	ABBV	141,651.25	0.64%	2.88%	8.60%	11.61%	0.0740%
AMERISOURCEBERGEN CORP	ABC	18,131.48	N/A	1.76%	N/A	N/A	N/A
ABBOTT LABORATORIES	ABT	92,709.97	0.42%	2.01%	11.77%	13.90%	0.0580%
ACCENTURE PLC-CL A	ACN	87,221.75	0.39%	1.97%	10.63%	12.71%	0.0499%
ADOBE SYSTEMS INC	ADBE	73,537.24	0.33%	0.00%	19.82%	19.82%	0.0656%
ANALOG DEVICES INC	ADI	31,681.93	0.14%	1.97%	11.55%	13.64%	0.0194%
ARCHER-DANIELS-MIDLAND CO	ADM	23,912.95	0.11%	3.02%	9.80%	12.97%	0.0140%
AUTOMATIC DATA PROCESSING	ADP	48,586.48	0.22%	2.16%	11.48%	13.76%	0.0301%
ALLIANCE DATA SYSTEMS CORP	ADS	12,292.36	0.06%	0.82%	14.00%	14.88%	0.0082%
AUTODESK INC	ADSK	24,606.52	0.11%	0.00%	26.00%	26.00%	0.0288%
AMEREN CORPORATION	AEE	14,034.00	N/A	3.11%	N/A	N/A	N/A
AMERICAN ELECTRIC POWER	AEP	34,546.87	0.16%	3.39%	5.00%	8.47%	0.0132%
AES CORP	AES	7,276.03	0.03%	4.36%	8.00%	12.53%	0.0041%
AETNA INC	AET	52,807.22	0.24%	1.26%	11.46%	12.79%	0.0304%
AFLAC INC	AFL	32,167.70	0.14%	2.14%	2.85%	5.02%	0.0073%
ALLERGAN PLC	AGN	68,516.05	0.31%	1.37%	12.33%	13.78%	0.0425%
AMERICAN INTERNATIONAL GROUP	AIG	55,460.07	0.25%	2.09%	11.00%	13.20%	0.0329%
APARTMENT INVT & MGMT CO -A	AIV	6,887.02	0.03%	3.30%	19.07%	22.68%	0.0070%
ASSURANT INC	AIZ	5,147.27	N/A	2.25%	N/A	N/A	N/A
ARTHUR J GALLAGHER & CO	AJG	11,089.09	0.05%	2.53%	10.83%	13.50%	0.0067%
AKAMAI TECHNOLOGIES INC	AKAM	8,351.74	0.04%	0.00%	13.40%	13.40%	0.0050%
ALBEMARLE CORP	ALB	15,058.54	0.07%	0.94%	12.17%	13.17%	0.0089%
ALIGN TECHNOLOGY INC	ALGN	14,929.65	0.07%	0.00%	30.00%	30.00%	0.0201%
ALASKA AIR GROUP INC	ALK	9,410.73	0.04%	1.58%	6.33%	7.96%	0.0034%
ALLSTATE CORP	ALL	33,212.56	0.15%	1.59%	16.27%	17.99%	0.0269%
ALLEGION PLC	ALLE	8,213.35	0.04%	0.69%	13.09%	13.83%	0.0051%
ALEXION PHARMACEUTICALS INC	ALXN	31,310.66	0.14%	0.00%	20.50%	20.50%	0.0289%
APPLIED MATERIALS INC	AMAT	55,553.32	0.25%	0.79%	16.71%	17.57%	0.0439%
ADVANCED MICRO DEVICES	AMD	12,071.43	0.05%	0.00%	5.00%	5.00%	0.0027%
AMETEK INC	AME	15,241.73	0.07%	0.58%	11.62%	12.23%	0.0084%
AFFILIATED MANAGERS GROUP	AMG	10,622.95	0.05%	0.42%	15.79%	16.24%	0.0078%
AMGEN INC	AMGN	136,047.86	0.61%	2.44%	4.67%	7.16%	0.0438%
AMERIPRISE FINANCIAL INC	AMP	22,268.06	0.10%	2.19%	10.40%	12.70%	0.0127%
AMERICAN TOWER CORP	AMT	58,659.97	0.26%	1.92%	20.68%	22.80%	0.0602%
AMAZON.COM INC	AMZN	461,812.85	2.08%	0.00%	27.82%	27.82%	0.5779%
ANDEAVOR	ANDV	16,184.40	0.07%	2.20%	18.94%	21.34%	0.0155%
ANSYS INC	ANSS	10,402.68	0.05%	0.00%	12.40%	12.40%	0.0058%
ANTHEM INC	ANTM	49,859.58	0.22%	1.42%	9.78%	11.27%	0.0253%
AON PLC	AON	37,158.68	0.17%	0.97%	11.86%	12.88%	0.0215%
SMITH (A.O.) CORP	AOS	10,253.99	0.05%	0.94%	15.00%	16.01%	0.0074%
APACHE CORP	APA	17,446.78	0.08%	2.18%	-20.64%	-18.68%	-0.0147%
ANADARKO PETROLEUM CORP	APC	27,373.50	0.12%	0.41%	-10.30%	-9.91%	-0.0122%
AIR PRODUCTS & CHEMICALS INC	APD	32,959.51	0.15%	2.44%	9.29%	11.85%	0.0176%
AMPHENOL CORP-CL A	APH	25,852.86	0.12%	0.78%	11.23%	12.05%	0.0140%
ALEXANDRIA REAL ESTATE EQUIT	ARE	11,138.70	0.05%	2.85%	6.80%	9.74%	0.0049%
ARCONIC INC	ARNC	10,972.85	0.05%	0.96%	16.90%	17.95%	0.0089%
ACTIVISION BLIZZARD INC	ATVI	48,699.96	0.22%	0.47%	13.63%	14.12%	0.0309%
AVALONBAY COMMUNITIES INC	AVB	24,636.80	0.11%	3.18%	6.42%	9.71%	0.0108%
BROADCOM LTD	AVGO	98,951.31	0.45%	1.68%	15.32%	17.13%	0.0762%
AVERY DENNISON CORP	AVY	8,692.09	0.04%	1.73%	7.65%	9.44%	0.0037%
AMERICAN WATER WORKS CO INC	AWK	14,424.82	0.06%	2.02%	7.95%	10.05%	0.0065%
AMERICAN EXPRESS CO	AXP	79,964.80	0.36%	1.48%	9.70%	11.25%	0.0405%
ACUITY BRANDS INC	AYI	7,209.74	0.03%	0.30%	17.67%	18.00%	0.0058%
AUTOZONE INC	AZO	16,681.35	0.08%	0.00%	13.07%	13.07%	0.0098%
BOEING CO/THE	BA	150,259.31	0.68%	2.26%	15.20%	17.63%	0.1192%
BANK OF AMERICA CORP	BAC	267,351.71	1.20%	1.54%	10.47%	12.09%	0.1454%
BAXTER INTERNATIONAL INC	BAX	34,190.65	0.15%	0.99%	13.56%	14.62%	0.0225%
BB&T CORP	BBT	37,931.86	0.17%	2.68%	9.75%	12.56%	0.0214%
BEST BUY CO INC	BBY	17,041.55	0.08%	2.38%	12.68%	15.21%	0.0117%
CR BARD INC	BCR	23,291.23	0.10%	0.32%	11.00%	11.34%	0.0119%
BECTON DICKINSON AND CO	BDX	44,591.36	0.20%	1.47%	12.53%	14.08%	0.0282%
FRANKLIN RESOURCES INC	BEN	24,823.29	0.11%	1.79%	10.00%	11.88%	0.0133%
BROWN-FORMAN CORP-CLASS B	BF/B	21,100.91	0.09%	1.40%	9.72%	11.19%	0.0106%
BRIGHTHOUSE FINANCIAL INC	BHF	7,282.20	0.03%	0.00%	8.00%	8.00%	0.0026%
BAKER HUGHES A GE CO	BHGE	41,935.10	0.19%	1.37%	6.50%	7.91%	0.0149%
BIOGEN INC	BIIB	66,203.51	0.30%	0.00%	6.48%	6.48%	0.0193%
BANK OF NEW YORK MELLON CORP	BK	54,777.94	0.25%	1.62%	13.24%	14.97%	0.0369%
BLACKROCK INC	BLK	72,681.20	0.33%	2.24%	13.60%	16.00%	0.0523%
BALL CORP	BLL	14,528.75	0.07%	0.74%	7.23%	7.99%	0.0052%
BRISTOL-MYERS SQUIBB CO	BMJ	104,528.91	0.47%	2.46%	8.00%	10.56%	0.0497%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	452,055.88	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	40,024.95	0.18%	0.00%	10.33%	10.33%	0.0186%
BORGWARNER INC	BWA	10,812.73	0.05%	1.10%	5.09%	6.22%	0.0030%
BOSTON PROPERTIES INC	BXP	18,962.56	0.09%	2.43%	4.46%	6.95%	0.0059%
CITIGROUP INC	C	198,184.21	0.89%	1.31%	12.97%	14.36%	0.1280%
CA INC	CA	14,062.00	0.06%	3.06%	2.97%	6.07%	0.0038%

		[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
CONAGRA BRANDS INC	CAG	14,024.20	0.06%	2.55%	7.00%	9.64%	0.0061%
CARDINAL HEALTH INC	CAH	21,094.25	0.09%	2.76%	10.97%	13.88%	0.0132%
CATERPILLAR INC	CAT	73,700.22	0.33%	2.50%	10.00%	12.62%	0.0418%
CHUBB LTD	CB	66,345.06	0.30%	1.99%	10.60%	12.70%	0.0379%
CBRE GROUP INC - A	CBG	12,800.99	0.06%	0.00%	9.35%	9.35%	0.0054%
CBOE HOLDINGS INC	CBOE	12,138.23	0.05%	0.97%	22.39%	23.46%	0.0128%
CBS CORP-CLASS B NON VOTING	CBS	23,312.19	0.10%	1.26%	13.37%	14.71%	0.0154%
CROWN CASTLE INTL CORP	CCI	40,618.60	0.18%	3.86%	21.60%	25.88%	0.0473%
CARNIVAL CORP	CCL	46,370.73	0.21%	2.38%	13.28%	15.82%	0.0330%
CADENCE DESIGN SYS INC	CDNS	11,059.53	0.05%	0.00%	11.45%	11.45%	0.0057%
CELGENE CORP	CELG	114,082.37	0.51%	0.00%	19.46%	19.46%	0.0999%
CERNER CORP	CERN	23,648.47	0.11%	0.00%	12.00%	12.00%	0.0128%
CF INDUSTRIES HOLDINGS INC	CF	8,200.97	0.04%	3.41%	6.00%	9.52%	0.0035%
CITIZENS FINANCIAL GROUP	CFG	18,960.41	0.09%	1.68%	21.44%	23.30%	0.0199%
CHURCH & DWIGHT CO INC	CHD	12,088.71	0.05%	1.57%	9.14%	10.79%	0.0059%
CHESAPEAKE ENERGY CORP	CHK	3,905.86	0.02%	0.00%	-13.02%	-13.02%	-0.0023%
C.H. ROBINSON WORLDWIDE INC	CHRW	10,683.38	0.05%	2.84%	9.20%	12.17%	0.0058%
CHARTER COMMUNICATIONS INC-A	CHTR	104,821.38	0.47%	0.00%	23.96%	23.96%	0.1130%
CIGNA CORP	CI	47,067.40	0.21%	0.01%	12.91%	12.93%	0.0274%
CINCINNATI FINANCIAL CORP	CINF	12,556.13	N/A	2.61%	N/A	N/A	N/A
COLGATE-PALMOLIVE CO	CL	64,169.34	0.29%	2.22%	9.47%	11.79%	0.0340%
CLOROX COMPANY	CLX	17,003.62	0.08%	2.54%	6.72%	9.34%	0.0071%
COMERICA INC	CMA	13,414.97	0.06%	1.43%	8.00%	9.49%	0.0057%
COMCAST CORP-CLASS A	CMCSA	181,370.57	0.82%	1.63%	9.13%	10.84%	0.0884%
CME GROUP INC	CME	46,119.28	0.21%	4.36%	10.47%	15.05%	0.0312%
CHIPOTLE MEXICAN GRILL INC	CMG	8,776.80	0.04%	0.00%	50.05%	50.05%	0.0198%
CUMMINS INC	CMI	28,165.29	0.13%	2.47%	10.23%	12.82%	0.0162%
CMS ENERGY CORP	CMS	13,062.83	0.06%	2.86%	5.00%	7.94%	0.0047%
CENTENE CORP	CNC	16,690.47	0.08%	0.00%	12.48%	12.48%	0.0094%
CENTERPOINT ENERGY INC	CNP	12,590.22	0.06%	3.68%	6.00%	9.79%	0.0055%
CAPITAL ONE FINANCIAL CORP	COF	40,949.42	0.18%	1.89%	5.97%	7.92%	0.0146%
CABOT OIL & GAS CORP	COG	12,371.68	0.06%	0.64%	31.95%	32.68%	0.0182%
COACH INC	COH	11,382.51	0.05%	3.42%	11.57%	15.19%	0.0078%
ROCKWELL COLLINS INC	COL	21,237.22	0.10%	1.04%	10.73%	11.82%	0.0113%
COOPER COS INC/THE	COO	11,606.35	0.05%	0.03%	9.75%	9.78%	0.0051%
CONOCOPHILLIPS	COP	60,908.31	0.27%	2.12%	7.00%	9.19%	0.0252%
COSTCO WHOLESALE CORP	COST	72,056.50	0.32%	2.85%	10.18%	13.18%	0.0427%
COTY INC-CL A	COTY	12,381.14	0.06%	3.15%	17.00%	20.41%	0.0114%
CAMPBELL SOUP CO	CPB	14,070.74	0.06%	3.18%	4.46%	7.71%	0.0049%
SALESFORCE.COM INC	CRM	67,140.95	0.30%	0.00%	28.05%	28.05%	0.0847%
CISCO SYSTEMS INC	CSCO	166,534.28	0.75%	3.53%	6.43%	10.07%	0.0754%
CSRA INC	CSRA	5,275.34	0.02%	1.24%	7.55%	8.84%	0.0021%
CSX CORP	CSX	49,556.36	0.22%	1.44%	11.33%	12.85%	0.0286%
CINTAS CORP	CTAS	15,587.98	0.07%	1.03%	11.58%	12.67%	0.0089%
CENTURYLINK INC	CTL	10,387.62	0.05%	11.43%	-2.86%	8.41%	0.0039%
COGNIZANT TECH SOLUTIONS-A	CTSH	42,843.77	0.19%	0.69%	14.35%	15.09%	0.0291%
CITRIX SYSTEMS INC	CTXS	11,639.10	0.05%	0.00%	13.10%	13.10%	0.0069%
CVS HEALTH CORP	CVS	82,667.04	0.37%	2.50%	13.33%	15.99%	0.0595%
CHEVRON CORP	CVX	222,662.82	1.00%	3.69%	42.57%	47.05%	0.4712%
CONCHO RESOURCES INC	CXO	19,588.37	0.09%	0.00%	20.00%	20.00%	0.0176%
DOMINION ENERGY INC	D	49,434.14	0.22%	3.93%	5.60%	9.64%	0.0214%
DELTA AIR LINES INC	DAL	34,912.74	0.16%	2.09%	5.57%	7.71%	0.0121%
DEERE & CO	DE	40,351.67	0.18%	1.91%	4.50%	6.46%	0.0117%
DISCOVER FINANCIAL SERVICES	DFS	24,009.25	0.11%	1.99%	3.98%	6.00%	0.0065%
DOLLAR GENERAL CORP	DG	22,147.64	0.10%	1.28%	8.55%	9.88%	0.0098%
QUEST DIAGNOSTICS INC	DGX	12,773.01	0.06%	1.90%	6.95%	8.92%	0.0051%
DR HORTON INC	DHI	14,945.12	0.07%	0.98%	12.66%	13.70%	0.0092%
DANAHER CORP	DHR	59,590.50	0.27%	0.65%	7.57%	8.25%	0.0221%
WALT DISNEY CO/THE	DIS	152,140.92	0.68%	1.65%	7.19%	8.90%	0.0609%
DISCOVERY COMMUNICATIONS-A	DISCA	12,044.58	0.05%	0.00%	6.35%	6.35%	0.0034%
DISH NETWORK CORP-A	DISH	25,277.28	0.11%	0.00%	-7.33%	-7.33%	-0.0083%
DELPHI AUTOMOTIVE PLC	DLPH	26,257.47	0.12%	1.20%	12.18%	13.45%	0.0159%
DIGITAL REALTY TRUST INC	DLR	24,551.66	0.11%	3.10%	5.58%	8.77%	0.0097%
DOLLAR TREE INC	DLTR	20,562.85	0.09%	0.00%	12.88%	12.88%	0.0119%
DOVER CORP	DOV	14,232.56	0.06%	2.00%	15.47%	17.62%	0.0113%
DR PEPPER SNAPPLE GROUP INC	DPS	16,077.19	0.07%	2.62%	8.58%	11.31%	0.0082%
DUKE REALTY CORP	DRE	10,252.20	0.05%	5.37%	4.52%	10.01%	0.0046%
DARDEN RESTAURANTS INC	DRI	9,875.18	0.04%	3.21%	9.57%	12.92%	0.0057%
DTE ENERGY COMPANY	DTE	19,259.13	0.09%	3.10%	5.35%	8.53%	0.0074%
DUKE ENERGY CORP	DUK	58,734.20	0.26%	4.20%	2.00%	6.24%	0.0165%
DAVITA INC	DVA	11,355.37	0.05%	0.00%	3.75%	3.75%	0.0019%
DEVON ENERGY CORP	DVN	19,291.66	0.09%	0.65%	18.42%	19.13%	0.0166%
DOWDUPONT INC	DWDP	161,719.36	0.73%	2.45%	7.83%	10.37%	0.0754%
DXC TECHNOLOGY CO	DXC	24,449.14	0.11%	0.82%	15.25%	16.13%	0.0177%
ELECTRONIC ARTS INC	EA	36,448.39	0.16%	0.00%	14.17%	14.17%	0.0232%
EBAY INC	EBAY	41,164.33	0.19%	0.00%	8.54%	8.54%	0.0158%
ECOLAB INC	ECL	37,217.33	0.17%	1.17%	12.86%	14.10%	0.0236%
CONSOLIDATED EDISON INC	ED	24,996.36	N/A	3.42%	N/A	N/A	N/A
EQUIFAX INC	EFX	12,758.28	0.06%	1.45%	11.03%	12.56%	0.0072%
EDISON INTERNATIONAL	EIX	25,142.85	0.11%	2.84%	6.23%	9.16%	0.0104%
ESTEE LAUDER COMPANIES-CL A	EL	39,742.79	0.18%	1.38%	11.49%	12.95%	0.0231%
EASTMAN CHEMICAL CO	EMN	13,110.11	0.06%	2.27%	7.53%	9.89%	0.0058%
EMERSON ELECTRIC CO	EMR	40,218.83	0.18%	3.06%	7.45%	10.63%	0.0192%
EOG RESOURCES INC	EOG	55,862.33	0.25%	0.70%	-18.26%	-17.63%	-0.0443%
EQUINIX INC	EQIX	34,786.91	0.16%	1.79%	29.25%	31.30%	0.0490%
EQUITY RESIDENTIAL	EQR	24,216.96	0.11%	3.06%	5.87%	9.02%	0.0098%
EQT CORP	EQT	11,307.85	0.05%	0.18%	15.00%	15.20%	0.0077%
EVERSOURCE ENERGY	ES	19,152.58	0.09%	3.15%	6.10%	9.34%	0.0080%
EXPRESS SCRIPTS HOLDING CO	ESRX	36,570.40	0.16%	0.00%	13.28%	13.28%	0.0218%
ESSEX PROPERTY TRUST INC	ESS	16,763.37	0.08%	2.75%	5.99%	8.82%	0.0067%
E*TRADE FINANCIAL CORP	ETFC	11,980.10	0.05%	0.00%	15.37%	15.37%	0.0083%

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
EATON CORP PLC	ETN	34,156.19	0.15%	3.12%	10.22%	13.50%	0.0207%
ENERGY CORP	ETR	13,708.15	0.06%	4.61%	-3.83%	0.70%	0.0004%
ENVISION HEALTHCARE CORP	EVHC	5,431.16	0.02%	0.00%	8.03%	8.03%	0.0020%
EDWARDS LIFESCIENCES CORP	EW	23,081.68	0.10%	0.00%	16.60%	16.60%	0.0172%
EXELON CORP	EXC	36,166.51	0.16%	3.49%	3.57%	7.12%	0.0116%
EXPEDITORS INTL WASH INC	EXPD	10,818.98	0.05%	1.40%	8.40%	9.86%	0.0048%
EXPEDIA INC	EXPE	21,826.57	0.10%	0.79%	17.98%	18.85%	0.0185%
EXTRA SPACE STORAGE INC	EXR	10,069.93	0.05%	4.01%	6.57%	10.72%	0.0049%
FORD MOTOR CO	F	47,541.91	0.21%	5.01%	-2.07%	2.89%	0.0062%
FASTENAL CO	FAST	13,126.05	0.06%	2.82%	15.40%	18.43%	0.0109%
FACEBOOK INC-A	FB	496,199.68	2.23%	0.00%	26.79%	26.79%	0.5979%
FORTUNE BRANDS HOME & SECURI	FBHS	10,354.15	0.05%	1.06%	12.12%	13.24%	0.0062%
FREEMONT-MCMORAN INC	FCX	20,320.20	0.09%	0.00%	24.46%	24.46%	0.0224%
FEDEX CORP	FDX	60,488.75	0.27%	0.90%	12.50%	13.45%	0.0366%
FIRSTENERGY CORP	FE	13,697.91	N/A	4.67%	N/A	N/A	N/A
F5 NETWORKS INC	FFIV	7,661.18	0.03%	0.00%	11.85%	11.85%	0.0041%
FIDELITY NATIONAL INFO SERV	FIS	31,044.04	0.14%	1.25%	8.23%	9.54%	0.0133%
FISERV INC	FISV	27,141.64	0.12%	0.00%	10.80%	10.80%	0.0132%
FIFTH THIRD BANCORP	FITB	20,613.59	0.09%	2.14%	4.20%	6.38%	0.0059%
FOOT LOCKER INC	FL	4,367.19	0.02%	3.36%	3.40%	6.81%	0.0013%
FLIR SYSTEMS INC	FLIR	5,338.28	N/A	1.44%	N/A	N/A	N/A
FLUOR CORP	FLR	5,899.74	0.03%	2.02%	11.89%	14.03%	0.0037%
FLOWSERVE CORP	FLS	5,563.85	0.03%	1.80%	12.68%	14.59%	0.0037%
FMC CORP	FMC	11,979.01	0.05%	0.75%	12.60%	13.40%	0.0072%
TWENTY-FIRST CENTURY FOX-A	FOXA	48,359.78	0.22%	1.55%	9.23%	10.85%	0.0236%
FEDERAL REALTY INVS TRUST	FRT	9,010.56	0.04%	3.20%	4.67%	7.94%	0.0032%
TECHNIPMC PLC	FTI	13,044.83	0.06%	0.91%	8.59%	9.54%	0.0056%
FORTIVE CORP	FTV	24,571.32	0.11%	0.31%	9.37%	9.69%	0.0107%
GENERAL DYNAMICS CORP	GD	61,563.36	0.28%	1.61%	8.51%	10.19%	0.0282%
GENERAL ELECTRIC CO	GE	209,349.13	0.94%	3.97%	11.23%	15.43%	0.1453%
GGP INC	GGP	18,319.21	0.08%	4.49%	4.65%	9.24%	0.0076%
GILEAD SCIENCES INC	GILD	105,806.14	0.48%	2.64%	-7.44%	-4.90%	-0.0233%
GENERAL MILLS INC	GIS	29,417.20	0.13%	3.85%	9.57%	13.60%	0.0180%
CORNING INC	GLW	27,023.25	0.12%	2.09%	8.58%	10.75%	0.0131%
GENERAL MOTORS CO	GM	58,842.07	0.26%	3.78%	9.04%	13.00%	0.0344%
ALPHABET INC-CL A	GOOGL	669,246.15	3.01%	0.00%	16.64%	16.64%	0.5008%
GENUINE PARTS CO	GPC	14,044.38	0.06%	2.82%	8.92%	11.86%	0.0075%
GLOBAL PAYMENTS INC	GPN	14,491.01	0.07%	0.05%	14.50%	14.55%	0.0095%
GAP INC/THE	GPS	11,580.45	0.05%	3.11%	7.00%	10.21%	0.0053%
GARMIN LTD	GRMN	10,130.33	0.05%	3.78%	5.68%	9.56%	0.0044%
GOLDMAN SACHS GROUP INC	GS	95,563.85	0.43%	1.28%	11.19%	12.54%	0.0539%
GOODYEAR TIRE & RUBBER CO	GT	8,371.14	N/A	1.20%	N/A	N/A	N/A
WW GRAINGER INC	GWW	10,369.90	0.05%	2.82%	9.55%	12.51%	0.0058%
HALLIBURTON CO	HAL	40,119.54	0.18%	1.56%	74.00%	76.14%	0.1374%
HASBRO INC	HAS	12,216.67	0.05%	2.33%	9.70%	12.15%	0.0067%
HUNTINGTON BANCSHARES INC	HBAN	15,216.63	0.07%	2.49%	10.71%	13.34%	0.0091%
HANESBRANDS INC	HBI	8,980.76	0.04%	2.44%	10.45%	13.01%	0.0053%
HCA HEALTHCARE INC	HCA	28,751.86	0.13%	0.00%	12.07%	12.07%	0.0156%
WELLTOWER INC	HCN	25,924.79	0.12%	4.96%	2.61%	7.64%	0.0089%
HCP INC	HCP	13,051.24	0.06%	5.33%	3.11%	8.52%	0.0050%
HOME DEPOT INC	HD	192,807.40	0.87%	2.18%	13.69%	16.02%	0.1389%
HESS CORP	HES	14,903.69	0.07%	2.18%	-14.74%	-12.72%	-0.0085%
HARTFORD FINANCIAL SVCS GRP	HIG	20,193.16	0.09%	1.72%	9.50%	11.30%	0.0103%
HILTON WORLDWIDE HOLDINGS INC	HLT	22,291.94	0.10%	0.86%	15.76%	16.69%	0.0167%
HARLEY-DAVIDSON INC	HOG	8,224.37	0.04%	3.05%	7.85%	11.02%	0.0041%
HOLOGIC INC	HOLX	10,290.57	0.05%	0.00%	9.18%	9.18%	0.0042%
HONEYWELL INTERNATIONAL INC	HON	107,803.07	0.48%	1.91%	9.95%	11.95%	0.0580%
HELMERICH & PAYNE	HP	5,658.18	N/A	5.37%	N/A	N/A	N/A
HEWLETT PACKARD ENTERPRIS	HPE	23,822.32	0.11%	1.77%	-3.56%	-1.82%	-0.0020%
HP INC	HPQ	33,338.28	0.15%	2.67%	4.09%	6.80%	0.0102%
H&R BLOCK INC	HRB	5,535.91	0.02%	3.63%	11.00%	14.83%	0.0037%
HORMEL FOODS CORP	HRL	16,964.40	0.08%	2.12%	6.15%	8.33%	0.0064%
HARRIS CORP	HRS	15,684.35	N/A	1.70%	N/A	N/A	N/A
HENRY SCHEIN INC	HSIC	12,963.60	0.06%	0.00%	10.25%	10.25%	0.0060%
HOST HOTELS & RESORTS INC	HST	13,683.56	0.06%	4.40%	4.10%	8.59%	0.0053%
HERSHEY CO/THE	HSY	23,192.82	0.10%	2.34%	9.53%	11.98%	0.0125%
HUMANA INC	HUM	35,208.73	0.16%	0.66%	12.93%	13.63%	0.0216%
INTL BUSINESS MACHINES CORP	IBM	135,205.90	0.61%	4.04%	2.38%	6.46%	0.0393%
INTERCONTINENTAL EXCHANGE INC	ICE	40,429.44	0.18%	1.20%	10.98%	12.24%	0.0223%
IDEXX LABORATORIES INC	IDXX	13,570.52	0.06%	0.00%	10.81%	10.81%	0.0066%
INTL FLAVORS & FRAGRANCES	IFF	11,286.42	0.05%	1.86%	4.00%	5.90%	0.0030%
ILLUMINA INC	ILMN	29,083.20	0.13%	0.00%	15.48%	15.48%	0.0202%
INCYTE CORP	INCY	24,591.25	0.11%	0.00%	44.05%	44.05%	0.0487%
IHS MARKIT LTD	INFO	17,583.22	0.08%	0.00%	13.51%	13.51%	0.0107%
INTEL CORP	INTC	178,937.92	0.80%	2.84%	8.14%	11.10%	0.0893%
INTUIT INC	INTU	36,241.93	0.16%	1.08%	14.88%	16.04%	0.0262%
INTERNATIONAL PAPER CO	IP	23,461.84	0.11%	3.25%	7.23%	10.59%	0.0112%
INTERPUBLIC GROUP OF COS INC	IPG	8,176.06	0.04%	3.46%	8.64%	12.25%	0.0045%
INGERSOLL-RAND PLC	IR	22,619.57	0.10%	1.89%	10.71%	12.70%	0.0129%
IRON MOUNTAIN INC	IRM	10,284.80	N/A	5.44%	N/A	N/A	N/A
INTUITIVE SURGICAL INC	ISRG	38,994.39	0.18%	0.00%	10.05%	10.05%	0.0176%
GARTNER INC	IT	11,271.22	0.05%	0.00%	17.50%	17.50%	0.0089%
ILLINOIS TOOL WORKS	ITW	50,920.35	0.23%	1.85%	9.20%	11.14%	0.0255%
INVESCO LTD	IVZ	14,257.49	0.06%	3.30%	12.29%	15.79%	0.0101%
HUNT (JB) TRANSPRT SVCS INC	JBHT	12,156.09	0.05%	0.83%	13.35%	14.23%	0.0078%
JOHNSON CONTROLS INTERNATION	JCI	37,566.35	0.17%	2.50%	8.47%	11.07%	0.0187%
JACOBS ENGINEERING GROUP INC	JEC	7,010.76	0.03%	1.03%	8.73%	9.80%	0.0031%
JOHNSON & JOHNSON	JNJ	348,946.80	1.57%	2.58%	6.03%	8.69%	0.1364%
JUNIPER NETWORKS INC	JNPR	10,583.99	0.05%	1.51%	8.62%	10.19%	0.0049%
JPMORGAN CHASE & CO	JPM	336,096.29	1.51%	2.22%	3.00%	5.25%	0.0794%
NORDSTROM INC	JWN	7,838.20	0.04%	3.19%	6.00%	9.29%	0.0033%

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
KELLOGG CO	K	21,526.05	0.10%	3.42%	6.23%	9.76%	0.0094%
KEYCORP	KEY	20,467.60	0.09%	2.02%	10.90%	13.03%	0.0120%
KRAFT HEINZ CO/THE	KHC	94,475.37	0.42%	3.17%	8.39%	11.69%	0.0497%
KIMCO REALTY CORP	KIM	8,321.19	0.04%	5.58%	19.92%	26.06%	0.0098%
KLA-TENCOR CORP	KLAC	16,631.09	0.07%	2.11%	7.90%	10.09%	0.0076%
KIMBERLY-CLARK CORP	KMB	41,576.68	0.19%	3.27%	6.22%	9.59%	0.0179%
KINDER MORGAN INC	KMI	42,833.30	0.19%	2.61%	20.00%	22.87%	0.0441%
CARMAX INC	KMX	13,790.13	0.06%	0.00%	13.79%	13.79%	0.0086%
COCA-COLA CO/THE	KO	191,981.34	0.86%	3.28%	5.61%	8.99%	0.0776%
MICHAEL KORS HOLDINGS LTD	KORS	7,254.59	0.03%	0.00%	7.00%	7.00%	0.0023%
KROGER CO	KR	17,843.81	0.08%	2.52%	5.57%	8.15%	0.0065%
KOHL'S CORP	KSS	7,695.67	0.03%	4.90%	5.45%	10.48%	0.0036%
KANSAS CITY SOUTHERN	KSU	11,457.17	0.05%	1.30%	14.00%	15.40%	0.0079%
LOEWS CORP	L	16,109.74	N/A	0.52%	N/A	N/A	N/A
L BRANDS INC	LB	11,810.85	0.05%	5.77%	6.81%	12.78%	0.0068%
LEGGETT & PLATT INC	LEG	6,313.99	0.03%	2.95%	19.00%	22.23%	0.0063%
LENNAR CORP-A	LEN	12,139.68	0.05%	0.30%	11.29%	11.61%	0.0063%
LABORATORY CRP OF AMER HLDGS	LH	15,368.75	0.07%	0.00%	11.35%	11.35%	0.0078%
LKQ CORP	LKQ	11,115.91	0.05%	0.00%	12.50%	12.50%	0.0063%
L3 TECHNOLOGIES INC	LLL	14,738.63	0.07%	1.63%	6.90%	8.59%	0.0057%
ELI LILLY & CO	LLY	94,178.59	0.42%	2.44%	8.50%	11.04%	0.0468%
LOCKHEED MARTIN CORP	LMT	89,360.69	0.40%	2.38%	9.42%	11.91%	0.0479%
LINCOLN NATIONAL CORP	LNC	16,277.85	0.07%	1.59%	9.25%	10.92%	0.0080%
ALLIANT ENERGY CORP	LNT	9,605.26	0.04%	3.02%	5.50%	8.61%	0.0037%
LOWE'S COS INC	LOW	66,575.01	0.30%	1.96%	14.38%	16.48%	0.0493%
LAM RESEARCH CORP	LRGX	30,068.35	0.14%	0.97%	7.70%	8.71%	0.0118%
LEUCADIA NATIONAL CORP	LUK	9,055.55	0.04%	1.43%	18.00%	19.55%	0.0080%
SOUTHWEST AIRLINES CO	LUV	33,507.69	0.15%	0.88%	6.43%	7.34%	0.0111%
LEVEL 3 COMMUNICATIONS INC	LVL3	19,327.85	0.09%	0.00%	5.00%	5.00%	0.0043%
LYONDELLBASELL INDU-CL A	LYB	39,204.38	0.18%	3.58%	6.50%	10.20%	0.0180%
MACY'S INC	M	6,645.48	0.03%	7.10%	-0.48%	6.61%	0.0020%
MASTERCARD INC - A	MA	150,363.50	0.68%	0.62%	16.63%	17.30%	0.1170%
MID-AMERICA APARTMENT COMM	MAA	12,142.39	N/A	3.27%	N/A	N/A	N/A
MACERICH CO/THE	MAC	7,773.55	0.03%	5.51%	7.66%	13.38%	0.0047%
MARRIOTT INTERNATIONAL -CL A	MAR	41,063.04	0.18%	1.15%	14.94%	16.18%	0.0299%
MASCO CORP	MAS	12,428.34	0.06%	1.07%	14.33%	15.47%	0.0087%
MATTEL INC	MAT	5,305.40	0.02%	5.36%	11.30%	16.96%	0.0040%
MCDONALD'S CORP	MCD	126,910.27	0.57%	2.44%	10.09%	12.65%	0.0722%
MICROCHIP TECHNOLOGY INC	MCHP	20,894.36	0.09%	1.61%	17.06%	18.80%	0.0177%
MCKESSON CORP	MCK	32,298.12	0.15%	0.87%	5.30%	6.20%	0.0090%
MOODY'S CORP	MCO	26,589.11	0.12%	1.10%	8.00%	9.14%	0.0109%
MONDELEZ INTERNATIONAL INC-A	MDLZ	61,300.64	0.28%	1.95%	11.64%	13.71%	0.0378%
MEDTRONIC PLC	MDT	105,346.58	0.47%	2.39%	6.43%	8.89%	0.0421%
METLIFE INC	MET	55,121.71	0.25%	3.10%	35.90%	39.56%	0.0981%
MGM RESORTS INTERNATIONAL	MGM	18,745.51	0.08%	1.35%	17.46%	18.93%	0.0160%
MOHAWK INDUSTRIES INC	MHK	18,399.44	0.08%	0.00%	8.48%	8.48%	0.0070%
MCCORMICK & CO-NON VTG SHRS	MKC	13,440.79	0.06%	1.82%	9.60%	11.51%	0.0070%
MARTIN MARIETTA MATERIALS	MLM	12,959.43	0.06%	0.82%	21.24%	22.15%	0.0129%
MARSH & MCLENNAN COS	MMC	42,954.71	0.19%	1.72%	12.86%	14.69%	0.0284%
3M CO	MMM	125,261.42	0.56%	2.24%	8.80%	11.14%	0.0628%
MONSTER BEVERAGE CORP	MNST	31,391.34	0.14%	0.00%	20.30%	20.30%	0.0287%
ALTRIA GROUP INC	MO	121,675.56	0.55%	4.04%	0.61%	4.67%	0.0255%
MONSANTO CO	MON	52,639.69	0.24%	1.80%	7.47%	9.34%	0.0221%
MOSAIC CO/THE	MOS	7,579.16	0.03%	3.38%	11.70%	15.28%	0.0052%
MARATHON PETROLEUM CORP	MPC	28,390.72	0.13%	2.73%	12.68%	15.58%	0.0199%
MERCK & CO. INC.	MRK	174,632.50	0.79%	2.94%	6.07%	9.10%	0.0714%
MARATHON OIL CORP	MRO	11,523.76	0.05%	1.47%	5.00%	6.51%	0.0034%
MORGAN STANLEY	MS	88,468.09	0.40%	1.88%	16.72%	18.76%	0.0746%
MICROSOFT CORP	MSFT	573,740.15	2.58%	2.24%	10.54%	12.90%	0.3330%
MOTOROLA SOLUTIONS INC	MSI	13,804.41	0.06%	2.22%	4.10%	6.37%	0.0040%
M & T BANK CORP	MTB	24,467.12	0.11%	1.87%	10.19%	12.16%	0.0134%
METTLER-TOLEDO INTERNATIONAL	MTD	16,072.31	0.07%	0.00%	12.08%	12.08%	0.0087%
MICRON TECHNOLOGY INC	MU	43,816.21	0.20%	0.32%	0.83%	1.15%	0.0023%
MYLAN NV	MYL	16,823.13	0.08%	0.00%	3.20%	3.20%	0.0024%
NAVIENT CORP	NAVI	4,117.05	N/A	4.34%	N/A	N/A	N/A
NOBLE ENERGY INC	NBL	13,798.42	0.06%	1.41%	3.72%	5.15%	0.0032%
NASDAQ INC	NDAQ	12,938.39	0.06%	1.88%	9.08%	11.05%	0.0064%
NEXTERA ENERGY INC	NEE	68,766.29	0.31%	2.68%	6.67%	9.44%	0.0292%
NEWMONT MINING CORP	NEM	20,003.01	0.09%	0.72%	-11.65%	-10.97%	-0.0099%
NETFLIX INC	NFLX	78,297.82	0.35%	0.00%	40.60%	40.60%	0.1430%
NEWFIELD EXPLORATION CO	NFX	5,913.80	0.03%	0.00%	12.19%	12.19%	0.0032%
NISOURCE INC	NI	8,339.02	0.04%	2.74%	6.10%	8.92%	0.0033%
NIKE INC -CL B	NKE	85,106.27	0.38%	1.48%	8.53%	10.07%	0.0386%
NIELSEN HOLDINGS PLC	NLSN	14,780.13	0.07%	3.22%	10.00%	13.38%	0.0089%
NORTHROP GRUMMAN CORP	NOC	50,090.41	0.23%	1.34%	7.67%	9.06%	0.0204%
NATIONAL OILWELL VARCO INC	NOV	13,578.78	N/A	0.56%	N/A	N/A	N/A
NRG ENERGY INC	NRG	8,098.23	N/A	0.47%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	38,109.17	0.17%	1.85%	13.57%	15.54%	0.0266%
NETAPP INC	NTAP	11,804.59	0.05%	1.84%	9.90%	11.83%	0.0063%
NORTHERN TRUST CORP	NTRS	21,004.71	0.09%	1.74%	12.14%	13.99%	0.0132%
NUCOR CORP	NUE	17,900.63	0.08%	2.69%	12.00%	14.85%	0.0120%
NVIDIA CORP	NVDA	107,262.00	0.48%	0.32%	12.52%	12.86%	0.0621%
NEWELL BRANDS INC	NWL	20,912.57	0.09%	2.06%	11.32%	13.50%	0.0127%
NEWS CORP - CLASS A	NWSA	7,794.32	0.04%	1.65%	12.59%	14.35%	0.0050%
REALTY INCOME CORP	O	15,674.36	0.07%	4.44%	4.42%	8.96%	0.0063%
ONEOK INC	OKE	21,056.26	0.09%	5.15%	13.25%	18.74%	0.0178%
OMNICOM GROUP	OMC	17,091.96	0.08%	3.04%	4.95%	8.06%	0.0062%
ORACLE CORP	ORCL	201,767.11	0.91%	1.46%	8.77%	10.29%	0.0934%
O'REILLY AUTOMOTIVE INC	ORLY	18,956.15	0.09%	0.00%	15.32%	15.32%	0.0131%
OCCIDENTAL PETROLEUM CORP	OXY	49,093.24	0.22%	4.78%	-3.39%	1.31%	0.0029%
PAYCHEX INC	PAYX	21,503.37	0.10%	3.27%	7.70%	11.10%	0.0107%

		[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	6,250.49	0.03%	3.80%	2.00%	5.84%	0.0016%
PACCAR INC	PCAR	25,418.57	0.11%	2.47%	6.73%	9.28%	0.0106%
P G & E CORP	PCG	34,918.03	N/A	3.04%	N/A	N/A	N/A
PRICELINE GROUP INC/THE	PCLN	89,818.23	0.40%	0.00%	17.26%	17.26%	0.0697%
PATTERSON COS INC	PDCO	3,698.92	0.02%	2.80%	10.63%	13.58%	0.0023%
PUBLIC SERVICE ENTERPRISE GP	PEG	23,397.41	0.11%	3.72%	2.90%	6.67%	0.0070%
PEPSICO INC	PEP	158,844.63	0.71%	2.85%	6.06%	8.99%	0.0642%
PFIZER INC	PFE	212,320.36	0.96%	3.57%	8.43%	12.15%	0.1161%
PRINCIPAL FINANCIAL GROUP	PFG	18,591.73	0.08%	2.87%	10.40%	13.42%	0.0112%
PROCTER & GAMBLE CO/THE	PG	232,000.29	1.04%	3.10%	7.18%	10.39%	0.1084%
PROGRESSIVE CORP	PGR	28,134.36	0.13%	1.70%	11.83%	13.63%	0.0173%
PARKER HANNIFIN CORP	PH	23,312.67	0.10%	1.55%	11.88%	13.52%	0.0142%
PULTEGROUP INC	PHM	8,245.70	0.04%	1.20%	18.40%	19.71%	0.0073%
PACKAGING CORP OF AMERICA	PKG	10,820.23	0.05%	2.15%	8.25%	10.49%	0.0051%
PERKINELMER INC	PKI	7,601.50	0.03%	0.41%	10.42%	10.85%	0.0037%
PROLOGIS INC	PLD	33,605.86	0.15%	2.75%	6.21%	9.04%	0.0137%
PHILIP MORRIS INTERNATIONAL	PM	172,419.41	0.78%	3.81%	9.61%	13.60%	0.1055%
PNC FINANCIAL SERVICES GROUP	PNC	64,582.67	0.29%	1.93%	10.12%	12.14%	0.0353%
PENTAIR PLC	PNR	12,333.32	0.06%	2.05%	8.04%	10.18%	0.0056%
PINNACLE WEST CAPITAL	PNW	9,438.97	0.04%	3.14%	5.50%	8.73%	0.0037%
PPG INDUSTRIES INC	PPG	27,869.09	0.13%	1.56%	8.09%	9.71%	0.0122%
PPL CORP	PPL	25,836.03	N/A	4.16%	N/A	N/A	N/A
PERRIGO CO PLC	PRGO	12,072.03	0.05%	0.75%	5.97%	6.74%	0.0037%
PRUDENTIAL FINANCIAL INC	PRU	45,398.64	0.20%	2.86%	8.00%	10.97%	0.0224%
PUBLIC STORAGE	PSA	37,234.85	0.17%	3.77%	5.54%	9.40%	0.0158%
PHILLIPS 66	PSX	46,859.50	0.21%	2.99%	-3.74%	-0.81%	-0.0017%
PVH CORP	PVH	9,760.12	0.04%	0.15%	10.96%	11.11%	0.0049%
QUANTA SERVICES INC	PWR	5,798.71	0.03%	0.00%	8.00%	8.00%	0.0021%
PRAXAIR INC	PX	39,974.74	0.18%	2.27%	10.35%	12.74%	0.0229%
PIONEER NATURAL RESOURCES CO	PXD	25,096.19	0.11%	0.05%	20.00%	20.06%	0.0226%
PAYPAL HOLDINGS INC	PYPL	76,989.48	0.35%	0.00%	19.83%	19.83%	0.0687%
QUINTILES IMS HOLDINGS INC	Q	20,585.20	0.09%	0.00%	14.33%	14.33%	0.0133%
QUALCOMM INC	QCOM	76,519.30	0.34%	4.23%	8.75%	13.16%	0.0453%
QORVO INC	QRVO	8,995.28	0.04%	0.00%	13.18%	13.18%	0.0053%
ROYAL CARIBBEAN CRUISES LTD	RCL	25,499.26	0.11%	1.68%	19.10%	20.94%	0.0240%
EVEREST RE GROUP LTD	RE	9,378.55	0.04%	2.23%	10.00%	12.34%	0.0052%
REGENCY CENTERS CORP	REG	10,563.56	0.05%	3.40%	9.26%	12.82%	0.0061%
REGENERON PHARMACEUTICALS	REGN	47,909.90	0.22%	0.00%	18.00%	18.00%	0.0388%
REGIONS FINANCIAL CORP	RF	18,201.07	0.08%	2.08%	13.86%	16.09%	0.0132%
ROBERT HALF INTL INC	RHI	6,352.12	0.03%	1.90%	8.30%	10.28%	0.0029%
RED HAT INC	RHT	19,673.18	0.09%	0.00%	17.00%	17.00%	0.0150%
RAYMOND JAMES FINANCIAL INC	RJF	12,159.34	0.05%	1.03%	15.45%	16.56%	0.0091%
RALPH LAUREN CORP	RL	7,174.67	0.03%	2.34%	0.29%	2.63%	0.0009%
RESMED INC	RMD	10,951.44	0.05%	1.86%	11.56%	13.52%	0.0067%
ROCKWELL AUTOMATION INC	ROK	22,874.89	0.10%	1.73%	11.84%	13.67%	0.0141%
ROPER TECHNOLOGIES INC	ROP	24,880.27	0.11%	0.57%	12.93%	13.54%	0.0152%
ROSS STORES INC	ROST	24,897.68	0.11%	0.97%	13.60%	14.64%	0.0164%
RANGE RESOURCES CORP	RRC	4,855.95	0.02%	0.41%	-19.59%	-19.22%	-0.0042%
REPUBLIC SERVICES INC	RSG	22,246.52	0.10%	2.02%	11.46%	13.60%	0.0136%
RAYTHEON COMPANY	RTN	54,154.66	0.24%	1.70%	8.41%	10.18%	0.0248%
SBA COMMUNICATIONS CORP	SBAC	17,337.53	0.08%	0.00%	23.05%	23.05%	0.0180%
STARBUCKS CORP	SBUX	77,551.87	0.35%	1.89%	16.52%	18.57%	0.0648%
SCANA CORP	SCG	6,930.04	0.03%	5.05%	3.23%	8.37%	0.0026%
SCHWAB (CHARLES) CORP	SCHW	58,573.09	0.26%	0.73%	19.46%	20.25%	0.0534%
SEALED AIR CORP	SEE	8,118.14	0.04%	1.50%	8.12%	9.67%	0.0035%
SHERWIN-WILLIAMS CO/THE	SHW	33,444.58	0.15%	0.95%	10.99%	11.99%	0.0180%
SIGNET JEWELERS LTD	SIG	4,023.66	0.02%	1.84%	3.40%	5.27%	0.0010%
JM SMUCKER CO/THE	SJM	11,918.43	0.05%	3.00%	3.96%	7.02%	0.0038%
SCHLUMBERGER LTD	SLB	96,584.41	0.43%	2.88%	41.71%	45.19%	0.1963%
SL GREEN REALTY CORP	SLG	10,179.18	0.05%	3.08%	0.64%	3.73%	0.0017%
SNAP-ON INC	SNA	8,580.66	0.04%	2.30%	10.85%	13.27%	0.0051%
SCRIPPS NETWORKS INTER-CL A	SNI	11,149.62	0.05%	1.37%	8.53%	9.95%	0.0050%
SYNOPSYS INC	SNPS	12,099.44	0.05%	0.00%	9.12%	9.12%	0.0050%
SOUTHERN CO/THE	SO	49,114.15	0.22%	4.70%	2.00%	6.75%	0.0149%
SIMON PROPERTY GROUP INC	SPG	50,048.80	0.23%	4.41%	7.06%	11.62%	0.0262%
S&P GLOBAL INC	SPGI	40,171.67	0.18%	1.05%	10.00%	11.10%	0.0201%
STERICYCLE INC	SRCL	6,111.96	0.03%	0.15%	7.68%	7.83%	0.0022%
SEMPRA ENERGY	SRE	28,655.49	0.13%	2.88%	14.25%	17.33%	0.0223%
SUNTRUST BANKS INC	STI	28,685.77	0.13%	2.22%	9.42%	11.74%	0.0152%
STATE STREET CORP	STT	35,727.70	0.16%	1.67%	11.80%	13.57%	0.0218%
SEAGATE TECHNOLOGY	STX	9,547.33	0.04%	7.72%	8.73%	16.79%	0.0072%
CONSTELLATION BRANDS INC-A	STZ	38,922.45	0.18%	1.05%	16.36%	17.50%	0.0306%
STANLEY BLACK & DECKER INC	SWK	23,121.43	0.10%	1.59%	11.00%	12.68%	0.0132%
SKYWORKS SOLUTIONS INC	SWKS	18,723.12	0.08%	1.14%	13.59%	14.81%	0.0125%
SYNCHRONY FINANCIAL	SYF	24,695.16	0.11%	1.80%	8.09%	9.97%	0.0111%
STRYKER CORP	SYK	53,124.47	0.24%	1.21%	9.23%	10.49%	0.0251%
SYMANTEC CORP	SYM	20,163.06	0.09%	0.94%	13.14%	14.14%	0.0128%
SYSCO CORP	SYT	28,479.22	0.13%	2.52%	10.04%	12.69%	0.0163%
AT&T INC	T	240,503.80	1.08%	5.03%	5.25%	10.41%	0.1126%
MOLSON COORS BREWING CO -B	TAP	17,603.51	0.08%	2.03%	7.32%	9.42%	0.0075%
TRANSIGM GROUP INC	TDG	13,270.93	0.06%	0.00%	10.21%	10.21%	0.0061%
TE CONNECTIVITY LTD	TEL	29,352.08	0.13%	1.84%	6.87%	8.77%	0.0116%
TARGET CORP	TGT	32,233.14	0.14%	4.20%	-0.78%	3.41%	0.0049%
TIFFANY & CO	TIF	11,427.73	0.05%	2.07%	10.10%	12.28%	0.0063%
TJX COMPANIES INC	TJX	46,912.50	0.21%	1.65%	12.52%	14.28%	0.0301%
TORCHMARK CORP	TMK	9,316.09	0.04%	0.74%	8.00%	8.77%	0.0037%
THERMO FISHER SCIENTIFIC INC	TMO	75,719.21	0.34%	0.32%	13.00%	13.34%	0.0454%
TRIPADVISOR INC	TRIP	5,623.65	0.03%	0.00%	14.50%	14.50%	0.0037%
T ROWE PRICE GROUP INC	TROW	21,788.45	0.10%	2.52%	12.85%	15.53%	0.0152%
TRAVELERS COS INC/THE	TRV	33,809.03	0.15%	2.30%	11.58%	14.01%	0.0213%
TRACTOR SUPPLY COMPANY	TSCO	8,018.59	0.04%	1.65%	13.65%	15.41%	0.0056%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
TYSON FOODS INC-CL A	TSN	27,558.49	0.12%	1.26%	8.60%	9.92%	0.0123%
TOTAL SYSTEM SERVICES INC	TSS	12,067.59	0.05%	0.69%	11.14%	11.87%	0.0064%
TIME WARNER INC	TWX	79,685.75	0.36%	1.67%	8.30%	10.04%	0.0360%
TEXAS INSTRUMENTS INC	TXN	88,747.06	0.40%	2.27%	10.53%	12.92%	0.0516%
TEXTRON INC	TXT	14,262.78	0.06%	0.16%	8.78%	8.95%	0.0057%
UNDER ARMOUR INC-CLASS A	UAA	6,918.82	0.03%	0.00%	13.17%	13.17%	0.0041%
UNITED CONTINENTAL HOLDINGS	UAL	18,521.24	0.08%	0.00%	-0.23%	-0.23%	-0.0002%
UDR INC	UDR	10,175.81	0.05%	3.26%	6.13%	9.48%	0.0043%
UNIVERSAL HEALTH SERVICES-B	UHS	10,612.22	0.05%	0.23%	8.69%	8.93%	0.0043%
ULTA BEAUTY INC	ULTA	13,887.00	0.06%	0.00%	21.60%	21.60%	0.0135%
UNITEDHEALTH GROUP INC	UNH	189,359.52	0.85%	1.47%	12.15%	13.71%	0.1168%
UNUM GROUP	UNM	11,539.15	0.05%	1.68%	5.00%	6.72%	0.0035%
UNION PACIFIC CORP	UNP	92,820.64	0.42%	2.14%	11.63%	13.90%	0.0580%
UNITED PARCEL SERVICE-CL B	UPS	103,994.12	0.47%	2.76%	11.90%	14.83%	0.0694%
UNITED RENTALS INC	URI	11,729.09	0.05%	0.00%	14.17%	14.17%	0.0075%
US BANCORP	USB	89,643.75	0.40%	2.16%	12.13%	14.43%	0.0582%
UNITED TECHNOLOGIES CORP	UTX	92,721.54	0.42%	2.36%	8.72%	11.19%	0.0467%
VISA INC-CLASS A SHARES	V	240,659.19	1.08%	0.63%	16.76%	17.44%	0.1888%
VARIAN MEDICAL SYSTEMS INC	VAR	9,185.60	0.04%	0.00%	7.20%	7.20%	0.0030%
VF CORP	VFC	25,022.51	0.11%	2.69%	7.96%	10.75%	0.0121%
VIACOM INC-CLASS B	VIAB	11,633.81	0.05%	2.88%	2.96%	5.88%	0.0031%
VALERO ENERGY CORP	VLO	33,977.21	0.15%	3.64%	10.45%	14.28%	0.0218%
VULCAN MATERIALS CO	VMC	15,820.09	0.07%	0.84%	21.82%	22.75%	0.0162%
VORNADO REALTY TRUST	VNO	14,566.07	0.07%	3.31%	-0.83%	2.46%	0.0016%
VERISK ANALYTICS INC	VRSK	13,689.40	0.06%	0.00%	7.96%	7.96%	0.0049%
VERISIGN INC	VRSN	10,630.56	0.05%	0.00%	10.20%	10.20%	0.0049%
VERTEX PHARMACEUTICALS INC	VRTX	38,332.15	0.17%	0.00%	72.50%	72.50%	0.1250%
VENTAS INC	VTR	23,196.06	0.10%	4.80%	3.03%	7.91%	0.0083%
VERIZON COMMUNICATIONS INC	VZ	201,889.90	0.91%	4.72%	1.92%	6.69%	0.0607%
WATERS CORP	WAT	14,329.93	0.06%	0.00%	8.28%	8.28%	0.0053%
WALGREENS BOOTS ALLIANCE INC	WBA	82,632.85	0.37%	1.95%	9.03%	11.07%	0.0411%
WESTERN DIGITAL CORP	WDC	25,503.39	0.11%	2.33%	11.74%	14.21%	0.0163%
WEC ENERGY GROUP INC	WEC	19,811.90	0.09%	3.31%	5.55%	8.96%	0.0080%
WELLS FARGO & CO	WFC	273,761.55	1.23%	2.79%	11.46%	14.41%	0.1774%
WHIRLPOOL CORP	WHR	13,460.33	0.06%	2.29%	14.19%	16.65%	0.0101%
WILLIS TOWERS WATSON PLC	WLTW	20,711.37	0.09%	1.36%	10.00%	11.43%	0.0107%
WASTE MANAGEMENT INC	WM	34,441.60	0.15%	2.17%	10.22%	12.50%	0.0194%
WILLIAMS COS INC	WMB	24,807.79	N/A	4.00%	N/A	N/A	N/A
WAL-MART STORES INC	WMT	233,419.94	1.05%	2.62%	5.12%	7.81%	0.0820%
WESTROCK CO	WRK	14,409.45	0.06%	2.83%	9.67%	12.63%	0.0082%
WESTERN UNION CO	WU	8,908.70	0.04%	3.65%	8.00%	11.79%	0.0047%
WEYERHAEUSER CO	WY	25,622.57	0.12%	3.66%	7.40%	11.20%	0.0129%
WYNDHAM WORLDWIDE CORP	WYN	10,834.65	0.05%	2.22%	14.25%	16.63%	0.0081%
WYNN RESORTS LTD	WYNN	15,274.14	0.07%	1.37%	31.90%	33.48%	0.0230%
CIMAREX ENERGY CO	XEC	10,830.25	0.05%	0.28%	63.66%	64.03%	0.0312%
XCEL ENERGY INC	XEL	24,027.34	0.11%	3.04%	6.05%	9.19%	0.0099%
XL GROUP LTD	XL	10,175.89	0.05%	2.12%	9.00%	11.22%	0.0051%
XILINX INC	XLNX	17,608.45	0.08%	1.99%	8.37%	10.44%	0.0083%
EXXON MOBIL CORP	XOM	347,357.94	1.56%	3.73%	19.49%	23.59%	0.3685%
DENTSPLY SIRONA INC	XRAY	13,726.51	0.06%	0.58%	9.80%	10.40%	0.0064%
XEROX CORP	XRX	8,461.31	0.04%	3.06%	2.90%	6.00%	0.0023%
XYLEM INC	XYL	11,246.37	0.05%	1.15%	15.00%	16.24%	0.0082%
YUM! BRANDS INC	YUM	25,378.76	0.11%	1.75%	12.74%	14.60%	0.0167%
ZIMMER BIOMET HOLDINGS INC	ZBH	23,675.12	0.11%	0.82%	8.38%	9.23%	0.0098%
ZIONS BANCORPORATION	ZION	9,538.48	0.04%	0.93%	9.00%	9.97%	0.0043%
ZOETIS INC	ZTS	31,185.76	0.14%	0.66%	14.75%	15.46%	0.0217%
Total Market Capitalization:		22,230,344					13.83%

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
14.33%	2.77%	11.56%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
AGILENT TECHNOLOGIES INC	A	21,226.24	0.10%	0.80%	7.00%	7.83%	0.0082%
AMERICAN AIRLINES GROUP INC	AAL	22,573.87	0.11%	0.86%	1.50%	2.37%	0.0026%
ADVANCE AUTO PARTS INC	AAP	6,919.49	0.03%	0.26%	9.50%	9.77%	0.0033%
APPLE INC	AAPL	792,992.90	3.92%	1.72%	11.00%	12.81%	0.5024%
ABBVIE INC	ABBV	139,307.20	0.69%	2.93%	11.50%	14.60%	0.1005%
AMERISOURCEBERGEN CORP	ABC	17,606.12	0.09%	1.82%	8.00%	9.89%	0.0086%
ABBOTT LABORATORIES	ABT	89,356.70	0.44%	2.06%	8.50%	10.65%	0.0470%
ACCENTURE PLC-CL A	ACN	87,285.16	0.43%	1.95%	9.00%	11.04%	0.0476%
ADOBE SYSTEMS INC	ADBE	73,653.27	0.36%	0.00%	29.50%	29.50%	0.1074%
ANALOG DEVICES INC	ADI	30,972.35	0.15%	2.14%	16.00%	18.31%	0.0280%
ARCHER-DANIELS-MIDLAND CO	ADM	24,372.27	0.12%	2.96%	4.00%	7.02%	0.0085%
AUTOMATIC DATA PROCESSING	ADP	47,831.24	0.24%	2.25%	9.00%	11.35%	0.0268%
ALLIANCE DATA SYSTEMS CORP	ADS	11,977.46	0.06%	0.96%	11.00%	12.01%	0.0071%
AUTODESK INC	ADSK	24,613.07	N/A	0.00%	N/A	N/A	N/A
AMEREN CORPORATION	AEE	14,267.30	0.07%	3.10%	6.00%	9.19%	0.0065%
AMERICAN ELECTRIC POWER	AEP	35,141.75	0.17%	3.47%	4.00%	7.54%	0.0131%
AES CORP	AES	7,347.94	N/A	4.31%	N/A	N/A	N/A
AETNA INC	AET	50,940.82	0.25%	1.30%	9.00%	10.36%	0.0261%
AFLAC INC	AFL	33,117.40	0.16%	2.13%	4.00%	6.17%	0.0101%
ALLERGAN PLC	AGN	67,708.70	0.33%	1.38%	10.00%	11.45%	0.0383%
AMERICAN INTERNATIONAL GROUP	AIG	54,655.28	0.27%	2.12%	27.00%	29.41%	0.0795%
APARTMENT INVT & MGMT CO -A	AIV	-	N/A	3.21%	N/A	N/A	N/A
ASSURANT INC	AIZ	5,060.48	0.03%	2.27%	4.00%	6.32%	0.0016%
ARTHUR J GALLAGHER & CO	AJG	10,932.73	0.05%	2.57%	15.50%	18.27%	0.0099%
AKAMAI TECHNOLOGIES INC	AKAM	8,174.72	0.04%	0.00%	12.50%	12.50%	0.0051%
ALBEMARLE CORP	ALB	14,890.64	0.07%	0.95%	9.50%	10.50%	0.0077%
ALIGN TECHNOLOGY INC	ALGN	14,932.43	0.07%	0.00%	21.50%	21.50%	0.0159%
ALASKA AIR GROUP INC	ALK	9,005.92	0.04%	1.65%	10.00%	11.73%	0.0052%
ALLSTATE CORP	ALL	32,731.87	0.16%	1.63%	7.50%	9.19%	0.0149%
ALLEGION PLC	ALLE	7,927.98	0.04%	0.77%	10.00%	10.81%	0.0042%
ALEXION PHARMACEUTICALS INC	ALXN	32,014.08	0.16%	0.00%	23.50%	23.50%	0.0372%
APPLIED MATERIALS INC	AMAT	50,261.90	0.25%	0.98%	21.00%	22.08%	0.0549%
ADVANCED MICRO DEVICES	AMD	12,699.27	N/A	0.00%	N/A	N/A	N/A
AMETEK INC	AME	15,257.86	0.08%	0.55%	5.50%	6.07%	0.0046%
AFFILIATED MANAGERS GROUP	AMG	10,774.53	0.05%	0.43%	7.00%	7.45%	0.0040%
AMGEN INC	AMGN	136,377.90	0.67%	2.63%	8.00%	10.74%	0.0724%
AMERIPRISE FINANCIAL INC	AMP	21,361.91	0.11%	2.34%	11.50%	13.97%	0.0148%
AMERICAN TOWER CORP	AMT	59,826.99	0.30%	2.04%	10.50%	12.65%	0.0374%
AMAZON.COM INC	AMZN	463,032.00	2.29%	0.00%	56.00%	56.00%	1.2819%
ANDEAVOR	ANDV	16,459.91	0.08%	2.27%	5.50%	7.83%	0.0064%
ANSYS INC	ANSS	10,235.03	0.05%	0.00%	7.00%	7.00%	0.0035%
ANTHEM INC	ANTM	48,278.12	0.24%	1.53%	11.00%	12.61%	0.0301%
AON PLC	AON	37,061.16	0.18%	0.99%	9.50%	10.54%	0.0193%
SMITH (A.O.) CORP	AOS	10,179.80	0.05%	0.95%	11.50%	12.50%	0.0063%
APACHE CORP	APA	16,517.04	0.08%	2.31%	23.00%	25.58%	0.0209%
ANADARKO PETROLEUM CORP	APC	26,790.72	N/A	0.41%	N/A	N/A	N/A
AIR PRODUCTS & CHEMICALS INC	APD	32,922.40	0.16%	2.52%	9.00%	11.63%	0.0189%
AMPHENOL CORP-CL A	APH	25,394.70	0.13%	0.91%	8.50%	9.45%	0.0119%
ALEXANDRIA REAL ESTATE EQUIT	ARE	N/A	N/A	0.00%	N/A	N/A	N/A
ARCONIC INC	ARNC	11,815.22	N/A	0.90%	N/A	N/A	N/A
ACTIVISION BLIZZARD INC	ATVI	48,391.51	0.24%	0.47%	9.00%	9.49%	0.0227%
AVALONBAY COMMUNITIES INC	AVB	-	N/A	3.32%	N/A	N/A	N/A
BROADCOM LTD	AVGO	97,967.59	0.48%	1.70%	44.00%	46.07%	0.2231%
AVERY DENNISON CORP	AVY	8,734.70	0.04%	1.90%	8.50%	10.48%	0.0045%
AMERICAN WATER WORKS CO INC	AWK	14,581.44	0.07%	2.08%	8.50%	10.67%	0.0077%
AMERICAN EXPRESS CO	AXP	78,251.70	0.39%	1.45%	6.00%	7.49%	0.0290%
ACUITY BRANDS INC	AYI	6,754.94	0.03%	0.32%	16.50%	16.85%	0.0056%
AUTOZONE INC	AZO	15,583.51	0.08%	0.00%	11.50%	11.50%	0.0089%
BOEING CO/THE	BA	151,882.70	0.75%	2.46%	11.00%	13.60%	0.1021%
BANK OF AMERICA CORP	BAC	248,533.50	1.23%	1.91%	16.00%	18.06%	0.2219%
BAXTER INTERNATIONAL INC	BAX	34,515.54	0.17%	1.01%	4.00%	5.03%	0.0086%
BB&T CORP	BBT	36,558.13	0.18%	2.92%	5.50%	8.50%	0.0154%
BEST BUY CO INC	BBY	16,185.00	0.08%	2.52%	8.00%	10.62%	0.0085%
CR BARD INC	BCR	23,063.91	0.11%	0.34%	9.50%	9.86%	0.0112%
BECTON DICKINSON AND CO	BDX	43,592.35	0.22%	1.61%	9.00%	10.68%	0.0230%
FRANKLIN RESOURCES INC	BEN	23,757.94	0.12%	2.02%	5.00%	7.07%	0.0083%
BROWN-FORMAN CORP-CLASS B	BF/B	20,746.79	0.10%	1.37%	9.00%	10.43%	0.0107%
BRIGHTHOUSE FINANCIAL INC	BHF	N/A	N/A	0.00%	N/A	N/A	N/A
BAKER HUGHES A GE CO	BHGE	N/A	N/A	0.00%	N/A	N/A	N/A
BIOGEN INC	BIIB	66,607.43	0.33%	0.00%	7.00%	7.00%	0.0231%
BANK OF NEW YORK MELLON CORP	BK	54,158.04	0.27%	1.83%	8.50%	10.41%	0.0279%
BLACKROCK INC	BLK	69,874.27	0.35%	2.31%	8.50%	10.91%	0.0377%
BALL CORP	BLL	14,286.08	0.07%	0.98%	15.00%	16.05%	0.0113%
BRISTOL-MYERS SQUIBB CO	BMY	103,856.50	0.51%	2.46%	14.50%	17.14%	0.0880%
BERKSHIRE HATHAWAY INC-CL B	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
BOSTON SCIENTIFIC CORP	BSX	39,414.57	0.19%	0.00%	18.50%	18.50%	0.0360%
BORGWARNER INC	BWA	10,466.56	0.05%	1.13%	8.00%	9.18%	0.0047%
BOSTON PROPERTIES INC	BXP	-	N/A	2.44%	N/A	N/A	N/A
CITIGROUP INC	C	195,514.10	0.97%	1.78%	11.00%	12.88%	0.1245%
CA INC	CA	13,470.82	0.07%	3.21%	7.00%	10.32%	0.0069%

Company	Ticker	[4]	[5]	[6]	[7]	[8]	[9]
		Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
CONAGRA BRANDS INC	CAG	14,220.28	0.07%	2.39%	1.00%	3.40%	0.0024%
CARDINAL HEALTH INC	CAH	21,099.32	0.10%	2.82%	13.00%	16.00%	0.0167%
CATERPILLAR INC	CAT	73,747.52	0.36%	2.50%	10.00%	12.63%	0.0460%
CHUBB LTD	CB	66,525.36	0.33%	1.99%	8.00%	10.07%	0.0331%
CBRE GROUP INC - A	CBG	12,567.62	0.06%	0.00%	8.50%	8.50%	0.0053%
CBOE HOLDINGS INC	CBOE	11,983.68	0.06%	1.02%	12.50%	13.58%	0.0080%
CBS CORP-CLASS B NON VOTING	CBS	23,692.37	0.12%	1.23%	12.00%	13.30%	0.0156%
CROWN CASTLE INTL CORP	CCI	37,197.39	0.18%	4.02%	6.00%	10.14%	0.0186%
CARNIVAL CORP	CCL	46,661.80	0.23%	2.48%	12.50%	15.14%	0.0349%
CADENCE DESIGN SYS INC	CDNS	10,768.13	0.05%	0.00%	10.00%	10.00%	0.0053%
CELGENE CORP	CELG	112,450.30	0.56%	0.00%	25.00%	25.00%	0.1390%
CERNER CORP	CERN	23,036.23	0.11%	0.00%	9.50%	9.50%	0.0108%
CF INDUSTRIES HOLDINGS INC	CF	8,387.02	0.04%	3.48%	10.00%	13.65%	0.0057%
CITIZENS FINANCIAL GROUP	CFG	20,479.16	0.10%	1.99%	10.50%	12.59%	0.0128%
CHURCH & DWIGHT CO INC	CHD	12,087.78	0.06%	1.57%	7.00%	8.62%	0.0052%
CHESAPEAKE ENERGY CORP	CHK	3,776.52	N/A	0.00%	N/A	N/A	N/A
C.H. ROBINSON WORLDWIDE INC	CHRW	10,269.57	0.05%	2.47%	6.00%	8.54%	0.0043%
CHARTER COMMUNICATIONS INC-A	CHTR	93,116.76	0.46%	0.00%	26.00%	26.00%	0.1197%
CIGNA CORP	CI	45,856.33	0.23%	0.02%	12.00%	12.02%	0.0273%
CINCINNATI FINANCIAL CORP	CINF	12,387.56	0.06%	2.65%	6.50%	9.24%	0.0057%
COLGATE-PALMOLIVE CO	CL	62,865.69	0.31%	2.24%	11.00%	13.36%	0.0415%
CLOROX COMPANY	CLX	16,943.41	0.08%	2.56%	7.50%	10.16%	0.0085%
COMERICA INC	CMA	12,899.70	0.06%	1.64%	13.50%	15.25%	0.0097%
COMCAST CORP-CLASS A	CMCSA	176,610.10	0.87%	1.68%	11.00%	12.77%	0.1115%
CME GROUP INC	CME	45,314.84	0.22%	1.97%	8.50%	10.55%	0.0236%
CHIPOTLE MEXICAN GRILL INC	CMG	8,953.39	0.04%	0.00%	15.50%	15.50%	0.0069%
CUMMINS INC	CMI	27,902.05	0.14%	2.60%	7.50%	10.20%	0.0141%
CMS ENERGY CORP	CMS	13,252.09	0.07%	2.98%	6.50%	9.58%	0.0063%
CENTENE CORP	CNC	15,649.66	0.08%	0.00%	14.00%	14.00%	0.0108%
CENTERPOINT ENERGY INC	CNP	12,710.81	0.06%	3.73%	6.00%	9.84%	0.0062%
CAPITAL ONE FINANCIAL CORP	COF	39,459.68	0.20%	1.96%	4.00%	6.00%	0.0117%
CABOT OIL & GAS CORP	COG	12,214.44	N/A	0.76%	N/A	N/A	N/A
COACH INC	COH	11,134.37	0.06%	3.41%	9.50%	13.07%	0.0072%
ROCKWELL COLLINS INC	COL	21,185.12	0.10%	1.04%	8.00%	9.08%	0.0095%
COOPER COS INC/THE	COO	11,388.09	0.06%	0.03%	16.50%	16.53%	0.0093%
CONOCOPHILLIPS	COP	59,253.25	0.29%	2.22%	60.50%	63.39%	0.1857%
COSTCO WHOLESALE CORP	COST	70,837.89	0.35%	1.24%	9.00%	10.30%	0.0361%
COTY INC-CL A	COTY	11,962.21	0.06%	3.13%	6.00%	9.22%	0.0055%
CAMPBELL SOUP CO	CPB	14,748.18	0.07%	3.07%	5.00%	8.15%	0.0059%
SALESFORCE.COM INC	CRM	68,175.88	N/A	0.00%	N/A	N/A	N/A
CISCO SYSTEMS INC	CSCO	163,434.60	0.81%	3.55%	7.00%	10.67%	0.0862%
CSRA INC	CSRA	5,242.45	N/A	1.25%	N/A	N/A	N/A
CSX CORP	CSX	48,268.59	0.24%	1.51%	10.00%	11.59%	0.0276%
CINTAS CORP	CTAS	14,487.23	0.07%	1.06%	10.00%	12.12%	0.0087%
CENTURYLINK INC	CTL	10,164.75	0.05%	11.68%	6.50%	18.56%	0.0093%
COGNIZANT TECH SOLUTIONS-A	CTSH	42,397.40	0.21%	0.84%	12.00%	12.89%	0.0270%
CITRIX SYSTEMS INC	CTXS	11,533.84	0.06%	0.00%	5.50%	5.50%	0.0031%
CVS HEALTH CORP	CVS	80,753.40	0.40%	2.51%	9.00%	11.62%	0.0464%
CHEVRON CORP	CVX	220,711.00	1.09%	3.73%	15.00%	19.01%	0.2074%
CONCHO RESOURCES INC	CXO	18,783.71	0.09%	0.00%	24.50%	24.50%	0.0228%
DOMINION ENERGY INC	D	48,699.00	0.24%	4.14%	5.50%	9.75%	0.0235%
DELTA AIR LINES INC	DAL	34,869.29	0.17%	2.53%	10.50%	13.16%	0.0227%
DEERE & CO	DE	40,091.44	0.20%	1.92%	6.00%	7.98%	0.0158%
DISCOVER FINANCIAL SERVICES	DFS	22,697.36	0.11%	2.31%	5.00%	7.37%	0.0083%
DOLLAR GENERAL CORP	DG	20,978.10	0.10%	1.36%	9.50%	10.92%	0.0113%
QUEST DIAGNOSTICS INC	DGX	13,810.80	0.07%	1.77%	9.50%	11.35%	0.0078%
DR HORTON INC	DHI	13,793.90	0.07%	1.17%	12.00%	13.24%	0.0090%
DANAHER CORP	DHR	60,035.97	0.30%	0.65%	9.00%	9.68%	0.0287%
WALT DISNEY CO/THE	DIS	158,224.00	0.78%	1.58%	8.00%	9.64%	0.0754%
DISCOVERY COMMUNICATIONS-A	DISCA	8,090.95	0.04%	0.00%	13.50%	13.50%	0.0054%
DISH NETWORK CORP-A	DISH	24,820.41	0.12%	0.00%	2.50%	2.50%	0.0031%
DELPHI AUTOMOTIVE PLC	DLPH	26,961.92	0.13%	1.23%	13.50%	14.81%	0.0197%
DIGITAL REALTY TRUST INC	DLR	-	N/A	3.34%	N/A	N/A	N/A
DOLLAR TREE INC	DLTR	19,687.55	0.10%	0.00%	16.50%	16.50%	0.0161%
DOVER CORP	DOV	14,333.76	0.07%	2.04%	4.50%	6.59%	0.0047%
DR PEPPER SNAPPLE GROUP INC	DPS	16,308.33	0.08%	2.64%	7.00%	9.73%	0.0078%
DUKE REALTY CORP	DRE	-	0.00%	2.69%	33.50%	36.64%	0.0000%
DARDEN RESTAURANTS INC	DRI	10,415.72	0.05%	3.03%	11.00%	14.20%	0.0073%
DTE ENERGY COMPANY	DTE	19,557.54	0.10%	3.24%	6.00%	9.34%	0.0090%
DUKE ENERGY CORP	DUK	59,612.00	0.29%	4.23%	4.50%	8.83%	0.0260%
DAVITA INC	DVA	11,712.91	0.06%	0.00%	10.00%	10.00%	0.0058%
DEVON ENERGY CORP	DVN	18,594.10	0.09%	0.68%	15.00%	15.73%	0.0145%
DOWDUPONT INC	DWDP	N/A	N/A	0.00%	N/A	N/A	N/A
DXC TECHNOLOGY CO	DXC	11,976.01	0.06%	0.85%	18.00%	18.93%	0.0112%
ELECTRONIC ARTS INC	EA	36,468.18	0.18%	0.00%	12.00%	12.00%	0.0216%
EBAY INC	EBAY	41,004.00	0.20%	0.00%	9.50%	9.50%	0.0193%
ECOLAB INC	ECL	37,894.04	0.19%	1.13%	8.50%	9.68%	0.0181%
CONSOLIDATED EDISON INC	ED	25,223.58	0.12%	3.42%	2.50%	5.96%	0.0074%
EQUIFAX INC	EFX	11,829.30	0.06%	1.59%	10.50%	12.17%	0.0071%
EDISON INTERNATIONAL	EIX	25,628.29	0.13%	2.90%	4.00%	6.96%	0.0088%
ESTEE LAUDER COMPANIES-CL A	EL	40,259.37	0.20%	1.26%	11.50%	12.83%	0.0255%
EASTMAN CHEMICAL CO	EMN	12,426.24	0.06%	2.38%	10.00%	12.50%	0.0077%
EMERSON ELECTRIC CO	EMR	40,599.51	0.20%	3.04%	5.00%	8.12%	0.0163%
EOG RESOURCES INC	EOG	54,211.62	0.27%	0.77%	29.00%	29.88%	0.0801%
EQUINIX INC	EQIX	34,807.90	0.17%	1.79%	23.00%	25.00%	0.0430%
EQUITY RESIDENTIAL	EQR	-	N/A	3.08%	N/A	N/A	N/A
EQT CORP	EQT	11,065.20	0.05%	0.19%	20.50%	20.71%	0.0113%
EVERSOURCE ENERGY	ES	19,469.48	0.10%	3.22%	6.50%	9.82%	0.0095%
EXPRESS SCRIPTS HOLDING CO	ESRX	35,643.30	0.18%	0.00%	14.50%	14.50%	0.0256%
ESSEX PROPERTY TRUST INC	ESS	-	N/A	2.77%	N/A	N/A	N/A
E*TRADE FINANCIAL CORP	ETFC	11,491.76	0.06%	0.00%	14.00%	14.00%	0.0080%

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
EATON CORP PLC	ETN	34,721.09	0.17%	3.08%	7.00%	10.19%	0.0175%
ENERGY CORP	ETR	13,995.30	0.07%	4.57%	-3.50%	0.99%	0.0007%
ENVISION HEALTHCARE CORP	EVHC	5,306.75	N/A	0.00%	N/A	N/A	N/A
EDWARDS LIFESCIENCES CORP	EW	23,290.66	0.12%	0.00%	17.00%	17.00%	0.0196%
EXELON CORP	EXC	35,667.27	0.18%	3.58%	7.00%	10.71%	0.0189%
EXPEDITORS INTL WASH INC	EXPD	10,374.04	0.05%	1.46%	8.00%	9.52%	0.0049%
EXPEDIA INC	EXPE	21,718.32	0.11%	0.84%	23.00%	23.94%	0.0257%
EXTRA SPACE STORAGE INC	EXR	-	N/A	4.22%	N/A	N/A	N/A
FORD MOTOR CO	F	47,548.04	0.24%	5.12%	2.50%	7.68%	0.0181%
FASTENAL CO	FAST	12,812.14	0.06%	2.88%	4.00%	6.94%	0.0044%
FACEBOOK INC-A	FB	496,732.30	2.46%	0.00%	31.50%	31.50%	0.7736%
FORTUNE BRANDS HOME & SECURI	FBHS	9,993.77	0.05%	1.11%	12.00%	13.18%	0.0065%
FREEPORT-MCMORAN INC	FCX	22,046.46	N/A	0.00%	N/A	N/A	N/A
FEDEX CORP	FDX	58,509.67	0.29%	0.91%	12.50%	13.47%	0.0390%
FIRSTENERGY CORP	FE	13,840.07	0.07%	4.62%	9.00%	13.83%	0.0095%
F5 NETWORKS INC	FFIV	7,479.77	0.04%	0.00%	10.00%	10.00%	0.0037%
FIDELITY NATIONAL INFO SERV	FIS	30,783.04	0.15%	1.25%	10.00%	11.31%	0.0172%
FISERV INC	FISV	26,299.41	0.13%	0.00%	9.00%	9.00%	0.0117%
FIFTH THIRD BANCORP	FITB	20,348.56	0.10%	2.36%	5.00%	7.42%	0.0075%
FOOT LOCKER INC	FL	4,418.07	0.02%	3.68%	9.00%	12.85%	0.0028%
FLIR SYSTEMS INC	FLIR	5,418.48	0.03%	1.75%	7.50%	9.32%	0.0025%
FLUOR CORP	FLR	5,748.94	0.03%	2.04%	2.00%	4.06%	0.0012%
FLOWSERVE CORP	FLS	5,496.98	0.03%	1.80%	2.50%	4.32%	0.0012%
FMC CORP	FMC	12,130.54	0.06%	0.75%	7.50%	8.28%	0.0050%
TWENTY-FIRST CENTURY FOX-A	FOXA	49,528.88	0.24%	1.35%	9.50%	10.91%	0.0267%
FEDERAL REALTY INVS TRUST	FRT	-	N/A	3.31%	N/A	N/A	N/A
TECHNIPMFC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
FORTIVE CORP	FTV	24,265.71	N/A	0.40%	N/A	N/A	N/A
GENERAL DYNAMICS CORP	GD	61,605.32	0.30%	1.63%	5.50%	7.17%	0.0219%
GENERAL ELECTRIC CO	GE	214,284.20	1.06%	3.88%	14.00%	18.15%	0.1923%
GGP INC	GGP	-	N/A	4.63%	N/A	N/A	N/A
GILEAD SCIENCES INC	GILD	107,901.70	0.53%	2.52%	-3.50%	-1.02%	-0.0055%
GENERAL MILLS INC	GIS	29,819.96	0.15%	3.81%	5.00%	8.91%	0.0131%
CORNING INC	GLW	27,150.20	0.13%	2.13%	11.50%	13.75%	0.0185%
GENERAL MOTORS CO	GM	56,976.83	0.28%	3.99%	5.50%	9.60%	0.0270%
ALPHABET INC-CL A	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
GENUINE PARTS CO	GPC	12,678.86	0.06%	3.13%	7.00%	10.24%	0.0064%
GLOBAL PAYMENTS INC	GPN	14,697.34	0.07%	0.04%	12.00%	12.04%	0.0088%
GAP INC/THE	GPS	10,921.12	0.05%	3.30%	0.50%	3.81%	0.0021%
GARMIN LTD	GRMN	9,760.56	0.05%	3.98%	5.00%	9.08%	0.0044%
GOLDMAN SACHS GROUP INC	GS	89,789.79	0.44%	1.30%	9.50%	10.86%	0.0482%
GOODYEAR TIRE & RUBBER CO	GT	8,179.92	0.04%	1.36%	10.00%	11.43%	0.0046%
WW GRAINGER INC	GWV	10,129.96	0.05%	2.92%	4.50%	7.49%	0.0037%
HALLIBURTON CO	HAL	37,827.60	0.19%	1.66%	21.50%	23.34%	0.0436%
HASBRO INC	HAS	11,862.49	0.06%	2.40%	10.50%	13.03%	0.0076%
HUNTINGTON BANCSHARES INC	HBAN	14,606.21	0.07%	3.28%	10.00%	13.44%	0.0097%
HANESBRANDS INC	HBI	8,928.66	0.04%	2.45%	9.00%	11.56%	0.0051%
HCA HEALTHCARE INC	HCA	28,178.79	0.14%	0.00%	10.50%	10.50%	0.0146%
WELLTOWER INC	HCN	-	N/A	4.83%	N/A	N/A	N/A
HCP INC	HCP	-	N/A	5.25%	N/A	N/A	N/A
HOME DEPOT INC	HD	188,003.40	0.93%	2.51%	10.50%	13.14%	0.1221%
HESS CORP	HES	13,867.53	N/A	2.29%	N/A	N/A	N/A
HARTFORD FINANCIAL SVCS GRP	HIG	19,719.27	0.10%	1.69%	12.50%	14.30%	0.0139%
HILTON WORLDWIDE HOLDINGS INC	HLT	21,901.32	0.11%	0.89%	7.00%	7.92%	0.0086%
HARLEY-DAVIDSON INC	HOG	8,181.74	0.04%	3.04%	8.00%	11.16%	0.0045%
HOLOGIC INC	HOLX	10,516.96	0.05%	0.00%	27.00%	27.00%	0.0140%
HONEYWELL INTERNATIONAL INC	HON	107,133.70	0.53%	1.89%	8.50%	10.47%	0.0555%
HELMERICH & PAYNE	HP	5,475.79	0.03%	5.55%	8.00%	13.77%	0.0037%
HEWLETT PACKARD ENTERPRIS	HPE	22,394.96	0.11%	1.89%	1.50%	3.40%	0.0038%
HP INC	HPQ	33,015.90	N/A	2.83%	N/A	N/A	N/A
H&R BLOCK INC	HRB	5,479.38	0.03%	3.66%	8.00%	11.81%	0.0032%
HORMEL FOODS CORP	HRL	16,460.21	0.08%	2.24%	10.50%	12.86%	0.0105%
HARRIS CORP	HRS	15,678.58	0.08%	1.76%	10.50%	12.35%	0.0096%
HENRY SCHEIN INC	HSIC	12,563.50	0.06%	0.00%	8.50%	8.50%	0.0053%
HOST HOTELS & RESORTS INC	HST	-	N/A	4.43%	N/A	N/A	N/A
HERSHEY CO/THE	HSY	22,845.23	0.11%	2.44%	7.00%	9.53%	0.0108%
HUMANA INC	HUM	34,487.54	0.17%	0.67%	10.00%	10.70%	0.0182%
INTL BUSINESS MACHINES CORP	IBM	135,373.60	N/A	4.27%	N/A	N/A	N/A
INTERCONTINENTAL EXCHANGE INC	ICE	39,362.87	0.19%	1.20%	12.00%	13.27%	0.0258%
IDEXX LABORATORIES INC	IDXX	13,620.75	0.07%	0.00%	15.00%	15.00%	0.0101%
INTL FLAVORS & FRAGRANCES	IFF	11,354.38	0.06%	1.97%	7.50%	9.54%	0.0054%
ILLUMINA INC	ILMN	29,235.04	0.14%	0.00%	17.00%	17.00%	0.0246%
INCYTE CORP	INCY	23,657.85	0.12%	0.00%	69.50%	69.50%	0.0813%
IHS MARKIT LTD	INFO	19,229.32	0.10%	0.00%	17.50%	17.50%	0.0166%
INTEL CORP	INTC	174,802.80	0.86%	2.93%	7.50%	10.54%	0.0911%
INTUIT INC	INTU	37,026.14	0.18%	0.94%	13.00%	14.00%	0.0256%
INTERNATIONAL PAPER CO	IP	23,655.04	0.12%	3.23%	18.50%	22.03%	0.0258%
INTERPUBLIC GROUP OF COS INC	IPG	8,325.40	0.04%	3.45%	10.00%	13.62%	0.0056%
INGERSOLL-RAND PLC	IR	22,637.33	0.11%	2.02%	9.50%	11.62%	0.0130%
IRON MOUNTAIN INC	IRM	10,514.39	0.05%	5.53%	11.00%	16.83%	0.0088%
INTUITIVE SURGICAL INC	ISRG	38,220.79	0.19%	0.00%	14.00%	14.00%	0.0265%
GARTNER INC	IT	11,179.96	0.06%	0.00%	17.00%	17.00%	0.0094%
ILLINOIS TOOL WORKS	ITW	50,699.69	0.25%	2.12%	10.00%	12.23%	0.0306%
INVESCO LTD	IVZ	13,655.29	0.07%	3.46%	5.50%	9.06%	0.0061%
HUNT (JB) TRANSPRT SVCS INC	JBHT	11,454.56	0.06%	0.93%	9.00%	9.97%	0.0056%
JOHNSON CONTROLS INTERNATION	JCI	37,277.32	0.18%	2.50%	0.50%	3.01%	0.0055%
JACOBS ENGINEERING GROUP INC	JEC	6,904.53	0.03%	1.08%	8.00%	9.12%	0.0031%
JOHNSON & JOHNSON	JNJ	353,773.80	1.75%	2.61%	9.50%	12.23%	0.2140%
JUNIPER NETWORKS INC	JNPR	10,543.66	0.05%	1.59%	8.00%	9.65%	0.0050%
JPMORGAN CHASE & CO	JPM	334,407.20	1.65%	2.38%	5.50%	7.95%	0.1314%
NORDSTROM INC	JWN	7,691.74	0.04%	3.20%	2.00%	5.23%	0.0020%

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
KELLOGG CO	K	22,116.32	0.11%	3.38%	6.50%	9.99%	0.0109%
KEYCORP	KEY	19,942.49	0.10%	2.36%	11.50%	14.00%	0.0138%
KRAFT HEINZ CO/THE	KHC	96,248.63	N/A	3.19%	N/A	N/A	N/A
KIMCO REALTY CORP	KIM	-	N/A	5.87%	N/A	N/A	N/A
KLA-TENCOR CORP	KLAC	15,608.72	0.08%	2.37%	13.50%	16.03%	0.0124%
KIMBERLY-CLARK CORP	KMB	41,732.15	0.21%	3.29%	10.50%	13.96%	0.0288%
KINDER MORGAN INC	KMI	43,086.80	0.21%	2.59%	24.00%	26.90%	0.0573%
CARMAX INC	KMX	12,657.82	0.06%	0.00%	10.00%	10.00%	0.0063%
COCA-COLA CO/THE	KO	193,767.20	0.96%	3.35%	4.50%	7.93%	0.0759%
MICHAEL KORS HOLDINGS LTD	KORS	6,961.15	0.03%	0.00%	2.00%	2.00%	0.0007%
KROGER CO	KR	18,056.46	0.09%	2.47%	6.50%	9.05%	0.0081%
KOHL'S CORP	KSS	7,575.99	0.04%	4.90%	7.00%	12.07%	0.0045%
KANSAS CITY SOUTHERN	KSU	11,371.77	0.06%	1.33%	9.50%	10.89%	0.0061%
LOEWS CORP	L	16,059.23	0.08%	0.52%	14.50%	15.06%	0.0120%
L BRANDS INC	LB	10,547.68	0.05%	6.51%	0.50%	7.03%	0.0037%
LEGGETT & PLATT INC	LEG	6,077.17	0.03%	3.14%	7.50%	10.76%	0.0032%
LENNAR CORP-A	LEN	11,839.65	0.06%	0.32%	10.50%	10.84%	0.0063%
LABORATORY CRP OF AMER HLDGS	LH	15,696.78	0.08%	0.00%	9.00%	9.00%	0.0070%
LKQ CORP	LKQ	10,675.17	0.05%	0.00%	11.50%	11.50%	0.0061%
L3 TECHNOLOGIES INC	LLL	14,845.53	0.07%	1.58%	10.00%	11.66%	0.0086%
ELI LILLY & CO	LLY	91,745.41	0.45%	2.50%	11.00%	13.64%	0.0619%
LOCKHEED MARTIN CORP	LMT	88,704.11	0.44%	2.54%	10.00%	12.67%	0.0555%
LINCOLN NATIONAL CORP	LNC	16,074.40	0.08%	1.71%	7.00%	8.77%	0.0070%
ALLIANT ENERGY CORP	LNT	9,718.47	0.05%	3.00%	6.50%	9.60%	0.0046%
LOWE'S COS INC	LOW	65,319.47	0.32%	2.10%	13.50%	15.74%	0.0508%
LAM RESEARCH CORP	LRCX	28,248.58	0.14%	1.13%	20.50%	21.75%	0.0304%
LEUCADIA NATIONAL CORP	LUK	8,776.04	0.04%	1.64%	31.50%	33.40%	0.0145%
SOUTHWEST AIRLINES CO	LUV	32,699.60	0.16%	1.10%	12.00%	13.17%	0.0213%
LEVEL 3 COMMUNICATIONS INC	LVT	19,057.17	0.09%	0.00%	14.50%	14.50%	0.0137%
LYONDELLBASELL INDU-CL A	LYB	38,072.40	0.19%	3.76%	4.00%	7.84%	0.0147%
MACY'S INC	M	6,444.47	0.03%	7.14%	2.00%	9.21%	0.0029%
MASTERCARD INC - A	MA	151,215.20	0.75%	0.62%	12.50%	13.16%	0.0984%
MID-AMERICA APARTMENT COMM	MAA	N/A	N/A	0.00%	N/A	N/A	N/A
MACERICH CO/THE	MAC	-	N/A	5.54%	N/A	N/A	N/A
MARRIOTT INTERNATIONAL -CL A	MAR	40,061.22	0.20%	1.23%	15.00%	16.32%	0.0323%
MASCO CORP	MAS	11,896.89	0.06%	1.11%	14.00%	15.19%	0.0089%
MATTEL INC	MAT	5,140.50	0.03%	4.00%	11.50%	15.73%	0.0040%
MCDONALD'S CORP	MCD	128,814.30	0.64%	2.52%	9.50%	12.14%	0.0773%
MICROCHIP TECHNOLOGY INC	MCHP	20,568.32	0.10%	1.68%	13.00%	14.79%	0.0150%
MCKESSON CORP	MCK	32,039.70	0.16%	0.89%	11.00%	11.94%	0.0189%
MOODY'S CORP	MCO	26,105.07	0.13%	1.11%	8.50%	9.66%	0.0125%
MONDELEZ INTERNATIONAL INC-A	MDLZ	60,719.02	0.30%	1.99%	10.00%	12.09%	0.0363%
MEDTRONIC PLC	MDT	107,730.60	0.53%	2.31%	5.50%	7.87%	0.0419%
METLIFE INC	MET	53,651.86	0.27%	3.41%	7.00%	10.53%	0.0279%
MGM RESORTS INTERNATIONAL	MGM	19,009.80	0.09%	1.33%	41.50%	43.11%	0.0405%
MOHAWK INDUSTRIES INC	MHK	18,890.03	0.09%	0.00%	8.50%	8.50%	0.0079%
MCCORMICK & CO-NON VTG SHRS	MKC	12,067.22	0.06%	2.00%	7.50%	9.58%	0.0057%
MARTIN MARIETTA MATERIALS	MLM	12,555.43	0.06%	0.88%	17.50%	18.46%	0.0115%
MARSH & MCLENNAN COS	MMC	42,224.28	0.21%	1.82%	10.00%	11.91%	0.0249%
3M CO	MMM	125,583.60	0.62%	2.23%	8.00%	10.32%	0.0641%
MONSTER BEVERAGE CORP	MNST	31,570.48	0.16%	0.00%	12.00%	12.00%	0.0187%
ALTRIA GROUP INC	MO	118,128.80	0.58%	4.29%	9.50%	13.99%	0.0817%
MONSANTO CO	MON	52,445.25	0.26%	1.81%	8.00%	9.88%	0.0256%
MOSAIC CO/THE	MOS	7,350.99	0.04%	2.96%	3.00%	6.00%	0.0022%
MARATHON PETROLEUM CORP	MPC	27,511.22	0.14%	3.02%	5.50%	8.60%	0.0117%
MERCK & CO. INC.	MRK	178,899.70	0.88%	2.87%	5.50%	8.45%	0.0747%
MARATHON OIL CORP	MRO	10,820.50	N/A	1.57%	N/A	N/A	N/A
MORGAN STANLEY	MS	88,778.04	0.44%	2.07%	10.50%	12.68%	0.0556%
MICROSOFT CORP	MSFT	573,123.90	2.83%	2.26%	8.00%	10.35%	0.2933%
MOTOROLA SOLUTIONS INC	MSI	13,827.87	0.07%	2.41%	10.50%	13.04%	0.0089%
M & T BANK CORP	MTB	23,555.07	0.12%	1.94%	8.00%	10.02%	0.0117%
METTLER-TOLEDO INTERNATIONAL	MTD	16,207.03	0.08%	0.00%	11.00%	11.00%	0.0088%
MICRON TECHNOLOGY INC	MU	39,860.11	0.20%	0.00%	25.50%	25.50%	0.0503%
MYLAN NV	MYL	16,748.45	0.08%	0.00%	10.00%	10.00%	0.0083%
NAVIENT CORP	NAVI	3,844.22	0.02%	4.56%	6.00%	10.70%	0.0020%
NOBLE ENERGY INC	NBL	13,112.39	N/A	1.48%	N/A	N/A	N/A
NASDAQ INC	NDAQ	12,662.51	0.06%	2.00%	10.00%	12.10%	0.0076%
NEXTERA ENERGY INC	NEE	68,839.82	0.34%	2.86%	7.00%	9.96%	0.0339%
NEWMONT MINING CORP	NEM	19,960.37	0.10%	0.80%	0.50%	1.30%	0.0013%
NETFLIX INC	NFLX	81,505.77	0.40%	0.00%	44.50%	44.50%	0.1793%
NEWFIELD EXPLORATION CO	NFX	5,674.98	0.03%	0.00%	18.00%	18.00%	0.0051%
NISOURCE INC	NI	8,508.77	0.04%	2.68%	5.50%	8.25%	0.0035%
NIKE INC -CL B	NKE	87,869.88	0.43%	1.35%	15.50%	16.95%	0.0737%
NIELSEN HOLDINGS PLC	NLSN	14,448.50	N/A	3.36%	N/A	N/A	N/A
NORTHROP GRUMMAN CORP	NOC	48,835.42	0.24%	1.43%	8.00%	9.49%	0.0229%
NATIONAL OILWELL VARCO INC	NOV	13,377.83	0.07%	0.57%	3.00%	3.58%	0.0024%
NRG ENERGY INC	NRG	7,647.02	N/A	0.50%	N/A	N/A	N/A
NORFOLK SOUTHERN CORP	NSC	37,668.27	0.19%	1.87%	8.00%	9.94%	0.0185%
NETAPP INC	NTAP	11,302.20	0.06%	1.96%	12.50%	14.58%	0.0081%
NORTHERN TRUST CORP	NTRS	20,755.67	0.10%	1.85%	7.50%	9.42%	0.0097%
NUCOR CORP	NUE	17,411.91	0.09%	2.77%	20.50%	23.55%	0.0203%
NVIDIA CORP	NVDA	108,456.00	0.54%	0.31%	19.50%	19.84%	0.1064%
NEWELL BRANDS INC	NWL	20,051.43	0.10%	2.22%	23.50%	25.98%	0.0258%
NEWS CORP - CLASS A	NWSA	7,608.92	0.04%	1.53%	48.00%	49.90%	0.0188%
REALTY INCOME CORP	O	-	N/A	4.47%	N/A	N/A	N/A
ONEOK INC	OKE	20,923.07	0.10%	5.41%	22.00%	28.01%	0.0290%
OMNICOM GROUP	OMC	17,128.87	0.08%	3.10%	7.50%	10.72%	0.0091%
ORACLE CORP	ORCL	200,082.90	0.99%	1.58%	8.00%	9.64%	0.0954%
O'REILLY AUTOMOTIVE INC	ORLY	17,798.68	0.09%	0.00%	11.00%	11.00%	0.0097%
OCCIDENTAL PETROLEUM CORP	OXY	47,976.96	0.24%	4.94%	25.00%	30.56%	0.0725%
PAYCHEX INC	PAYX	20,901.85	0.10%	3.51%	8.50%	12.16%	0.0126%

		[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	5,994.26	0.03%	3.96%	10.50%	14.67%	0.0043%
PACCAR INC	PCAR	24,840.43	0.12%	2.33%	6.50%	8.91%	0.0109%
P G & E CORP	PCG	35,435.45	0.18%	3.14%	9.50%	12.79%	0.0224%
PRICELINE GROUP INC/THE	PCLN	91,557.54	0.45%	0.00%	15.50%	15.50%	0.0702%
PATTERSON COS INC	PDCO	3,552.50	0.02%	2.91%	13.00%	16.10%	0.0028%
PUBLIC SERVICE ENTERPRISE GP	PEG	23,341.10	0.12%	3.81%	1.00%	4.83%	0.0056%
PEPSICO INC	PEP	160,852.80	0.80%	2.90%	7.50%	10.51%	0.0836%
PFIZER INC	PFE	213,926.20	1.06%	3.56%	11.00%	14.76%	0.1561%
PRINCIPAL FINANCIAL GROUP	PFJ	18,161.60	0.09%	2.99%	4.50%	7.56%	0.0068%
PROCTER & GAMBLE CO/THE	PG	236,537.40	1.17%	2.98%	10.00%	13.13%	0.1535%
PROGRESSIVE CORP	PGR	27,702.08	0.14%	2.01%	8.00%	10.09%	0.0138%
PARKER HANNIFIN CORP	PH	23,428.22	0.12%	1.50%	7.50%	9.06%	0.0105%
PULTEGROUP INC	PHM	7,789.88	0.04%	1.48%	16.50%	18.10%	0.0070%
PACKAGING CORP OF AMERICA	PKG	11,214.72	0.06%	2.12%	8.50%	10.71%	0.0059%
PERKINELMER INC	PKI	7,515.37	0.04%	0.41%	8.00%	8.43%	0.0031%
PROLOGIS INC	PLD	-	N/A	2.74%	N/A	N/A	N/A
PHILIP MORRIS INTERNATIONAL	PM	175,385.90	0.87%	3.79%	7.50%	11.43%	0.0991%
PNC FINANCIAL SERVICES GROUP	PNC	64,008.00	0.32%	2.25%	5.50%	7.81%	0.0247%
PENTAIR PLC	PNR	12,119.17	0.06%	2.07%	11.50%	13.69%	0.0082%
PINNACLE WEST CAPITAL	PNW	9,724.60	0.05%	3.11%	5.50%	8.70%	0.0042%
PPG INDUSTRIES INC	PPG	27,953.76	0.14%	1.65%	10.50%	12.24%	0.0169%
PPL CORP	PPL	26,603.21	N/A	4.20%	N/A	N/A	N/A
FERRIGO CO PLC	PRGO	12,127.64	0.06%	0.79%	-0.50%	0.29%	0.0002%
PRUDENTIAL FINANCIAL INC	PRU	44,745.67	0.22%	2.86%	5.50%	8.44%	0.0187%
PUBLIC STORAGE	PSA	-	N/A	3.86%	N/A	N/A	N/A
PHILLIPS 66	PSX	45,596.09	0.23%	3.30%	5.00%	8.38%	0.0189%
PVH CORP	PVH	9,762.69	0.05%	0.12%	7.50%	7.62%	0.0037%
QUANTA SERVICES INC	PWR	5,650.80	0.03%	0.00%	15.00%	15.00%	0.0042%
PRAXAIR INC	PX	39,634.35	0.20%	2.41%	8.00%	10.51%	0.0206%
PIONEER NATURAL RESOURCES CO	PXD	24,155.48	0.12%	0.06%	38.50%	38.57%	0.0461%
PAYPAL HOLDINGS INC	PYPL	77,685.27	N/A	0.00%	N/A	N/A	N/A
QUINTILES IMS HOLDINGS INC	Q	20,389.21	0.10%	0.00%	12.00%	12.00%	0.0121%
QUALCOMM INC	QCOM	76,796.28	0.38%	4.38%	3.00%	7.45%	0.0283%
QORVO INC	QRVO	8,983.36	0.04%	0.00%	28.00%	28.00%	0.0124%
ROYAL CARIBBEAN CRUISES LTD	RCL	24,992.12	0.12%	2.07%	12.50%	14.70%	0.0182%
EVEREST RE GROUP LTD	RE	9,334.07	0.05%	2.33%	3.50%	5.87%	0.0027%
REGENCY CENTERS CORP	REG	N/A	N/A	0.00%	N/A	N/A	N/A
REGENERON PHARMACEUTICALS	REGN	45,603.71	0.23%	0.00%	23.00%	23.00%	0.0519%
REGIONS FINANCIAL CORP	RF	17,305.42	0.09%	2.70%	9.50%	12.33%	0.0105%
ROBERT HALF INTL INC	RHI	6,051.79	0.03%	2.09%	4.50%	6.64%	0.0020%
RED HAT INC	RHT	18,966.24	0.09%	0.00%	17.50%	17.50%	0.0164%
RAYMOND JAMES FINANCIAL INC	RJF	11,902.40	0.06%	1.06%	11.00%	12.12%	0.0071%
RALPH LAUREN CORP	RL	7,193.42	0.04%	2.26%	1.00%	3.27%	0.0012%
RESMED INC	RMD	10,962.74	0.05%	1.81%	8.50%	10.39%	0.0056%
ROCKWELL AUTOMATION INC	ROK	22,769.17	0.11%	1.81%	5.50%	7.36%	0.0083%
ROPER TECHNOLOGIES INC	ROP	25,203.36	0.12%	0.57%	7.00%	7.59%	0.0095%
ROSS STORES INC	ROST	23,486.41	0.12%	1.10%	8.50%	9.65%	0.0112%
RANGE RESOURCES CORP	RRC	4,664.58	0.02%	0.43%	28.00%	28.49%	0.0066%
REPUBLIC SERVICES INC	RSJ	22,292.55	0.11%	2.09%	8.50%	10.68%	0.0118%
RAYTHEON COMPANY	RTN	53,661.60	0.27%	1.72%	8.00%	9.79%	0.0260%
SBA COMMUNICATIONS CORP	SBAC	17,543.46	0.09%	0.00%	87.50%	87.50%	0.0759%
STARBUCKS CORP	SBUX	79,527.96	0.39%	2.18%	15.00%	17.34%	0.0682%
SCANA CORP	SCG	8,171.02	0.04%	4.43%	4.00%	8.52%	0.0034%
SCHWAB (CHARLES) CORP	SCHW	56,311.63	0.28%	0.76%	14.00%	14.81%	0.0412%
SEALED AIR CORP	SEE	8,065.21	0.04%	1.51%	12.00%	13.60%	0.0054%
SHERWIN-WILLIAMS CO/THE	SHW	32,657.07	0.16%	0.99%	13.50%	14.56%	0.0235%
SIGNET JEWELERS LTD	SIG	4,410.81	0.02%	1.98%	1.50%	3.49%	0.0008%
JM SMUCKER CO/THE	SJM	12,032.51	0.06%	2.95%	6.50%	9.55%	0.0057%
SCHLUMBERGER LTD	SLB	94,272.23	0.47%	2.94%	17.50%	20.70%	0.0965%
SL GREEN REALTY CORP	SLG	-	N/A	3.17%	N/A	N/A	N/A
SNAP-ON INC	SNA	8,555.83	0.04%	1.91%	8.50%	10.49%	0.0044%
SCRIPPS NETWORKS INTER-CL A	SNI	11,172.07	0.06%	1.39%	6.50%	7.94%	0.0044%
SYNOPSIS INC	SNPS	12,028.05	0.06%	0.00%	9.50%	9.50%	0.0056%
SOUTHERN CO/THE	SO	49,225.65	0.24%	4.79%	3.50%	8.37%	0.0204%
SIMON PROPERTY GROUP INC	SPG	-	N/A	4.51%	N/A	N/A	N/A
S&P GLOBAL INC	SPGI	40,027.75	0.20%	1.05%	11.50%	12.61%	0.0250%
STERICYCLE INC	SRCL	5,971.03	0.03%	0.00%	5.50%	5.50%	0.0016%
SEMPRA ENERGY	SRE	29,093.41	0.14%	2.96%	8.00%	11.08%	0.0159%
SUNTRUST BANKS INC	STI	27,458.53	0.14%	2.81%	7.00%	9.91%	0.0135%
STATE STREET CORP	STT	35,895.57	0.18%	1.79%	7.50%	9.36%	0.0166%
SEAGATE TECHNOLOGY	STX	9,547.70	0.05%	7.82%	4.50%	12.50%	0.0059%
CONSTELLATION BRANDS INC-A	STZ	39,252.37	0.19%	1.07%	13.00%	14.14%	0.0274%
STANLEY BLACK & DECKER INC	SWK	23,274.66	0.12%	1.66%	9.50%	11.24%	0.0129%
SKYWORX SOLUTIONS INC	SWKS	18,761.28	0.09%	1.25%	14.50%	15.84%	0.0147%
SYNCHRONY FINANCIAL	SYF	22,976.91	0.11%	2.08%	7.50%	9.66%	0.0110%
STRYKER CORP	SYK	52,610.59	0.26%	1.21%	14.00%	15.29%	0.0398%
SYMANTEC CORP	SYMC	20,187.14	0.10%	0.91%	10.50%	11.46%	0.0114%
SYSCO CORP	SYO	28,879.65	0.14%	2.56%	11.50%	14.21%	0.0203%
AT&T INC	T	234,662.50	1.16%	5.21%	5.50%	10.85%	0.1259%
MOLSON COORS BREWING CO -B	TAP	17,828.99	0.09%	2.11%	14.50%	16.76%	0.0148%
TRANSDIGM GROUP INC	TDG	13,712.18	0.07%	0.00%	12.00%	12.00%	0.0081%
TE CONNECTIVITY LTD	TEL	29,076.78	0.14%	1.95%	8.50%	10.53%	0.0151%
TARGET CORP	TGT	31,858.86	0.16%	4.25%	4.50%	8.85%	0.0139%
TIFFANY & CO	TIF	11,186.33	0.06%	2.28%	8.00%	10.37%	0.0057%
TJX COMPANIES INC	TJX	46,333.48	0.23%	1.72%	10.50%	12.31%	0.0282%
TORCHMARK CORP	TMK	9,143.77	0.05%	0.76%	7.50%	8.29%	0.0037%
THERMO FISHER SCIENTIFIC INC	TMO	73,307.45	0.36%	0.32%	9.00%	9.33%	0.0338%
TRIPADVISOR INC	TRIP	6,137.68	0.03%	0.00%	8.00%	8.00%	0.0024%
T ROWE PRICE GROUP INC	TROW	20,655.32	0.10%	2.72%	8.00%	10.83%	0.0111%
TRAVELERS COS INC/THE	TRV	33,519.09	0.17%	2.37%	1.00%	3.38%	0.0056%
TRACTOR SUPPLY COMPANY	TSCO	7,729.28	0.04%	1.78%	10.00%	11.87%	0.0045%

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Estimated Dividend Yield	[7] Long-Term Growth Est.	[8] DCF Result	[9] Weighted DCF Result
TYSON FOODS INC-CL A	TSN	23,453.47	0.12%	1.52%	9.50%	11.09%	0.0129%
TOTAL SYSTEM SERVICES INC	TSS	12,675.97	0.06%	0.76%	10.50%	11.30%	0.0071%
TIME WARNER INC	TWX	79,634.73	0.39%	1.57%	9.50%	11.14%	0.0439%
TEXAS INSTRUMENTS INC	TXN	85,337.25	0.42%	2.32%	9.50%	11.93%	0.0503%
TEXTRON INC	TXT	14,066.89	0.07%	0.15%	12.00%	12.16%	0.0085%
UNDER ARMOUR INC-CLASS A	UAA	7,270.82	0.04%	0.00%	14.00%	14.00%	0.0050%
UNITED CONTINENTAL HOLDINGS	UAL	17,852.23	0.09%	0.00%	4.50%	4.50%	0.0040%
UDR INC	UDR	-	N/A	3.25%	N/A	N/A	N/A
UNIVERSAL HEALTH SERVICES-B	UHS	10,372.09	0.05%	0.37%	9.50%	9.89%	0.0051%
ULTA BEAUTY INC	ULTA	13,545.87	0.07%	0.00%	21.00%	21.00%	0.0141%
UNITEDHEALTH GROUP INC	UNH	188,377.60	0.93%	1.54%	13.00%	14.64%	0.1363%
UNUM GROUP	UNM	11,311.88	0.06%	1.84%	10.50%	12.44%	0.0070%
UNION PACIFIC CORP	UNP	92,523.31	0.46%	2.10%	8.00%	10.18%	0.0466%
UNITED PARCEL SERVICE-CL B	UPS	101,429.90	0.50%	2.83%	10.00%	12.97%	0.0650%
UNITED RENTALS INC	URI	11,000.21	0.05%	0.00%	8.00%	8.00%	0.0044%
US BANCORP	USB	90,226.07	0.45%	2.23%	5.00%	7.29%	0.0325%
UNITED TECHNOLOGIES CORP	UTX	91,459.51	0.45%	2.45%	8.00%	10.55%	0.0477%
VISA INC-CLASS A SHARES	V	220,097.90	1.09%	0.71%	11.50%	12.25%	0.1333%
VARIAN MEDICAL SYSTEMS INC	VAR	9,594.57	0.05%	0.00%	7.00%	7.00%	0.0033%
VF CORP	VFC	24,326.16	0.12%	2.72%	8.50%	11.34%	0.0136%
VIACOM INC-CLASS B	VIAB	11,025.76	0.05%	2.92%	2.00%	4.95%	0.0027%
VALERO ENERGY CORP	VLO	32,425.34	0.16%	3.90%	5.00%	9.90%	0.0144%
VULCAN MATERIALS CO	VMC	15,465.18	0.08%	0.86%	20.50%	21.45%	0.0164%
VORNADO REALTY TRUST	VNO	14,329.24	0.07%	3.17%	14.50%	17.90%	0.0127%
VERISK ANALYTICS INC	VRSK	13,482.50	0.07%	0.00%	10.50%	10.50%	0.0070%
VERISIGN INC	VRSN	10,599.21	0.05%	0.00%	10.50%	10.50%	0.0055%
VERTEX PHARMACEUTICALS INC	VRTX	38,132.09	N/A	0.00%	N/A	N/A	N/A
VENTAS INC	VTR	-	N/A	4.81%	N/A	N/A	N/A
VERIZON COMMUNICATIONS INC	VZ	199,646.20	0.99%	4.82%	2.00%	6.87%	0.0678%
WATERS CORP	WAT	14,508.84	0.07%	0.00%	8.50%	8.50%	0.0061%
WALGREENS BOOTS ALLIANCE INC	WBA	83,681.51	0.41%	2.05%	11.00%	13.16%	0.0545%
WESTERN DIGITAL CORP	WDC	25,134.06	0.12%	2.52%	13.50%	16.19%	0.0201%
WEC ENERGY GROUP INC	WEC	20,282.13	0.10%	3.36%	6.00%	9.46%	0.0095%
WELLS FARGO & CO	WFC	268,503.60	1.33%	2.90%	5.00%	7.97%	0.1058%
WHIRLPOOL CORP	WHR	12,606.37	0.06%	2.55%	9.50%	12.17%	0.0076%
WILLIS TOWERS WATSON PLC	WLTW	20,382.42	N/A	1.40%	N/A	N/A	N/A
WASTE MANAGEMENT INC	WM	34,420.58	0.17%	2.17%	8.50%	10.76%	0.0183%
WILLIAMS COS INC	WMB	24,771.74	0.12%	4.00%	18.50%	22.87%	0.0280%
WAL-MART STORES INC	WMT	239,469.90	1.18%	2.55%	4.00%	6.60%	0.0781%
WESTROCK CO	WRK	14,627.18	N/A	2.78%	N/A	N/A	N/A
WESTERN UNION CO	WU	8,779.91	0.04%	3.70%	5.50%	9.30%	0.0040%
WEYERHAEUSER CO	WY	25,155.60	0.12%	3.71%	14.50%	18.48%	0.0230%
WYNDHAM WORLDWIDE CORP	WYNN	10,598.85	0.05%	2.25%	6.50%	8.82%	0.0046%
WYNN RESORTS LTD	WYNN	14,912.66	0.07%	1.38%	14.00%	15.48%	0.0114%
CIMAREX ENERGY CO	XEC	10,427.55	0.05%	0.29%	31.00%	31.33%	0.0162%
XCEL ENERGY INC	XEL	24,377.70	0.12%	3.08%	4.50%	7.65%	0.0092%
XL GROUP LTD	XL	10,579.48	0.05%	2.22%	13.00%	15.36%	0.0080%
XILINX INC	XLNX	17,131.16	0.08%	2.03%	8.00%	10.11%	0.0086%
EXXON MOBIL CORP	XOM	338,493.90	1.67%	3.86%	10.50%	14.56%	0.2437%
DENTSPLY SIRONA INC	XRAY	13,255.83	0.07%	0.61%	8.50%	9.14%	0.0060%
XEROX CORP	XRX	8,369.82	0.04%	3.04%	4.00%	7.10%	0.0029%
XYLEM INC	XYL	11,475.43	0.06%	1.13%	12.00%	13.20%	0.0075%
YUM! BRANDS INC	YUM	26,385.60	0.13%	1.69%	6.50%	8.24%	0.0108%
ZIMMER BIOMET HOLDINGS INC	ZBH	22,849.43	0.11%	0.96%	11.00%	12.01%	0.0136%
ZIONS BANCORPORATION	ZION	9,168.66	0.05%	1.59%	14.50%	16.21%	0.0073%
ZOETIS INC	ZTS	31,455.76	0.16%	0.65%	11.50%	12.19%	0.0190%
Total Market Capitalization:		20,227,489.89					14.33%

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]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.686	0.750
Alliant Energy Corporation	LNT	0.471	0.700
Black Hills Corporation	BKH	0.519	0.850
El Paso Electric Company	EE	0.728	0.750
Hawaiian Electric Industries, Inc.	HE	0.479	0.700
IDACORP, Inc.	IDA	0.707	0.700
Northwestern Corporation	NWE	0.595	0.650
OGE Energy Corp.	OGE	0.636	0.950
PNM Resources, Inc.	PNM	0.592	0.750
Mean		0.601	0.756

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line

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

[1]	[2]	[3]	[4]	[5]	[6]
Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT					
Current 30-Year Treasury [7]	0.601	11.06%	11.56%	9.42%	9.72%
Near-Term Projected 30-Year Treasury [8]	0.601	11.06%	11.56%	9.95%	10.25%
Mean				9.69%	9.99%

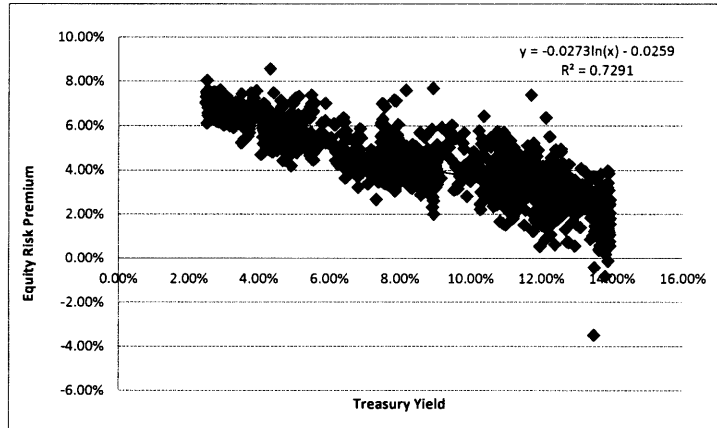
[1]	[2]	[3]	[4]	[5]	[6]
Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT					
Current 30-Year Treasury [7]	0.756	11.06%	11.56%	11.13%	11.51%
Near-Term Projected 30-Year Treasury [8]	0.756	11.06%	11.56%	11.65%	12.04%
Mean				11.39%	11.77%

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. 36, No. 10, October 1, 2017, at 2.

Bond Yield Plus Risk Premium

[1]	[2]	[3]	[4]	[5]	
Constant	Slope	30-Year Treasury Yield	Risk Premium	Return on Equity	
-2.59%	-2.73%				
		Current 30-Year Treasury	2.77%	7.19%	9.96%
		Near-Term Projected 30-Year Treasury	3.30%	6.72%	10.02%
		Long-Term Projected 30-Year Treasury	4.40%	5.93%	10.33%



Notes:

- [1] Constant of regression equation
- [2] Slope of regression equation
- [3] Source: Current = Bloomberg Professional,
 Near Term Projected = Blue Chip Financial Forecasts, Vol. 36, No. 10, October 1, 2017, at 2,
 Long Term Projected = Blue Chip Financial Forecasts, Vol. 36, No. 6, June 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] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
1/1/1980	14.50%	9.36%	5.14%
1/7/1980	14.39%	9.38%	5.01%
1/9/1980	15.00%	9.40%	5.60%
1/14/1980	15.17%	9.42%	5.75%
1/17/1980	13.93%	9.44%	4.49%
1/23/1980	15.50%	9.47%	6.03%
1/30/1980	13.86%	9.52%	4.34%
1/31/1980	12.61%	9.53%	3.08%
2/6/1980	13.71%	9.58%	4.13%
2/13/1980	12.80%	9.63%	3.17%
2/14/1980	13.00%	9.65%	3.35%
2/19/1980	13.50%	9.68%	3.82%
2/27/1980	13.75%	9.78%	3.97%
2/29/1980	13.75%	9.81%	3.94%
2/29/1980	14.00%	9.81%	4.19%
2/29/1980	14.77%	9.81%	4.96%
3/7/1980	12.70%	9.89%	2.81%
3/14/1980	13.50%	9.97%	3.53%
3/26/1980	14.16%	10.10%	4.06%
3/27/1980	14.24%	10.12%	4.12%
3/28/1980	14.50%	10.13%	4.37%
4/11/1980	12.75%	10.27%	2.48%
4/14/1980	13.85%	10.29%	3.56%
4/16/1980	15.50%	10.31%	5.19%
4/22/1980	13.25%	10.35%	2.90%
4/22/1980	13.90%	10.35%	3.55%
4/24/1980	16.80%	10.38%	6.43%
4/29/1980	15.50%	10.41%	5.09%
5/6/1980	13.70%	10.45%	3.25%
5/7/1980	15.00%	10.45%	4.55%
5/8/1980	13.75%	10.46%	3.29%
5/9/1980	14.35%	10.47%	3.88%
5/13/1980	13.60%	10.48%	3.12%
5/15/1980	13.25%	10.49%	2.76%
5/19/1980	13.75%	10.51%	3.24%
5/27/1980	13.62%	10.54%	3.08%
5/27/1980	14.60%	10.54%	4.06%
5/29/1980	16.00%	10.56%	5.44%
5/30/1980	13.80%	10.56%	3.24%
6/2/1980	15.63%	10.57%	5.06%
6/9/1980	15.90%	10.60%	5.30%
6/10/1980	13.78%	10.60%	3.18%
6/12/1980	14.25%	10.61%	3.64%
6/19/1980	13.40%	10.62%	2.78%
6/30/1980	13.00%	10.65%	2.35%
6/30/1980	13.40%	10.65%	2.75%
7/9/1980	14.75%	10.67%	4.08%
7/10/1980	15.00%	10.68%	4.32%
7/15/1980	15.80%	10.70%	5.10%
7/18/1980	13.80%	10.71%	3.09%
7/22/1980	14.10%	10.72%	3.38%
7/24/1980	15.00%	10.73%	4.27%
7/25/1980	13.48%	10.73%	2.75%
7/31/1980	14.58%	10.75%	3.83%
8/8/1980	13.50%	10.78%	2.72%
8/8/1980	14.00%	10.78%	3.22%
8/8/1980	15.45%	10.78%	4.67%
8/11/1980	14.85%	10.78%	4.07%
8/14/1980	14.00%	10.79%	3.21%
8/14/1980	16.25%	10.79%	5.46%
8/25/1980	13.75%	10.82%	2.93%
8/27/1980	13.80%	10.83%	2.97%
8/29/1980	12.50%	10.84%	1.66%
9/15/1980	13.50%	10.88%	2.62%
9/15/1980	13.93%	10.88%	3.05%
9/15/1980	15.80%	10.88%	4.92%
9/24/1980	12.50%	10.93%	1.57%
9/24/1980	15.00%	10.93%	4.07%

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

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

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

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

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

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

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

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

Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
8/14/1986	13.50%	8.35%	5.15%
9/16/1986	12.75%	8.06%	4.69%
9/19/1986	13.25%	8.03%	5.22%
10/1/1986	14.00%	7.95%	6.05%
10/3/1986	13.40%	7.93%	5.47%
10/31/1986	13.50%	7.77%	5.73%
11/5/1986	13.00%	7.75%	5.25%
12/3/1986	12.90%	7.58%	5.32%
12/4/1986	14.44%	7.58%	6.86%
12/16/1986	13.60%	7.52%	6.08%
12/22/1986	13.80%	7.51%	6.29%
12/30/1986	13.00%	7.49%	5.51%
1/2/1987	13.00%	7.49%	5.51%
1/12/1987	12.40%	7.47%	4.93%
1/27/1987	12.71%	7.46%	5.25%
3/2/1987	12.47%	7.47%	5.00%
3/3/1987	13.60%	7.47%	6.13%
3/4/1987	12.38%	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] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
3/24/1988	11.24%	8.92%	2.32%
3/30/1988	12.72%	8.92%	3.80%
4/1/1988	12.50%	8.92%	3.58%
4/7/1988	13.25%	8.93%	4.32%
4/25/1988	10.96%	8.96%	2.00%
5/3/1988	12.91%	8.97%	3.94%
5/11/1988	13.50%	8.99%	4.51%
5/16/1988	13.00%	8.99%	4.01%
6/30/1988	12.75%	9.00%	3.75%
7/1/1988	12.75%	8.99%	3.76%
7/20/1988	13.40%	8.96%	4.44%
8/5/1988	12.75%	8.92%	3.83%
8/23/1988	11.70%	8.93%	2.77%
8/29/1988	12.75%	8.94%	3.81%
8/30/1988	13.50%	8.94%	4.56%
9/8/1988	12.60%	8.95%	3.65%
10/13/1988	13.10%	8.93%	4.17%
12/19/1988	13.00%	9.02%	3.98%
12/20/1988	12.25%	9.02%	3.23%
12/20/1988	13.00%	9.02%	3.98%
12/21/1988	12.90%	9.02%	3.88%
12/27/1988	13.00%	9.03%	3.97%
12/28/1988	13.10%	9.03%	4.07%
12/30/1988	13.40%	9.04%	4.36%
1/27/1989	13.00%	9.05%	3.95%
1/31/1989	13.00%	9.05%	3.95%
2/17/1989	13.00%	9.05%	3.95%
2/20/1989	12.40%	9.05%	3.35%
3/1/1989	12.76%	9.05%	3.71%
3/8/1989	13.00%	9.05%	3.95%
3/30/1989	14.00%	9.05%	4.95%
4/5/1989	14.20%	9.05%	5.15%
4/18/1989	13.00%	9.05%	3.95%
5/5/1989	12.40%	9.05%	3.35%
6/2/1989	13.20%	9.00%	4.20%
6/8/1989	13.50%	8.98%	4.52%
6/27/1989	13.25%	8.91%	4.34%
6/30/1989	13.00%	8.90%	4.10%
8/14/1989	12.50%	8.77%	3.73%
9/28/1989	12.25%	8.63%	3.62%
10/24/1989	12.50%	8.54%	3.96%
11/9/1989	13.00%	8.49%	4.51%
12/15/1989	13.00%	8.34%	4.66%
12/20/1989	12.90%	8.32%	4.58%
12/21/1989	12.90%	8.31%	4.59%
12/27/1989	12.50%	8.29%	4.21%
12/27/1989	13.00%	8.29%	4.71%
1/10/1990	12.80%	8.24%	4.56%
1/11/1990	12.90%	8.24%	4.66%
1/17/1990	12.80%	8.22%	4.58%
1/26/1990	12.00%	8.20%	3.80%
2/9/1990	12.10%	8.17%	3.93%
2/24/1990	12.86%	8.15%	4.71%
3/30/1990	12.90%	8.16%	4.74%
4/4/1990	15.76%	8.17%	7.59%
4/12/1990	12.52%	8.18%	4.34%
4/19/1990	12.75%	8.20%	4.55%
5/21/1990	12.10%	8.28%	3.82%
5/29/1990	12.40%	8.30%	4.10%
5/31/1990	12.00%	8.30%	3.70%
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.33%	4.17%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%

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

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

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

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

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

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

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

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

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

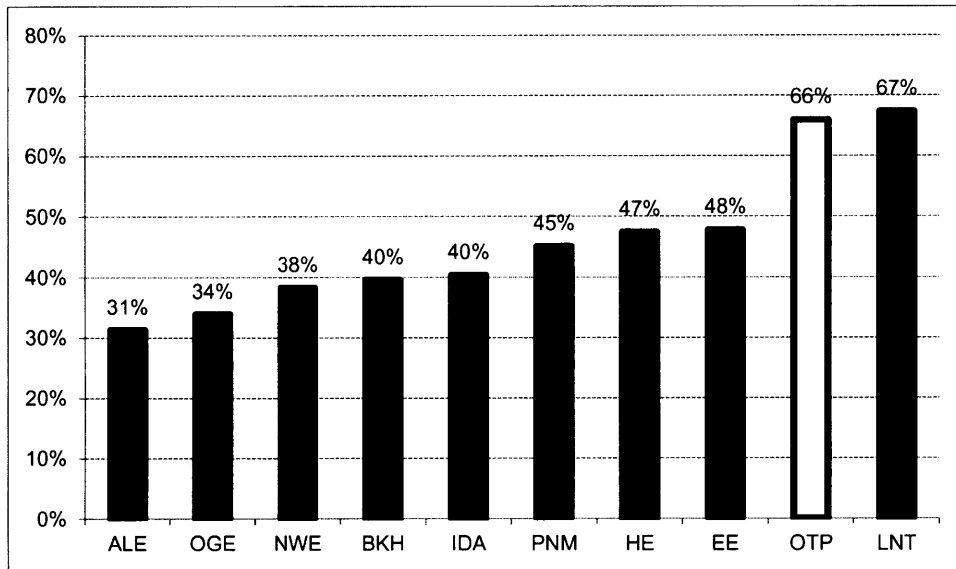
Bond Yield Plus Risk Premium			
[6] Date of Electric Rate Case	[7] Return on Equity	[8] 30-Year Treasury Yield	[9] Risk Premium
12/13/2012	9.50%	2.88%	6.62%
12/13/2012	10.50%	2.88%	7.62%
12/14/2012	10.40%	2.88%	7.52%
12/19/2012	9.71%	2.87%	6.84%
12/19/2012	10.25%	2.87%	7.38%
12/20/2012	9.50%	2.87%	6.63%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

of Cases: 1522
 Average: 4.58%

Capital Expenditures Relative to Net Plant



Company	Ticker	5-Year CAPEX / 2016 Net Plant [1]
ALLETE, Inc.	ALE	31.29%
Alliant Energy Corporation	LNT	67.33%
Black Hills Corporation	BKH	39.54%
El Paso Electric Company	EE	47.81%
Hawaiian Electric Industries, Inc.	HE	47.43%
IDACORP, Inc.	IDA	40.37%
Northwestern Corporation	NWE	38.28%
OGE Energy Corp.	OGE	33.87%
PNM Resources, Inc.	PNM	45.10%
Median		43.45%
Otter Tail Power Company [2]		65.94%

Notes:

[1] Source: Value Line; Value Line estimates 2017, 2018 and 2020-2022 CAPEX

[2] Source: Company provided data and SNL Financial

Small Size Premium and Service Area Comparability

		[1]	[2]	[3]	[4]			
		Customers (Mil)	Service Area (Sq. Miles)	Customer Density (cust./sq. mi.)	Market Cap (\$Bil)			
Otter Tail Power Company		0.13	33,727	3.89	\$0.186			
Median Market to Book for Proxy Group					2.06			
OTP Implied Market Cap					\$0.382			

		[5]	[6]	[7]	[8]	[9]	[10]
Company Name	Ticker	Customers (Mil)	Service Area (Sq. Miles)	Customer Density (Cust./Sq. mi.)	Market Cap (\$Bil)	Market to Book Ratio	Included in Proxy Group
ALLETE, Inc.	ALE	0.16	2,437	65.79	\$3.94	1.96	✓
Alliant Energy Corporation	LNT	0.95	18,499	51.59	\$9.83	2.43	✓
Ameren Corporation	AEE	2.43	26,553	91.65	\$14.44	2.02	
American Electric Power Company, Inc.	AEP	4.35	112,433	38.69	\$35.74	2.00	
Black Hills Corporation	BKH	0.21	18,830	11.06	\$3.72	2.22	✓
CMS Energy Corporation	CMS	1.80	28,175	64.05	\$13.48	3.03	
Dominion Resources, Inc.	D	2.55	13,239	192.61	\$50.46	3.30	
DTE Energy Company	DTE	2.17	7,775	279.03	\$19.88	2.19	
Duke Energy Corporation	DUK	7.45	99,739	74.68	\$60.49	1.47	
El Paso Electric Company	EE	0.41	7,012	58.26	\$2.24	2.06	✓
Hawaiian Electric Industries, Inc.	HE	0.46	5,800	79.15	\$3.65	1.76	✓
IDACORP, Inc.	IDA	0.53	28,944	18.31	\$4.49	2.06	✓
Northwestern Corporation	NWE	0.43	100,767	4.23	\$2.87	1.68	✓
OGE Energy Corp.	OGE	0.83	27,304	30.40	\$7.20	2.06	✓
Pinnacle West Capital Corporation	PNW	1.19	3,014	396.04	\$9.89	2.03	
PNM Resources, Inc.	PNM	0.76	7,212	105.93	\$3.35	1.94	✓
Portland General Electric Company	POR	0.86	3,074	279.55	\$4.17	1.74	
Southern Company	SO	4.58	118,840	38.53	\$49.02	2.10	
WEC Energy Group, Inc.	WEC	1.59	11,910	133.75	\$20.50	2.24	
Xcel Energy Inc.	XEL	3.54	56,639	62.54	\$24.83	2.23	
ALL COMPANIES - MEAN		1.1	18,665	64.92	\$9.86	2.06	
ALL COMPANIES - MEDIAN		1.9	34,910	103.79	\$17.21	2.13	
PROXY COMPANIES - MEAN		0.5	24,090	47.19	\$4.59	2.02	
PROXY COMPANIES - MEDIAN		0.5	18,499	51.59	\$3.72	2.06	

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: SNL Financial
- [2] Source: SNL Financial
- [3] Equals [1] / [2]
- [4] Proposed Rate Base x Equity ratio
- [5] Source: SNL Financial
- [6] Source: SNL Financial
- [7] Equals [5] / [6]
- [8] Source: SNL Financial, 30-day average
- [9] Source: SNL Financial, 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]	[2]
		C&I Revenue	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: SNL Financial

Institutional Ownership as a Percentage of Total Shares Outstanding

<u>Company</u>	<u>Ticker</u>	<u>Institutional Ownership</u>
ALLETE, Inc.	ALE	77.85%
Alliant Energy Corporation	LNT	72.38%
Black Hills Corporation	BKH	111.21%
El Paso Electric Company	EE	104.04%
Hawaiian Electric Industries, Inc.	HE	52.79%
IDACORP, Inc.	IDA	78.92%
Northwestern Corporation	NWE	107.45%
OGE Energy Corp.	OGE	67.07%
PNM Resources, Inc.	PNM	110.26%
Average		86.89%
<u>Otter Tail Corporation</u>	<u>OTTR</u>	<u>51.94%</u>

Source: Bloomberg Professional as of September 29, 2017

Proxy Group Capital Structure

Company	Ticker	% Common Equity								Average
		2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	
ALLETE, Inc.	ALE	60.62%	60.28%	59.02%	59.28%	59.08%	58.83%	58.04%	58.01%	59.14%
Alliant Energy Corporation	LNT	49.72%	50.12%	50.34%	50.60%	50.88%	51.46%	51.09%	51.27%	50.68%
Black Hills Corporation	BKH	53.84%	53.20%	52.81%	52.73%	52.55%	52.57%	52.51%	52.06%	52.78%
El Paso Electric Company	EE	45.25%	45.60%	46.83%	47.33%	44.87%	44.93%	47.39%	47.97%	46.27%
Hawaiian Electric Industries, Inc.	HE	56.96%	57.68%	57.70%	57.60%	56.98%	57.27%	57.48%	56.88%	57.32%
IDACORP, Inc.	IDA	53.48%	53.22%	52.84%	53.15%	52.46%	50.70%	52.34%	52.25%	52.56%
Northwestern Corporation	NWE	44.74%	45.64%	44.30%	44.83%	44.33%	45.37%	44.30%	43.16%	44.59%
OGE Energy Corp.	OGE	52.75%	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.38%	54.74%
PNM Resources, Inc.	PNM	46.32%	46.13%	45.11%	45.44%	43.06%	43.57%	45.32%	44.76%	44.96%
Mean		51.52%	51.70%	51.67%	51.91%	51.08%	51.10%	51.42%	51.19%	51.45%
Median		52.75%	53.20%	52.81%	52.73%	52.46%	51.46%	52.34%	52.06%	52.56%

Operating Company Capital Structure

Operating Company	Parent	% Common Equity								Average
		2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	
ALLETE (Minnesota Power)	ALE	59.16%	58.71%	56.92%	56.90%	56.63%	56.60%	55.86%	55.62%	57.05%
Superior Water, Light and Power Company	ALE	62.08%	61.85%	61.12%	61.65%	61.52%	61.06%	60.23%	60.40%	61.24%
Interstate Power and Light Company	LNT	50.89%	50.12%	50.24%	48.99%	50.54%	51.52%	50.91%	50.90%	50.51%
Wisconsin Power and Light Company	LNT	48.55%	50.12%	50.44%	52.20%	51.22%	51.40%	51.27%	51.63%	50.85%
Black Hills Colorado Electric Utility Company, LP	BKH	55.01%	53.08%	52.20%	51.85%	51.39%	51.06%	50.85%	49.16%	51.82%
Black Hills Power, Inc.	BKH	53.26%	53.24%	52.88%	53.13%	53.13%	53.27%	53.35%	53.22%	53.18%
Cheyenne Light, Fuel and Power Company	BKH	53.27%	53.29%	53.35%	53.22%	53.14%	53.36%	53.32%	53.80%	53.34%
El Paso Electric Company	EE	45.25%	45.60%	46.83%	47.33%	44.87%	44.93%	47.39%	47.97%	46.27%
Hawaiian Electric Company, Inc.	HE	56.96%	57.68%	57.70%	57.60%	56.98%	57.27%	57.48%	56.88%	57.32%
Idaho Power Co.	IDA	53.48%	53.22%	52.84%	53.15%	52.46%	50.70%	52.34%	52.25%	52.56%
NorthWestern Corporation	NWE	44.74%	45.64%	44.30%	44.83%	44.33%	45.37%	44.30%	43.16%	44.59%
Oklahoma Gas and Electric Company	OGE	52.75%	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.38%	54.74%
Public Service Company of New Mexico	PNM	46.32%	46.13%	45.11%	45.44%	43.06%	43.57%	45.32%	44.76%	44.96%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mean		52.44%	52.47%	52.31%	52.50%	51.91%	51.94%	52.07%	51.86%	52.19%
Median		53.26%	53.22%	52.84%	53.13%	52.46%	51.52%	52.34%	52.25%	52.56%

Source: SNL Financial

Proxy Group Capital Structure

Company	Ticker	% Long-Term Debt								Average
		2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	
ALLETE, Inc.	ALE	39.38%	39.72%	40.98%	40.72%	40.92%	41.17%	41.96%	41.99%	40.86%
Alliant Energy Corporation	LNT	47.36%	48.48%	48.91%	49.24%	48.47%	48.18%	48.62%	48.73%	48.50%
Black Hills Corporation	BKH	46.16%	46.80%	47.19%	47.27%	47.45%	47.43%	47.49%	47.94%	47.22%
El Paso Electric Company	EE	49.01%	50.44%	51.29%	51.84%	52.20%	52.86%	47.66%	48.09%	50.42%
Hawaiian Electric Industries, Inc.	HE	41.65%	42.27%	42.30%	41.71%	41.81%	42.30%	42.52%	39.97%	41.82%
IDACORP, Inc.	IDA	46.52%	46.78%	46.58%	46.85%	47.54%	49.30%	47.66%	47.75%	47.37%
Northwestern Corporation	NWE	47.31%	48.24%	47.75%	49.12%	48.67%	50.08%	49.34%	50.64%	48.89%
OGE Energy Corp.	OGE	47.25%	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.62%	45.26%
PNM Resources, Inc.	PNM	52.47%	53.34%	52.92%	53.19%	52.88%	52.51%	54.68%	55.24%	53.40%
Mean		46.34%	46.96%	46.87%	47.08%	47.16%	47.63%	47.29%	47.33%	47.08%
Median		47.25%	46.80%	47.19%	47.27%	47.54%	48.18%	47.66%	47.94%	47.37%

Operating Company Capital Structure

Operating Company	Parent	% Long-Term Debt								Average
		2017Q2	2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	
ALLETE (Minnesota Power)	ALE	40.84%	41.29%	43.08%	43.10%	43.37%	43.40%	44.14%	44.38%	42.95%
Superior Water, Light and Power Company	ALE	37.92%	38.15%	38.88%	38.35%	38.48%	38.94%	39.77%	39.60%	38.76%
Interstate Power and Light Company	LNT	49.11%	49.67%	49.76%	51.01%	49.46%	48.48%	49.09%	49.10%	49.46%
Wisconsin Power and Light Company	LNT	45.62%	47.29%	48.05%	47.46%	47.48%	47.87%	48.16%	48.37%	47.54%
Black Hills Colorado Electric Utility Company, LP	BKH	44.99%	46.92%	47.80%	48.15%	48.61%	48.94%	49.15%	50.84%	48.18%
Black Hills Power, Inc.	BKH	46.74%	46.76%	47.12%	46.87%	46.87%	46.73%	46.65%	46.78%	46.82%
Cheyenne Light, Fuel and Power Company	BKH	46.73%	46.71%	46.65%	46.78%	46.86%	46.64%	46.68%	46.20%	46.66%
El Paso Electric Company	EE	49.01%	50.44%	51.29%	51.84%	52.20%	52.86%	47.66%	48.09%	50.42%
Hawaiian Electric Company, Inc.	HE	41.65%	42.27%	42.30%	41.71%	41.81%	42.30%	42.52%	39.97%	41.82%
Idaho Power Co.	IDA	46.52%	46.78%	46.58%	46.85%	47.54%	49.30%	47.66%	47.75%	47.37%
NorthWestern Corporation	NWE	47.31%	48.24%	47.75%	49.12%	48.67%	50.08%	49.34%	50.64%	48.89%
Oklahoma Gas and Electric Company	OGE	47.25%	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.62%	45.26%
Public Service Company of New Mexico	PNM	52.47%	53.34%	52.92%	53.19%	52.88%	52.51%	54.68%	55.24%	53.40%
Texas-New Mexico Power Company	PNM	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mean		45.86%	46.49%	46.62%	46.79%	46.83%	47.14%	47.02%	47.12%	46.73%
Median		46.73%	46.78%	47.12%	46.87%	47.48%	47.87%	47.66%	47.75%	47.37%



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				
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.	03/15	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	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	07/16	Potomac Electric Power Company	Formal Case No. FC1139	Return on Equity
Washington Gas Light Company	02/16	Washington Gas Light Company	Formal Case No. FC1137	Return on Equity
Potomac Electric Power Company	03/13	Potomac Electric Power Company	Formal Case No. FC1103-2013-E	Return on Equity
Potomac Electric Power Company	07/11	Potomac Electric Power Company	Formal Case No. FC1087	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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Illinois Commerce Commission				
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	03/14	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				
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				
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
Potomac Electric Power Company	06/16	Potomac Electric Power 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

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 Unittel	06/15	Fitchburg Gas and Electric Light Company d/b/a Unittel	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 Unittel	07/13	Fitchburg Gas and Electric Light Company d/b/a Unittel	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
Ofter Tail Power Corporation	02/16	Ofter 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
Ofter Tail Power Corporation	04/10	Ofter 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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
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-JUN-334	Return on Equity
Missouri Public Service Commission				
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 Rate-making 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 Ameren/UE	09/10	Union Electric Company d/b/a Ameren/UE	Case No. ER-2011-0028	Return on Equity (electric)
Union Electric Company d/b/a Ameren/UE	06/10	Union Electric Company d/b/a Ameren/UE	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 16-363	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



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Atlantic City Electric Company	03/16	Atlantic City Electric Company	Docket No. ER16030252	Return on Equity
Pepco Holdings, Inc.	04/14	Atlantic City Electric Company	Docket No. ER14030245	Return on Equity
Orange and Rockland Utilities	11/13	Rockland Electric Company	Docket No. ER1311135	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)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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)
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	11/08	Otter Tail Power Company	Docket No. 08-862	Return on Equity (electric)



scottmadden
MANAGEMENT CONSULTANTS

Attachment
Resume of:
Robert B. Hevert
Partner

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
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	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				
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)



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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 Public Service Company	12/16	Southwestern Public Service Company	Docket No. 46449	Return on Equity (electric)
Sharyland Utilities, L.P.	12/16	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				
Atmos Pipeline - Texas	01/17	Atmos Pipeline - Texas	Docket No. 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	D-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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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	GUID 10182	Return on Equity
Atmos Energy Corporation – West Texas Division	06/12	Atmos Energy Corporation – West Texas Division	GUID 10175	Return on Equity
Atmos Energy Corporation – Mid-Texas Division	06/12	Atmos Energy Corporation – Mid-Texas Division	GUID 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	GUID 10038	Return on Equity
Atmos Pipeline – Texas	09/10	Atmos Pipeline - Texas	GUID 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	GUID 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	GUID 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	07/16	Washington Gas Light Company	Case No. PUE-2016-00001	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
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