

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

FILED

July 26, 2017

PETITION OF INDIANA MICHIGAN POWER)
COMPANY, AN INDIANA CORPORATION, FOR)
(1) AUTHORITY TO INCREASE ITS RATES AND)
CHARGES FOR ELECTRIC UTILITY SERVICE)
THROUGH A PHASE IN RATE ADJUSTMENT; (2))
APPROVAL OF: REVISED DEPRECIATION)
RATES; ACCOUNTING RELIEF; INCLUSION IN)
BASIC RATES AND CHARGES OF QUALIFIED)
POLLUTION CONTROL PROPERTY, CLEAN)
ENERGY PROJECTS AND COST OF BRINGING)
I&M'S SYSTEM TO ITS PRESENT STATE OF)
EFFICIENCY; RATE ADJUSTMENT MECHANISM)
PROPOSALS; COST DEFERRALS; MAJOR)
STORM DAMAGE RESTORATION RESERVE)
AND DISTRIBUTION VEGETATION)
MANAGEMENT PROGRAM RESERVE; AND)
AMORTIZATIONS; AND (3) FOR APPROVAL OF)
NEW SCHEDULES OF RATES, RULES AND)
REGULATIONS.)

INDIANA UTILITY
REGULATORY COMMISSION

CAUSE NO. 44967-NONE

SUBMISSION OF DIRECT TESTIMONY OF
ROBERT B. HEVERT

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submits the direct testimony and attachments of Robert B. Hevert in this Cause.



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PRE-FILED VERIFIED DIRECT TESTIMONY

OF

ROBERT B. HEVERT

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Glossary of Frequently Used Terms

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

TERM	DESCRIPTION
Proxy Group	A group of publicly traded companies used as the “proxy” for the subject company (in this case, I&M). Proxy companies are sometimes referred to as “Comparable Companies”.
Return on Equity (“ROE”)	The return required by investors to invest in equity securities. The terms "Return on Equity" and "Cost of Equity" are used interchangeably.
Risk Free Rate	The rate of return on an asset with no default risk.
Risk Premium	The additional compensation required by investors for taking on additional increments of risk. Risk Premium-based approaches are used in addition to the DCF and CAPM to estimate the Cost of Equity.
Sustainable Growth	An estimate of growth based on the percentage of earnings retained, and the expected return on retained earnings.
Terminal Growth	The expected rate of growth in the final, or terminal, stage of the Multi-Stage DCF model.
Treasury Inflation Protected Securities (“TIPS”)	Treasury securities that are indexed to inflation. The principal value of TIPS increase with inflation and decrease with deflation, as measured by the Consumer Price Index.
Treasury Yield	The return on Treasury securities; the yield on long-term Treasury bonds is considered to be a measure of the Risk Free Rate.
Vertically Integrated Utilities	Electric utilities that own and operate distribution, transmission and generation assets.

**DIRECT TESTIMONY OF ROBERT B. HEVERT
ON BEHALF OF INDIANA MICHIGAN POWER COMPANY
CAUSE NO. _____ BEFORE THE
INDIANA UTILITY REGULATORY COMMISSION**

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert B. Hevert, and my business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts 01581.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Partner at ScottMadden, Inc.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this direct testimony ("Direct Testimony") before the Indiana Utility Regulatory Commission ("Commission") on behalf of Indiana Michigan Power Company ("I&M" or the "Company").

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

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

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

A. I have worked in regulated industries for over twenty-five years, having served as an executive and manager with consulting firms, a financial officer of a publicly traded natural gas utility (at the time, Bay State Gas Company), and an analyst at a telecommunications

1 utility. In my role as a consultant, I have advised numerous energy and utility clients on a
 2 wide range of financial and economic issues, including corporate and asset-based
 3 transactions, asset and enterprise valuation, transaction due diligence, and strategic matters.
 4 As an expert witness, I have provided testimony in over 150 proceedings regarding various
 5 financial and regulatory matters before numerous state utility regulatory agencies, the
 6 Federal Energy Regulatory Commission, and the Province of Alberta, Canada. A summary
 7 of my professional and educational background, including a list of my testimony in prior
 8 proceedings, is included in Attachment RBH-1 to my Direct Testimony.

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

10 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**
 11 **PROCEEDING?**

12 A. The purpose of my Direct Testimony is to present evidence and provide the Commission
 13 with a recommendation regarding the Company's return on equity ("ROE").¹ The analyses
 14 and conclusions contained in my Direct Testimony are supported by the data presented in
 15 Attachment RBH-2 through RBH-12, which have been prepared by me or under my
 16 direction.

17 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE COST**
 18 **OF EQUITY FOR INDIANA MICHIGAN POWER COMPANY?**

19 A. My analyses indicate that I&M's Cost of Equity currently is in the range of 10.00 percent
 20 to 11.00 percent. Based on the quantitative and qualitative analyses discussed throughout

¹ Throughout my Direct Testimony, I sometimes use the "ROE" interchangeable with the term "Cost of Equity".

1 my Direct Testimony, it is my view that 10.60 percent is a reasonable estimate of I&M's
2 Cost of Equity.

3 As to its proposed capital structure for the test year ending December 31, 2018,
4 which (on the basis of investor-supplied capital) includes 46.46 percent common equity
5 and 53.54 percent long-term debt, I conclude that the Company's proposal is consistent
6 with the capital structures that have been in place over several fiscal quarters at comparable
7 operating utility companies. Given the consistency of its proposal with similarly situated
8 utility companies, I conclude that the Company's proposed capital structure is reasonable
9 and appropriate. Regarding the cost of debt, I also understand that Company's projected
10 weighted average cost of long-term debt at the end of the test year is 5.14 percent, which I
11 believe is reasonable and appropriate.

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

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: (1) the Discounted Cash Flow
17 ("DCF") model, including the Constant Growth, and Multi-Stage forms; (2) the Capital
18 Asset Pricing Model ("CAPM"); and (3) the Bond Yield Plus Risk Premium approach. In
19 addition to the methods noted above, my recommendation takes into consideration: (1) the
20 Company's generation portfolio and the risks associated with environmental regulations;
21 (2) I&M's planned capital investment program; (3) the risks associated with customer
22 concentration; (4) flotation costs associated with equity issuances; and (5) the Company's
23 cost recovery mechanisms. My recommendation also considers the changing capital

1 market environment in which companies such as I&M must compete for capital. For
2 example, Federal monetary policy has begun to move toward a process of “normalization,”
3 equity market volatility has risen, and market data indicate expectations of increasing
4 interest rates during 2017, and into 2018 and 2019. Because the Cost of Equity is forward-
5 looking, the models used in its estimation should reflect those expectations, and their
6 results should be considered in the context of such evolving market conditions.

7 My analyses recognize that estimating the Cost of Equity is an empirical, but not
8 an entirely mathematical exercise; it relies on both quantitative and qualitative data and
9 analyses, all of which are used to inform the judgment that inevitably must be applied. I
10 therefore considered my analytical results in the context of such Company-specific and
11 general capital market factors as those summarized above. Although I did not make any
12 explicit adjustments to my ROE estimates for those factors, I did take them into
13 consideration in determining where the Company’s Cost of Equity falls within the range
14 of analytical results.

15 Finally, I conclude that I&M’s projected capital structure at the end of the test year,
16 which includes 46.46 percent common equity and 53.54 percent long-term debt (on the
17 basis of investor-supplied capital), is reasonable. I&M’s proposed equity ratio is consistent
18 with those in place at similarly situated utilities, whose capital structures include equity
19 ratios in the range of 45.55 percent to 58.93 percent. Because the objectives and constraints
20 associated with utility financing are dynamic and complex, it is difficult to precisely
21 determine the “optimal” capital structure. Nonetheless, as a general proposition, as the
22 percentage of debt in the capital structure (that is, the degree of financial leverage)
23 increases, so does financial risk, and, therefore, the costs of both debt and equity.

Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

A. The remainder of my testimony is organized as follows:

- Section III – Provides a summary of issues regarding Cost of Equity estimation in regulatory proceedings;
- Section IV – Explains my selection of the proxy companies used to develop my analytical results;
- Section V – Explains my analyses and the analytical bases for my ROE recommendation;
- Section VI – Provides a discussion of specific business risks that have a direct bearing on the Company's Cost of Equity;
- Section VII – Highlights the current capital market conditions and their effect on the Company's Cost of Equity;
- Section VIII – Discusses the Company's proposed Capital Structure and Cost of Debt; and
- Section IX – Summarizes my conclusions and recommendations.

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

Q. BEFORE ADDRESSING THE SPECIFIC ASPECTS OF THIS PROCEEDING, PLEASE PROVIDE AN OVERVIEW OF THE ISSUES SURROUNDING THE COST OF EQUITY IN REGULATORY PROCEEDINGS, GENERALLY.

A. In very general terms, the Cost of Equity is the return that investors require to make an equity investment in a firm. That is, investors will only provide funds to a firm if the return

1 that they *expect* is equal to, or greater than, the return that they *require*. From the firm's
2 perspective, that required return, whether it is provided to debt or equity investors, has a
3 cost. Individually, we speak of the "Cost of Debt" and the "Cost of Equity"; together, they
4 are referred to as the "Cost of Capital".

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

12 Although both debt and equity have required costs, they are different in certain
13 fundamental ways. Most noticeably, the Cost of Debt is contractually defined and can be
14 directly observed as the interest rate, or yield, on debt securities.² The Cost of Equity, on
15 the other hand, is neither directly observable nor a contractual obligation. Rather, equity
16 investors have a claim on the firm's cash flows only after debt holders are paid; the
17 uncertainty (or risk) associated with those residual cash flows determines the Cost of
18 Equity. Because equity investors bear that "residual risk", they take greater risks and
19 require higher returns than debt holders. In that basic sense, equity and debt investors
20 differ: They invest in different securities, face different risks, and require different returns.

21 Whereas the Cost of Debt can be directly observed, the Cost of Equity must be
22 estimated, or inferred, based on market data and various financial models. As discussed

² The observed interest rate may be adjusted to reflect issuance or other directly observable costs.

throughout my Direct Testimony, all of those models are subject to certain assumptions, which may be more or less applicable under differing market conditions. In addition, because the Cost of Equity is premised on opportunity costs, those models typically are applied to a group of “comparable” or “proxy” companies. The choice of models (including their inputs), the selection of proxy companies, and the interpretation of the model results all require the application of judgment. That judgment also should consider data and information that is not necessarily included in the models, themselves. In the end, however, the estimated Cost of Equity should reflect the return that investors require in light of the subject company’s risks, and the returns available on comparable investments.

Q. PLEASE NOW PROVIDE A BRIEF SUMMARY OF THE REGULATORY GUIDELINES ESTABLISHED FOR THE PURPOSE OF DETERMINING THE ROE.

A. The Court established the guiding principles for establishing a fair return for capital in two cases: (1) *Bluefield Water Works and Improvement Co. v. Public Service Comm’n*. (“*Bluefield*”);³ and (2) *Federal Power Comm’n v. Hope Natural Gas Co.* (“*Hope*”).⁴ In *Bluefield*, the Court stated:

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

³ *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-93 (1923).

⁴ *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

support its credit and enable it to raise the money necessary for the proper discharge of its public duties.⁵

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

Q. DOES INDIANA PRECEDENT PROVIDE SIMILAR GUIDANCE?

A. Yes. In a recent order, the Commission stated (as it has in previous rate orders), that it has used the following standards and criteria to determine a fair rate of return on a petitioner's investment in its utility plant:

- (1) Return comparable to return on investments in other enterprises having corresponding risks;
- (2) Return sufficient to ensure confidence in the financial integrity of the petitioner;
- (3) Return sufficient to maintain and support the petitioner's credit [rating]; and
- (4) Return sufficient to attract capital as reasonably required by the petitioner in its utility business.⁶

Citing the State Supreme Court, the Commission noted that:

The ratemaking process involves a balancing of all these factors and probably others; a balancing of the owner's or investor's interest with the consumer's interest. On the one side, the rates may not be so low as to confiscate the investor's interest or property; on the other side the rates may not be so high as to injure the consumer by charging an

⁵ Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679, 692-93 (1923).

⁶ Indiana Utility Regulatory Commission, Cause No. 44075, *Petition of Indiana Michigan Power Company, an Indiana Corporation, for Authority to Increase its Rates and Charges for Electric Utility Service, For Approval of: Revised Depreciation Rates; Accounting Relief; Inclusion in Basic Rates and Charges of the Costs of Qualified Pollution Control Property; Modifications to Rate Adjustment Mechanisms; and Major Storm Reserves; and for Approval of New Schedules of Rates, Rules and Regulations*, Approved February 13, 2013, at 47.

exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit.⁷

The Commission concluded that:

...the results of any return computation may be tempered by the Commission's duty to balance the respective interests involved in ratemaking. The end result of the Commission's Orders must be measured as much by the success with which they protect the broad public interest entrusted to our protection as by the effectiveness with which they allow utilities to maintain credit and attract capital.⁸

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

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

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

⁷ *Id.*, at 47-48.

⁸ *Id.*, at 48.

1 attract capital at reasonable terms enables I&M to provide safe, reliable electric utility
2 service while maintaining its financial integrity.

3 **Q. HOW IS THE COST OF EQUITY ESTIMATED IN REGULATORY**
4 **PROCEEDINGS?**

5 A. As noted earlier (and as discussed in more detail throughout my Direct Testimony), the
6 Cost of Equity is estimated using various financial models. By their very nature, those
7 models produce a range of results from which the ROE must be determined. That
8 determination, which should be based on a comprehensive review of relevant data and
9 information, does not necessarily lend itself to a strict mathematical solution. The key
10 consideration in determining the ROE is to ensure that the overall analysis reasonably
11 reflects investors' view of the financial markets in general and the subject company (in the
12 context of the proxy companies), in particular.

13 Practitioners and academics recognize that financial models simply are tools to be
14 used in the ROE determination process, and that strict adherence to any single approach,
15 or to the specific results of any single approach, can lead to flawed or misleading
16 conclusions. That recognition is consistent with the *Hope* and *Bluefield* principle that it is
17 the analytical result, as opposed to the methodology employed, that is controlling in
18 arriving at ROE determinations.⁹ A reasonable ROE estimate therefore appropriately
19 considers alternative methodologies, and the reasonableness of their individual and
20 collective results in the context of observable, relevant market information.

⁹ That finding also is consistent with the Commission's finding in Cause No. 44075, which noted the importance of the end result in balancing the interests of customers and investors.

IV. PROXY GROUP SELECTION

Q. AS A PRELIMINARY MATTER, WHY IS IT NECESSARY TO SELECT A GROUP OF PROXY COMPANIES TO DETERMINE THE COST OF EQUITY FOR I&M?

A. Because the ROE is a market-based concept and I&M, which is a wholly owned operating subsidiary of American Electric Power Company, Inc. ("AEP"), is not a publicly traded entity, it is necessary to establish a group of comparable, publicly traded companies to serve as its "proxy." Even if the Company were a publicly traded entity, short-term events could bias its market value during a given period of time. A significant benefit of using a proxy group is that it moderates the effects of anomalous, temporary events associated with any one company.

Although the proxy group selection process is designed to mitigate the effects of anomalous company-specific events, it cannot mitigate the effects of anomalous market conditions. Rather, because the proxy group will contain companies of comparable risk profiles, it is quite likely that they would be similarly affected by market events that deviate from historical or expected conditions. As discussed in Section VII, that currently is the case.

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

A. No. For example, the Constant Growth DCF approach defines the Cost of Equity as the sum of the expected dividend yield and projected long-term growth. Despite the care taken to ensure risk comparability, market expectations with respect to future risks and growth

opportunities will vary from company to company. Even within a group of similarly situated companies, it is common for analytical results to reflect a seemingly wide range. Consequently, at issue is how to estimate the Cost of Equity from within that range. Such a determination necessarily must consider a wide range of both quantitative and qualitative information.

Q. PLEASE PROVIDE A SUMMARY PROFILE OF I&M.

A. I&M, which is a wholly owned subsidiary of AEP, provides electric service to approximately 592,000 retail customers in northern and eastern Indiana and southwestern Michigan.¹⁰ The Company's current long-term issuer credit rating from Standard & Poor's ("S&P") is A- (outlook: Stable), Baa1 (outlook: Positive) from Moody's Investor Service ("Moody's"), and BBB- (outlook: Stable) from FitchRatings ("Fitch").¹¹

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

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

- I excluded companies that do not consistently pay quarterly cash dividends;
- I excluded companies that were not covered by at least two utility industry equity analysts;
- I excluded companies that do not have investment grade senior unsecured bond and/or corporate credit ratings from S&P;

¹⁰ American Electric Power Company, Inc., SEC Form 10-K, for the fiscal year ended December 31, 2016 at 2.

¹¹ Source: Bloomberg Professional.

- 1 • I excluded companies that were not vertically-integrated, *i.e.* utilities that own
- 2 and operate regulated generation, transmission, and distribution assets;
- 3 • I excluded companies with less than 60.00 percent of total net operating income
- 4 derived from regulated utility operations over the three most recently reported
- 5 fiscal years;
- 6 • I excluded companies whose regulated electric operating income over the three
- 7 most recently reported fiscal years represented less than 60.00 percent of total
- 8 regulated operating income;
- 9 • I excluded companies whose coal-fired generation constituted less than 10.00
- 10 percent of net generation; and
- 11 • I eliminated companies that are currently known to be party to a merger or other
- 12 significant transaction.

13 **Q. DID YOU INCLUDE AEP IN YOUR ANALYSIS?**

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

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

16 **Q. WHAT COMPANIES MET THOSE SCREENING CRITERIA?**

17 A. The criteria discussed above resulted in a proxy group of the following 18 companies:

Table 1: Proxy Group Screening Results

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
Avista Corporation	AVA
Black Hills Corp.	BKH
CMS Energy Corporation	CMS
DTE Energy Company	DTE
El Paso Electric Company	EE
IDACORP, Inc.	IDA
NorthWestern Corporation	NWE
OGE Energy Corp.	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
SCANA Corporation	SCG
WEC Energy Group, Inc.	WEC
Xcel Energy Inc.	XEL

V. COST OF EQUITY ESTIMATION

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

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

Q. HOW IS THE REQUIRED ROE DETERMINED?

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

As a practical matter, no individual model is more reliable than all others under all market conditions. Therefore, it is both prudent and appropriate to use multiple methods to mitigate the effects of assumptions and inputs associated with any single approach. As such, I have considered the results of the Constant Growth and Multi-Stage forms of the DCF model, the Capital Asset Pricing Model, and the Bond Yield Plus Risk Premium approach, and developed my recommendation to be applied to the original cost rate base.

A. *Constant Growth Discounted Cash Flow Model*

Q. PLEASE MORE FULLY DESCRIBE THE CONSTANT GROWTH DCF APPROACH.

A. The Constant Growth DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its simplest form, the

¹² 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.

Constant Growth DCF model expresses the Cost of Equity as the discount rate that sets the current price equal to expected cash flows:

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

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

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

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

Q. WHAT ASSUMPTIONS ARE INHERENT IN THE CONSTANT GROWTH DCF MODEL?

A. The Constant Growth DCF model assumes: (1) earnings, book value, and dividends all will grow at the same, constant rate in perpetuity; (2) a constant dividend payout ratio in perpetuity; (3) the observed Price to Earnings (“P/E”) ratio will remain constant in perpetuity; and (4) estimated Cost of Equity will remain constant, also in perpetuity.

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

A. The dividend yield is based on each proxy company’s current annualized dividend and average closing stock price over the 30-, 90-, and 180-trading day periods as of May 31, 2017, as explained more fully below.

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

A. I did so to ensure the model's results are not skewed by anomalous events that may affect stock prices on any given trading day. At the same time, the averaging period should be reasonably representative of expected capital market conditions over the long term. Although the 30-, 90-, and 180-day averaging periods reasonably balance those concerns, the continuing effect of the utility sector's expanded P/E ratios remain a concern.

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

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

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

A. Yes. In its Constant Growth form, the DCF model (*i.e.*, as presented in Equation [2] above) assumes a single growth estimate in perpetuity. Accordingly, to reduce the long-term growth rate to a single measure, one must assume a fixed payout ratio, and the same constant growth rate for earnings per share ("EPS"), dividends per share, and book value 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. Therefore, for the purposes
7 of the Constant Growth DCF model, growth in EPS represents the appropriate measure of
8 long-term growth.

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

12 A. The relationship between various growth rates and stock valuation metrics has been the
13 subject of much academic research.¹³ 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
16 largely on the basis of dividends. More recently, however, studies
17 indicate that the market is valuing utility stocks with reference to total
18 per share earnings, so that the earnings-price ratio has assumed
19 increased emphasis in rate cases.¹⁴

20 Phillips' conclusion continues to hold true. Subsequent academic research has
21 clearly and consistently indicated that measures of earnings and cash flow are strongly
22 related to returns, and that analysts' forecasts of growth are superior to other measures of

¹³ See, for example, Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management, Spring 1986.

¹⁴ Charles F. Phillips, Jr., The Economics of Regulation, Revised Edition, 1969, Richard D. Irwin, Inc., at 285.

1 growth in predicting stock prices.¹⁵ For example, Vander Weide and Carleton state that,
 2 “[our] results...are consistent with the hypothesis that investors use analysts’ forecasts,
 3 rather than historically oriented growth calculations, in making stock buy-and-sell
 4 decisions.”¹⁶ Other research specifically has noted the importance of analysts’ growth
 5 estimates in determining the Cost of Equity, and in the valuation of equity securities. Dr.
 6 Robert Harris noted that “a growing body of knowledge shows that analysts’ earnings
 7 forecasts are indeed reflected in stock prices.”¹⁷ Citing Cragg and Malkiel, Dr. Harris notes
 8 that those authors “found that the evaluations of companies that analysts make are the sorts
 9 of ones on which market valuation is based.”¹⁸ As Brigham, Shome and Vinson noted,
 10 “evidence in the current literature indicates that (i) analysts’ forecasts are superior to
 11 forecasts based solely on time series data; and (ii) investors do rely on analysts’
 12 forecasts.”¹⁹

13 To that point, the research of Carleton and Vander Weide found earnings growth
 14 projections had a statistically significant relationship to stock valuation levels, whereas
 15 dividend growth rates did not.²⁰ Those findings suggest that investors form their
 16 investment decisions based on expectations of growth in earnings, not dividends.

¹⁵ See, for example, 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.

¹⁶ Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988.

¹⁷ Robert S. Harris, Using Analysts’ Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management, Spring 1986.

¹⁸ *Id.*

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.

Consequently, earnings growth not dividend growth, is the appropriate estimate in the Constant Growth DCF model.

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

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

- The average daily closing prices for the 30-trading days, 90-trading days, and 180-trading days ended May 31, 2017, for the term P_0 ; and
- The annualized dividend per share as of May 31, 2017, for the term D_0 .

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

- The Zacks consensus long-term earnings growth estimates;
- The First Call consensus long-term earnings growth estimates; and
- The Value Line long-term earnings growth estimates.

As explained below, I calculated a low, mean, and high DCF result for each proxy company (see Attachment RBH-2).

Q. HOW DID YOU CALCULATE THE MEAN HIGH AND MEAN LOW DCF RESULTS?

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

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

A. My Constant Growth DCF results are summarized in Table 2 below (*see* also Attachment RBH-2).

Table 2: Mean Constant Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	8.05%	8.80%	9.66%
90-Day Average	8.12%	8.87%	9.73%
180-Day Average	8.21%	8.96%	9.82%

As noted earlier, the Constant Growth DCF model is predicated on several assumptions, one of which is that the Price/Earnings ratio will remain constant, in perpetuity. Because utility sector P/E ratios have expanded to the point that they recently have exceeded both their long-term average and the market P/E ratio, the Constant Growth DCF model's results should be viewed with considerable caution. As a practical matter, the mean Constant Growth DCF results are well below a highly observable and relevant benchmark: the returns authorized for vertically integrated electric utilities. As such, considering multiple methods, including the CAPM approach, and the Bond Yield Plus Risk Premium model, is more appropriate in current market conditions.

B. Multi-Stage DCF Model

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

A. To address certain limiting assumptions underlying the Constant Growth form of the DCF model, I also considered the Multi-Stage (three-stage) DCF Model. The Multi-Stage model, which is an extension of the Constant Growth form, enables the analyst to specify

1 growth rates over three distinct stages. As with the Constant Growth form of the DCF
2 model, the Multi-Stage form defines the Cost of Equity as the discount rate that sets the
3 current price equal to the discounted value of future cash flows. Unlike the Constant
4 Growth form, however, the Multi-Stage model must be solved in an iterative fashion.

5 **Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-**
6 **STAGE MODEL.**

7 A. The model sets the subject company's stock price equal to the present value of future cash
8 flows received over three "stages". In the first two stages, "cash flows" are defined as
9 projected dividends. In the third stage, "cash flows" equal both dividends and the expected
10 price at which the stock will be sold at the end of the period (*i.e.*, the "terminal price"). I
11 calculated the terminal price based on the Gordon model, which defines the price as the
12 expected dividend divided by the difference between the Cost of Equity (*i.e.*, the discount
13 rate) and the long-term expected growth rate. In essence, the terminal price is defined by
14 the present value of the remaining "cash flows" in perpetuity. In each of the three stages,
15 the dividend is the product of the projected earnings per share and the expected dividend
16 payout ratio. A summary description of the model is provided in Table 3 (below).

Table 3: 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 Earnings Per Share (EPS) Dividends Per Share (DPS)	Expected EPS Expected DPS	Expected EPS Expected DPS	Expected EPS Expected DPS Terminal Value
Assumptions	30-, 90-, and 180-day average stock price	EPS Growth Rate Payout Ratio	Growth Rate Change Payout Ratio Change	Long-term Growth Rate Long-term Payout Ratio

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

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

such as Value Line, for all inputs, and mitigates the potential bias associated with relying on a single source of growth estimates.²¹

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

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

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

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

1

Table 4: Multi-Stage DCF Model Assumptions

STAGE	INITIAL	FIRST	TRANSITION	TERMINAL
Stock Price	30-, 90-, and 180-day average stock price as of May 31, 2017			
Earnings Growth	2016 actual EPS escalated by Period 1 growth rate	EPS growth as average of (1) Value Line; (2) Zacks; and (3) First Call	Transition to Long-term GDP growth	Long-term GDP growth
Payout Ratio	Value Line company-specific	Value Line company-specific	Transition to long-term industry payout ratio	Long-term expected payout ratio
Terminal Value				Expected dividend in final year divided by solved Cost of Equity less long-term growth rate

2

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

4 A. The long-term growth rate of 5.40 percent is based on the real GDP growth rate of 3.22
5 percent from 1929 through 2016²², and an inflation rate of 2.11 percent. The expected
6 inflation rate is the average of two components: (1) the compound annual forward rate
7 starting in ten years (*i.e.*, 2027, which is the beginning of the terminal period) based on the
8 30-day average spread between yields on long-term nominal Treasury Securities and long-

²² See Bureau of Economic Analysis, "Current-Dollar and 'Real' Gross Domestic Product," May 26, 2017 update.

term Treasury Inflation Protected Securities, known as the “TIPS spread” of 2.02 percent;²³ and (2) the projected Consumer Price Index of 2.20 percent for the years 2024 through 2028, as provided by *Blue Chip Financial Forecast*.²⁴

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

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

A. As noted in Table 4, for the first two periods, I relied on the first year and long-term projected payout ratios reported by Value Line²⁵ for each of the proxy companies. I then assumed that by the end of the second period (*i.e.*, the end of year 10), the payout ratio will converge to the historical industry average ratio of 65.89 percent.²⁶

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

²³ See Board of Governors of the Federal Reserve System, “Table H.15 Selected Interest Rates.”

²⁴ *Blue Chip Financial Forecasts*, Vol. 36, No. 6, June 1, 2017, at 14.

²⁵ As reported in the Value Line Investment Survey as “All Div’ds to Net Prof.”

²⁶ Source: Bloomberg Professional

A. Although I performed a series of analyses in which the terminal value is calculated based on the assumed long-term nominal GDP growth rate,²⁷ I also performed a series of analyses in which the terminal value is based on the current P/E ratio.²⁸ The results of those analyses are shown in Table 5, below.

Table 5: Multi-Stage DCF Model Results²⁹

	<i>Mean Low</i>	<i>Mean</i>	<i>Mean High</i>
30-Day Average	8.72%	9.15%	9.64%
90-Day Average	8.93%	9.36%	9.85%
180-Day Average	9.18%	9.61%	10.11%

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

A. Yes. As noted earlier, I also applied the CAPM and Bond Yield Plus Risk Premium approaches.

C. CAPM Analysis

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

A. The CAPM analysis is a risk premium method that estimates the Cost of Equity for a given security as a function of a risk-free return plus a risk premium (to compensate investors for the non-diversifiable or “systematic” risk of that security). As shown in Equation [3], the

²⁷ See, Attachment RBH-3, pages 1-9.

²⁸ Defined as the 30-day average of the proxy group P/E ratio, calculated as an Index.

²⁹ See, Attachment RBH-3, pages 11-19.

CAPM is defined by four components, each of which theoretically must be a forward-looking estimate:

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

where:

K_e = the required market ROE for a security;

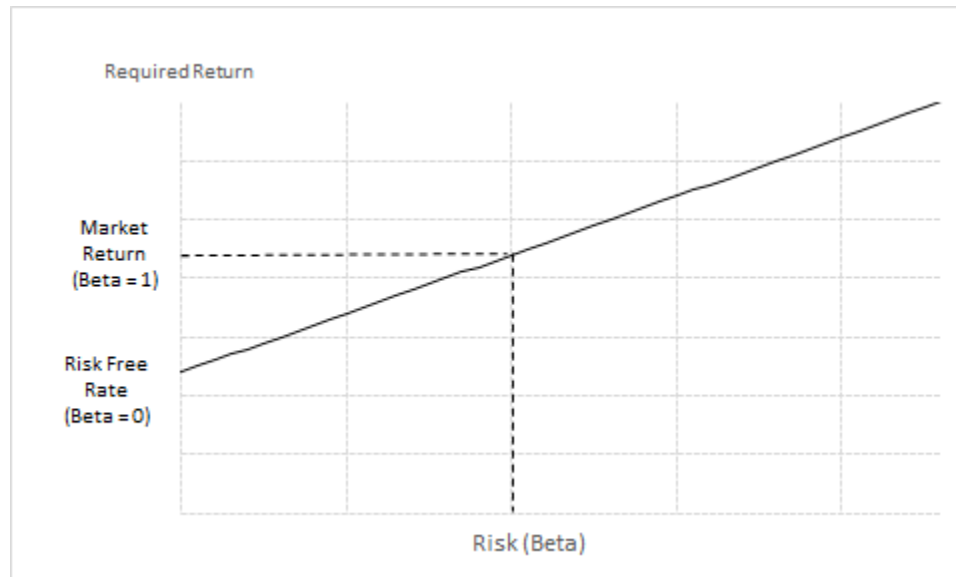
β = the Beta coefficient of that security;

r_f = the risk-free rate of return; and

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

Equation [3] describes the Security Market Line (“SML”), or the CAPM risk-return relationship, which is graphically depicted in Chart 1 below. The intercept is the risk-free rate (r_f), which has a Beta coefficient of zero, the slope is the expected Market Risk Premium ($r_m - r_f$). By definition, r_m , the return on the market has a Beta coefficient of 1.00. Under the CAPM, the expected Equity Risk Premium for a given security is proportional to its Beta coefficient.

Chart 1: Security Market Line



In Equation [3], the term $(r_m - r_f)$ represents the Market Risk Premium.³⁰ According to the theory underlying the CAPM, because unsystematic risk can be diversified away by adding securities to investment portfolios, the market will not compensate investors for bearing that risk. Therefore, investors should be concerned only with systematic or non-diversifiable risk. Non-diversifiable risk is measured by the Beta coefficient, which is defined as:

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

where σ_j is the standard deviation of returns for company "j," σ_m is the standard deviation of returns for the broad market (as measured, for example, by the S&P 500 Index), and $\rho_{j,m}$ is the correlation of returns in between company j and the broad market. The Beta coefficient therefore represents both relative volatility (*i.e.*, the standard

³⁰ The Market Risk Premium is defined as the incremental return of the market portfolio over the risk-free rate.

deviation) of returns, and the correlation in returns between the subject company and the overall market.

Intuitively, companies with higher Beta coefficients have had more volatile returns, and have moved more closely with the overall companies with lower Beta coefficients. The implication is that a company with a Beta coefficient of 1.00 is as risky as the overall market; companies with Beta coefficients less than 1.00 are less risky, and those whose Beta coefficients are greater than 1.00 have greater risk than the overall market.

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

A. Because utility assets represent long duration investments, I used two different measures of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds (2.95 percent); and (2) the projected 30-year Treasury yield (3.40 percent).

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

A. In determining the risk-free rate, it is important to select the term (or maturity) that best matches the life of the underlying investment. Electric utilities typically are long-duration investments and as such, the 30-year Treasury yield is most suitable for the purpose of calculating the Cost of Equity.

Q. PLEASE DESCRIBE YOUR *EX-ANTE* (I.E., FORWARD-LOOKING) APPROACH TO ESTIMATING THE MARKET RISK PREMIUM.

A. The approach is based on the market required return, less the current 30-year Treasury yield. To estimate the market required return, I calculated the market capitalization weighted average ROE based on the Constant Growth DCF model. To do so, I relied on data from two sources: (1) Bloomberg; and (2) Value Line. With respect to Bloomberg-

derived growth estimates, I calculated the expected dividend yield (using the same one-half growth rate assumption described earlier), and combined that amount with the projected earnings growth rate to arrive at the market capitalization weighted average DCF result. I performed that calculation for each of the S&P 500 companies for which Bloomberg provided consensus growth rates. I then subtracted the current 30-year Treasury yield from that amount to arrive at the market DCF-derived *ex-ante* market risk premium estimate. In the case of Value Line, I performed the same calculation, again using all companies for which five-year earnings growth rates were available. The results of those calculations are provided in Attachment RBH-4.

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

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

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

A. As shown in Attachment RBH-5, I considered Beta coefficients reported by two sources, Bloomberg and Value Line. Although both services adjust their calculated (or “raw”) Beta coefficients to reflect the tendency to regress to the market mean of 1.00, Value Line calculates the Beta coefficient over a five-year period, whereas Bloomberg’s calculation is based on two years of data.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. As shown in Table 6 (below) the CAPM analyses suggest an ROE range of 9.26 percent to 11.20 percent (*see* also Attachment RBH-6).

Table 6: Summary of CAPM Results³¹

	Bloomberg Derived Market Risk Premium	Value Line Derived Market Risk Premium
<i>Average Bloomberg Beta Coefficient</i>		
Current 30-Year Treasury (2.95%)	9.26%	9.34%
Near-Term Projected 30-Year Treasury (3.40%)	9.70%	9.78%
<i>Average Value Line Beta Coefficient</i>		
Current 30-Year Treasury (2.95%)	10.65%	10.75%
Near-Term Projected 30-Year Treasury (3.40%)	11.10%	11.20%

D. Bond Yield Plus Risk Premium Approach

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

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

³¹ See Attachment RBH-6.

1 **Q. PLEASE EXPLAIN HOW YOU PERFORMED YOUR BOND YIELD PLUS RISK**
2 **PREMIUM ANALYSIS.**

3 A. As suggested above, I first defined the Risk Premium as the difference between the
4 authorized ROE and the then-prevailing level of the long-term (*i.e.*, 30-year) Treasury
5 yield. I then gathered data for 1,515 electric utility rate proceedings between January 1980
6 and May 31, 2017. In addition to the authorized ROE, I also calculated the average period
7 between the filing of the case and the date of the final order (the “lag period”). To reflect
8 the prevailing level of interest rates during the pendency of the proceedings, I calculated
9 the average 30-year Treasury yield over the average lag period (approximately 201 days).

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

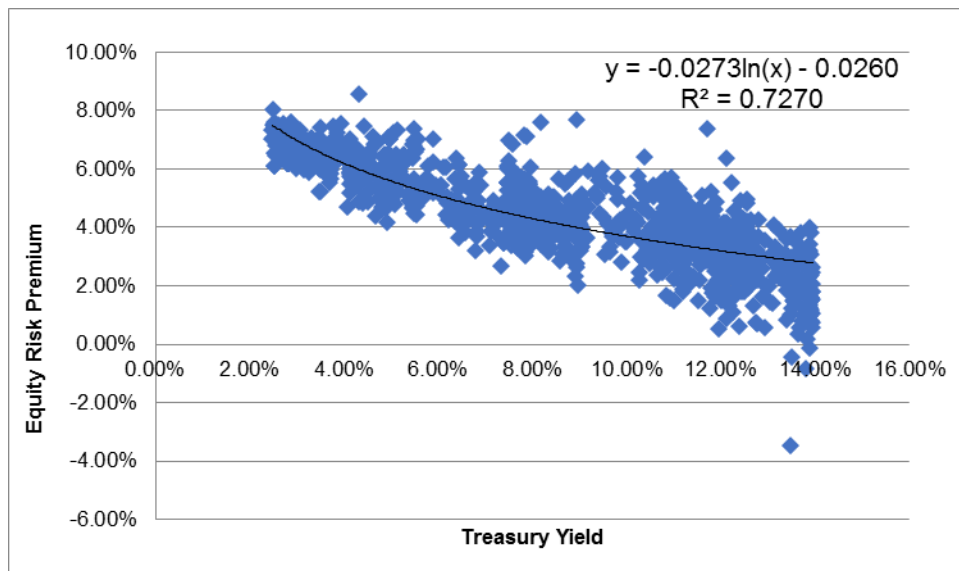
15 **Q. HOW DID YOU MODEL THE RELATIONSHIP BETWEEN INTEREST RATES**
16 **AND THE EQUITY RISK PREMIUM?**

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

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

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

5 **Chart 2: Equity Risk Premium**



7 As Chart 2 illustrates, the Equity Risk Premium increases as interest rates fall. That
8 finding, that there an inverse relationship between interest rates and the Equity Risk
9 Premium is supported by published research. For example, Dr. Roger Morin notes that:
10 "... [p]ublished studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and
11 Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), and
12 McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied
13 inversely with the level of interest rates - rising when rates fell and declining when interest
14 rates rose."³² Consequently, simply applying the long-term average Equity Risk Premium

³² Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc. 2006, at 128 [clarification added]

1 of 4.57 percent would significantly understate the Cost of Equity and produce results well
2 below any reasonable estimate. Based on the regression coefficients in Chart 2, however,
3 the implied ROE is between 9.98 percent and 10.34 percent (*see* Table 7 below and
4 Attachment RBH-7).

5 **Table 7: Summary of Bond Yield Plus Risk Premium Results**

	Return on Equity
Current 30-Year Treasury (2.95%)	9.98%
Near-Term Projected 30-Year Treasury (3.40%)	10.04%
Long-Term Projected 30-Year Treasury (4.40%)	10.34%

6
7 **VI. BUSINESS RISKS AND OTHER CONSIDERATIONS**

8 **Q. DO THE MEAN DCF, CAPM, AND RISK PREMIUM RESULTS FOR THE**
9 **PROXY GROUP PROVIDE AN APPROPRIATE ESTIMATE FOR THE COST OF**
10 **EQUITY FOR I&M?**

11 **A.** No, the mean results do not necessarily provide an appropriate estimate of I&M's Cost of
12 Equity. In my view, there are additional factors that must be taken into consideration when
13 determining where I&M's Cost of Equity falls within the range of results, including: (1)
14 the Company's generation portfolio and the risks associated with environmental
15 regulations; (2) I&M's planned capital investment program; (3) the risks associated with
16 customer concentration; (4) flotation costs associated with equity issuances; and (5) the
17 Company's cost recovery mechanisms. Those factors, which are discussed below, should
18 be considered in terms of their overall effect on I&M's business risk and investor earnings
19 and, therefore, its Cost of Equity.

A. Generation Portfolio & Environmental Regulations

Q. PLEASE PROVIDE AN OVERVIEW OF THE RISKS ASSOCIATED WITH I&M'S GENERATION PORTFOLIO AND CURRENT ENVIRONMENTAL REGULATIONS.

A. I&M's operations are substantially dependent on coal-fired, and nuclear generation. As shown in Figure TLT-1 included in Company witness Thomas's testimony, coal-fired generation represented approximately 48.50 percent of the Company's total generation resources and nuclear generation represented approximately 42.40 percent. In total, coal-fired and nuclear generation represent approximately 91.00 percent of I&M's generation resource mix. In general, capital-intensive generation assets, such as nuclear and coal-fired generation facilities, are subject to certain risks including the recovery of the investors' capital in the event of a change in market structure or a plant failure, and the recovery of replacement power and repair costs in the event of extended or unplanned outage. In addition, Federal environmental regulations present the substantial risk of acquiring and investing additional capital to comply with new regulations, operating restrictions, or possibly closure.

The risks and potential costs associated with coal-fired generating plants have been highlighted in the EPA's carbon dioxide reduction rule. Finalized on August 3, 2015, the rule mandates reductions in carbon dioxide emissions of 32.00 percent from their 2005 levels by the year 2030.³³ Although states were to submit their reduction plans under the Clean Power Plan ("CPP") to the EPA for approval by September 2016, considerable

³³ Environmental Protection Agency, Final Rule, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 40 C.F.R. Part 60 (Oct. 23, 2015). Indiana's requirement is approximately a 20.00 percent reduction in the power sector by 2030.

1 uncertainty remains surrounding the ultimate outcome of the rule.³⁴ In October 2015, a
2 coalition of 24 states led by West Virginia, filed a lawsuit with the U.S. Court of Appeals
3 for the District of Columbia Circuit, or D.C. Circuit, challenging the CPP and also filed a
4 motion for a stay. In November 2015, a coalition of 18 states and the District of Columbia
5 filed a motion to intervene in the case in support of the CPP. In January 2016, the D.C.
6 Circuit unanimously denied the coalition's request for a stay. Also in January 2016, a
7 coalition of states and various state agencies led by the attorneys general of Kentucky and
8 Texas filed a request with the U.S. Supreme Court to stay implementation of the CPP. In
9 a 5-to-4 decision issued in February 2016, the U.S. Supreme Court stayed implementation
10 of the CPP while the rule is under review by the D.C. Circuit.

11 On March 28, 2017 President Trump issued an executive order that effectively
12 initiated the process of reversing the steps that have been taken to date on the CPP.³⁵ Also
13 on March 28, 2017, the EPA requested the D.C. Circuit to hold the pending cases in
14 abeyance while the EPA conducts a review of the CPP. On April 28, 2017, the D.C. Circuit
15 granted a motion by the EPA to hold in abeyance for 60 days the cases involving challenges
16 to CPP.

17 As noted by Company witnesses Thomas and Kerns, I&M faces several additional
18 environmental requirements related to its coal-fired generation, in particular, the Consent
19 Decree that was entered between the EPA, I&M, and other parties under the New Source
20 Review regulations of the Clean Air Act. These environmental requirements bring to focus
21 the risks and costs associated with I&M's coal-fired generation.

³⁴ Jim O'Reilly, "D.C. Circuit halts Clean Power Plan litigation, will consider remand to EPA," RRA
Regulatory Focus, May 1, 2017.

³⁵ Presidential Executive Order on Promoting Energy Independence and Economic Growth, Office of the Press
Secretary, White House, March 28, 2017.

In a recent report, S&P noted that power generators have addressed carbon-reduction policies that target coal-fired generating plants by implementing three strategies: adding “scrubbers” to coal-fired plants; switching to burning natural gas; or retiring coal-fired plants outright.³⁶ To the extent those strategies increase costs for utilities, the companies’ credit profiles may come under pressure. As noted by S&P:

Higher costs could become a key credit issue for regulated utilities given the importance of managing customer rate increases, which has implications for relations with regulators, as well as economic and political ramifications that could heighten business risk. Any rating actions would likely not occur until there is further clarity from a utility about early plant retirements and related cost recovery. For utilities that have significant coal-fired generation, recovery mechanisms will be extremely important to continue to support operating cash flow and maintain robust financial measures.³⁷

Consequently, the risks associated with the Company’s generation mix and the potential cost of compliance with related environmental regulations could affect the Company’s financial profile.

Q. PLEASE DESCRIBE THE COMPANY’S NUCLEAR GENERATING ASSETS.

A. I&M’s generation portfolio includes approximately 2,278 MW of owned operating nuclear generating capacity from its Cook Plant, as discussed in greater detail by Company witness Shane Lies.³⁸ AEP states in its 2016 SEC Form 10-K that it is exposed to nuclear generation risk:

Through I&M, AEP owns the Cook Plant. It consists of two nuclear generating units for a rated capacity of 2,191 MW, or about 7% of the generating capacity in the AEP System. AEP and I&M are, therefore,

³⁶ S&P Research, The Clean Power Plan Will Spur Further Coal Plant Closings, but How Will U.S. Utilities Recover the Costs? (Sept. 2, 2014).

³⁷ *Id.*

³⁸ As Mr. Lies notes, the Cook Plant recently completed the Unit 2 High Pressure and Low Pressure Turbine Replacement Project, which increased the net electrical output for both units from 2,191 MW to approximately 2,278 MW.

subject to the risks of nuclear generation, which include the following:

- The potential harmful effects on the environment and human health due to an adverse incident/event resulting from the operation of nuclear facilities and the storage, handling and disposal of radioactive materials such as spent nuclear fuel.
- Limitations on the amounts and types of insurance commercially available to cover losses that might arise in connection with nuclear operations.
- Uncertainties with respect to contingencies and assessment amounts triggered by a loss event (federal law requires owners of nuclear units to purchase the maximum available amount of nuclear liability insurance and potentially contribute to the losses of others).
- Uncertainties with respect to the technological and financial aspects of decommissioning nuclear plants at the end of their licensed lives.

There can be no assurance that I&M's preparations or risk mitigation measures will be adequate if and when these risks are triggered.

* * * *

Costs associated with the operation (including fuel), maintenance and retirement of nuclear plants continue to be more significant and less predictable than costs associated with other sources of generation, in large part due to changing regulatory requirements and safety standards, availability of nuclear waste disposal facilities and experience gained in the operation of nuclear facilities. Costs also may include replacement power, any unamortized investment at the end of the useful life of the Cook Plant (whether scheduled or premature), the carrying costs of that investment and retirement costs. The ability to obtain adequate and timely recovery of costs associated with the Cook Plant is not assured.³⁹

Q. PLEASE EXPLAIN THE RISK ASSOCIATED WITH THE COMPANY'S NUCLEAR GENERATING ASSETS.

A. Nuclear generating resources are regulated by the U.S. Nuclear Regulatory Commission ("NRC"). I&M is subject to NRC mandates to meet licensing and safety related standards

³⁹ American Electric Power Co., Inc. SEC 10-K, for the fiscal year ended December 31, 2016, at 37.

1 that may require increased capital spending and incremental operating costs to ensure the
2 continued operation of this very low-cost and emission-free generating source. With
3 respect to the potential for new regulatory requirements, AEP's SEC Form 10-K
4 specifically noted:

5 The NRC has broad authority under federal law to impose licensing and
6 safety-related requirements for the operation of nuclear generation
7 facilities. In the event of non-compliance, the NRC has the authority to
8 impose fines or shut down a unit, or both, depending upon its assessment
9 of the severity of the situation, until compliance is achieved. Revised
10 safety requirements promulgated by the NRC could necessitate
11 substantial capital expenditures at nuclear plants. In addition, although
12 management has no reason to anticipate a serious nuclear incident at the
13 Cook Plant, if an incident did occur, it could harm results of operations
14 or financial condition. A major incident at a nuclear facility anywhere
15 in the world could cause the NRC to limit or prohibit the operation or
16 licensing of any domestic nuclear unit. Moreover, a major incident at
17 any nuclear facility in the U.S. could require AEP or I&M to make
18 material contributory payments.⁴⁰

19 **Q. ARE THERE EXAMPLES OF THE INCREASED RISK OF NEW REGULATORY**
20 **REQUIREMENTS THAT NUCLEAR GENERATION PLANT OPERATORS**
21 **FACE?**

22 A. Yes. One example of nuclear risk is the ongoing and long-term uncertainty in regard to
23 nuclear waste disposal, as discussed by Company witness Shane Lies. Another is the
24 increased oversight and regulatory requirements put in place following the March 11, 2011
25 earthquake and tsunami, which caused significant damage to the Fukushima Daiichi
26 nuclear complex and threatened the public health. After the Fukushima accident, the NRC
27 assembled a task force to assess current regulation and determine if new measures were

⁴⁰ American Electric Power, Inc. SEC 10-K, for the fiscal year ended December 31, 2016, at 37.

1 required to ensure safety. The task force issued a report in July 2011 that included a set of
2 recommendations for NRC consideration.

3 Those recommendations continue to be modified and expanded by the NRC staff,
4 and the first related regulatory requirements were issued in March 2012 with
5 implementation guidance issued on August 30, 2012.⁴¹ The evolving nature of these NRC
6 requirements put nuclear operators at risk of incurring costly future capital expenditures.
7 For example, a 2013 survey of approximately one-half of the nuclear operators in the U.S.
8 indicated that upgrade costs for the country's nuclear fleet could total \$3.6 billion over the
9 coming three to five years.⁴² To the extent further mandates are promulgated by the NRC,
10 additional spending may be required. Absent full and timely recovery, increases in the
11 Company's capital investment requirements will place additional pressure on its free cash
12 flow and credit metrics.

13 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE RISK OF I&M'S**
14 **GENERATING PORTFOLIO?**

15 A. First, approximately 91.00 percent of I&M's generating portfolio consists of coal-fired and
16 nuclear power plants that face certain inherent risks associated with capital intensive assets
17 such as the risk of new regulations, cost uncertainty, and the ability to obtain adequate and
18 timely cost recovery. In particular, I&M and its investors face the risk that federal
19 environmental regulations will require I&M to invest additional capital or face closure or
20 curtailment of generating capacity. Because investors consider those risks in establishing
21 their return requirements, the Commission likewise should consider the effect of the

⁴¹ www.nrc.gov/reactors/operating/ops-experience/japan-info.html

⁴² U.S. Nuclear Plant Operators Estimate \$3.6 billion in Post-Fukushima Costs, Platts Nucleonics Week (June 6, 2013).

additional risk associated with I&M's generating portfolio in determining its authorized ROE.

B. Capital Expenditures

Q. PLEASE SUMMARIZE I&M'S CAPITAL EXPENDITURE PLANS.

A. As discussed by Company witness David Lucas, the Company's capital expenditure program is substantial. I&M currently plans to invest over \$1.21 billion of additional capital over the test year period (see Table 8, below).⁴³

Table 8: I&M Capital Spending (\$ millions)⁴⁴

2017	2018	Total
\$636	\$572	\$1,208

Because the Company will continue to make substantial investments in its utility operations, it will require efficient access to capital markets during the period that rates established in this proceeding will be in effect.

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

A. The allowed ROE should enable the subject utility to finance capital expenditures and working capital requirements at reasonable rates, and to maintain its financial integrity in a variety of economic and capital market conditions. As discussed throughout my testimony, a return that is adequate to attract capital at reasonable terms enables the utility

⁴³ See Figure DAL-3.

⁴⁴ *Id.*

1 to provide safe, reliable service while maintaining its financial soundness. To the extent a
2 utility is provided the opportunity to earn its market-based cost of capital, neither customers
3 nor shareholders should be disadvantaged.

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

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

16 **Q. HOW DO THESE CONSIDERATIONS APPLY TO I&M AND ITS CAPITAL**
17 **SPENDING PLANS?**

18 A. It is clear that I&M's capital expenditure program is significant and an important concern
19 for investors. In that regard, AEP, I&M's parent, believes the risks associated with capital
20 expenditures are of sufficient interest to be disclosed in its Securities and Exchange
21 Commission 10-K filings. The "Risk Factors" section of AEP's 2016 10-K filing noted:

22 AEP's business plan calls for extensive investment in capital
23 improvements and additions, including the installation of environmental
24 upgrades and retrofits, construction of additional transmission facilities,
25 modernizing existing infrastructure as well as other initiatives. AEP's

public utility subsidiaries currently provide service at rates approved by one or more regulatory commissions. If these regulatory commissions do not approve adjustments to the rates charged, affected AEP subsidiaries would not be able to recover the costs associated with their planned extensive investment. This would cause financial results to be diminished.

* * * *

AEP's business plan for the construction of new projects involves a number of risks, including construction delays, nonperformance by equipment and other third party suppliers, and increases in equipment and labor costs. To limit the risks of these construction projects, AEP and its subsidiaries enter into equipment purchase orders and construction contracts and incur engineering and design service costs in advance of receiving necessary regulatory approvals and/or siting or environmental permits. If any of these projects are canceled for any reason, including failure to receive necessary regulatory approvals and/or siting or environmental permits, significant cancellation penalties under the equipment purchase orders and construction contracts could occur. In addition, if any construction work or investments have been recorded as an asset, an impairment may need to be recorded in the event the project is canceled.⁴⁵

It also is clear that the financial community recognizes the need for timely cost recovery for those capital expenditures. For example, in a March 2015 report regarding I&M, FitchRatings specifically noted expected weakening credit metrics due to the Company's large capital investment plan. Fitch noted: "Due to the large capex plan and external funding requirements Fitch expects debt/EBITDAR to increase to 4.5x by 2017 from 4.1x in 2014, which is somewhat weak for the current rating level."⁴⁶

From the investor's perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. That view also is consistent with certain observations

⁴⁵ American Electric Power Inc., SEC Form 10-K, for the Fiscal Year Ended December 31, 2016, at 35-36.

⁴⁶ *Fitch Affirms American Electric Power and Subs; Outlook Stable*, FitchRatings, March 26, 2015, at 4. "EBITDAR" refers to Earnings Before Interest, Taxes, Depreciation, Amortization, Rent and Restructuring costs.

discussed in Section III of my Direct Testimony: (1) the benefits of maintaining a strong financial profile are significant when capital access is required; and (2) the Commission's decision in this proceeding will have a direct bearing on the Company's credit profile, and on its ability to access the capital needed to fund its investments.

Q. HAVE YOU ALSO CONSIDERED THE RELATIONSHIP BETWEEN CAPITAL EXPENDITURES AND THE EARNED RETURN ON COMMON EQUITY?

A. Yes, I have. The "DuPont" formula is commonly used by financial analysts to monitor specific operational and financial drivers of a company's earned ROE. According to DuPont analysis, ROE is affected by three things: (1) operating efficiency, which is measured by profit margin; (2) asset use efficiency, which is measured by total asset turnover; and (3) financial leverage, which is measured by the equity multiplier. The DuPont formula decomposes the Return on Common Equity into these three components, as shown in Equation [6] below:

$$ROE = \frac{Net\ Income}{Revenue} \times \frac{Revenue}{Net\ Plant} \times \frac{Net\ Plant}{Equity} \quad \text{Equation [6]}$$

As Attachment RBH-8 demonstrates, based on the Value Line Electric universe, the Asset Turnover rate declined from 2003 through 2016 from 68.63 percent to 35.56 percent and is expected to remain at approximately the same level through Value Line's 2020 – 2022 projection period. Over that same period (*i.e.*, 2003 through 2020 – 2022), according to Value Line data, average Net Plant is expected to experience a cumulative increase of approximately 277.80 percent. Since, as noted above, the utility industry is going through a period of increased capital investment, the lag between the addition of net plant and revenue generated by those investments dilutes the Asset Turnover ratio, at least in the near term.

To more fully understand the relationship between earned returns and capital investments, I performed a regression analysis in which the annual change in the Asset Turnover rate was the dependent variable, and the annual change in Net Plant was the independent variable. As shown in Attachment RBH-8, that analysis indicates a statistically significant negative relationship between the two variables, such that as annual net plant increases, the Asset Turnover ratio decreases. Those findings indicate that an increase in capital expenditures also negatively affects the Return on Common Equity, causing greater financial stress to the utility.. To the extent investors value a company based on earnings and cash flow, this additional financial strain is a key concern.

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

A. I&M's capital expenditure program is significant and will place additional pressure on its cash flows making regulatory support more important in terms of I&M's ability to finance these expenditures and earn a reasonable return on its planned investments. As such, the Commission's decision in this proceeding will have a direct bearing on I&M's ability to maintain its financial profile, and its ability to access the capital market at reasonable cost rates.

C. Customer Concentration

Q. PLEASE DISCUSS I&M'S DEGREE OF CUSTOMER CONCENTRATION.

1 A. Approximately 20.00 percent to 22.00 percent of I&M's load is under wholesale contract.
2 As described by Company witness Williamson, one such customer has lost approximately
3 100 MW of load in 2018, which the Company has not been able to replace.

4 **Q. HOW DOES CUSTOMER CONCENTRATION AFFECT I&M'S BUSINESS**
5 **RISK?**

6 A. I&M's concentration of load under wholesale contract poses an incremental element of
7 business risk in two ways. First, these wholesale contracts reflect a substantial amount of
8 the Company's fixed costs which could be subject to future recovery from retail customers.
9 Second, this potential increase in the cost burden of retail customers poses customer
10 attrition risk, further exacerbating the issue.

11 Consequently, customer attrition, combined with the Company's substantial capital
12 investment plans, would create a circumstance under which each dollar of invested assets
13 produces fewer dollars of revenue. Under this scenario, the Company's ability to fund
14 capital investments through growth-related revenue increases would be severely limited.

15
16 ***D. Flotation Costs***

17 **Q. WHAT ARE FLOTATION COSTS?**

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

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

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

6 **Q. ARE FLOTATION COSTS PART OF THE UTILITY'S INVESTED COSTS OR**
7 **PART OF THE UTILITY'S EXPENSES?**

8 A. Flotation costs are part of the invested costs of the utility, which are properly reflected on
9 the balance sheet under "paid in capital." They are not current expenses, and therefore are
10 not reflected on the income statement. Rather, like investments in rate base or the issuance
11 costs of long-term debt, flotation costs are incurred over time. As a result, the great
12 majority of a utility's flotation cost is incurred prior to the test year, but remains part of the
13 cost structure that exists during the test year and beyond. As such, it should be recognized
14 for ratemaking purposes. Therefore, recovery of flotation costs is appropriate even if no
15 new issuances are planned in the near future because failure to allow such cost recovery
16 may deny I&M the opportunity to earn its required rate of return in the future.

17 **Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE**
18 **I&M IS A WHOLLY-OWNED SUBSIDIARY OF AEP?**

19 A. No, it is not. Wholly owned subsidiaries such as I&M receive equity capital from their
20 parents, and provide returns on the capital that roll up to the parent, which is designated to
21 attract and raise capital based on the returns of those subsidiaries. To deny recovery of
22 issuance costs associated with capital that is invested in the subsidiaries ultimately would
23 penalize the investors that fund the utility operations, and would inhibit the utility's ability

to obtain new equity capital at a reasonable cost. This is important for companies such as I&M that are planning continued capital expenditures in the near term, and for which access to capital (at reasonable cost rates) to fund such required expenditures will be critical.

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

A. No. The models used to estimate the appropriate ROE assume no “friction” or transaction costs, as these costs are not reflected in the market price (in the case of the DCF model) or risk premium (in the case of the CAPM and the Bond Yield Plus Risk Premium model). Therefore, it is appropriate to consider flotation costs when determining where within the range of reasonable results I&M’s return should fall.

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

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

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

operating cash flow, they must be incorporated into the cost of equity capital.⁴⁷

Q. HAVE YOU CALCULATED THE EFFECT OF FLOTATION COSTS ON THE RETURN ON EQUITY?

A. Yes, I have. I modified the DCF calculation to derive the dividend yield that would reimburse investors for direct issuance costs. Based on the weighted average issuance costs shown in Attachment RBH-9, a reasonable estimate of flotation costs is approximately 0.11 percent (11 basis points). Although I have calculated the effect of flotation costs, I did not make any explicit adjustments to my ROE estimates to account for flotation costs. Rather, I took it into consideration in determining where the Company's Cost of Equity falls within the range of analytical results.

E. Rate Mechanisms

Q. HOW COMMON ARE REVENUE STABILIZATION AND COST RECOVERY MECHANISMS?

A. There is little question that revenue stabilization and cost recovery structures are becoming increasingly common. The increased interest in such mechanisms has generally resulted from the growing cost of maintaining system reliability, coupled with the flat or declining sales volume brought on by energy efficiency and relatively slow economic growth. . As shown on Attachment RBH-11, adjustment mechanisms to recover fuel costs, purchased power expenses, energy efficiency and demand-side program costs, new plant investment,

⁴⁷ Shannon P. Pratt, Roger J. Grabowski, Cost of Capital: Applications and Examples, 4th ed. (John Wiley & Sons, Inc., 2010), page 586.

and other expenses are common. In addition, decoupling has been implemented by electric utilities in 25 jurisdictions.⁴⁸ Consequently, the implementation of alternative regulation mechanisms has become an increasingly visible issue to investors.

Q. DOES THE COMPANY'S PROPOSED CUSTOMER CHARGE HAVE THE EFFECT OF REDUCING ITS COST OF EQUITY?

A. No, it does not. I understand that the Company's proposed customer charge, which would provide an incremental degree of revenue stability, is intended to reduce the extent to which volumetric rates recover fixed costs. As noted above, revenue decoupling, which also is intended to stabilize revenue, have become increasingly common among electric utilities. Attachment RBH-10 provides a summary of revenue stabilization mechanisms and cost trackers currently in effect at each electric utility subsidiary of the proxy group companies. As Attachment RBH-10 demonstrates, there are a substantial number of such mechanisms in place at the proxy companies.⁴⁹ Attachment RBH-10 also includes a summary of the alternative regulation and incentive plans currently in effect at the proxy companies. Those regulatory constructs include formula-based rate plans, which provide comprehensive adjustment mechanisms that automatically adjust rates in the event that earned return is above or below an authorized range.

Q. HAVE YOU ALSO CONSIDERED THE EFFECT OF THE COMPANY'S FUTURE TEST YEAR ON ITS COST OF EQUITY?

⁴⁸ See, for example, *Adjustment Clauses: A State-by-State Overview*, Regulatory Research Associates, August 22, 2016.

⁴⁹ Note: A single mechanisms may cover more than one cost category. As such, Attachment RBH-10 is not intended to illustrate the quantity of separate mechanisms in place at a certain utility; rather the categories of costs recovered through mechanisms approved by the respective utility commission.

1 **A.** Yes, I have. Attachment RBH-10 demonstrates that a substantial majority of the proxy
2 companies also have structures in place to address rate base additions. Moreover, a number
3 of the proxy companies operate in jurisdictions that provide for future or partially forecast
4 test years, or that permit Construction Work In Progress ("CWIP") to be included in rate
5 base.⁵⁰ As to their prevalence, Value Line believes that the use of such mechanisms "is
6 likely to increase as utilities request similar mechanisms in additional states."⁵¹ Similarly,
7 S&P has noted that it has "seen many state commissions approve alternative ratemaking
8 techniques to traditional base rate case applications, which help utilities sustain cash flow
9 measures, earning power, and ultimately, credit quality."⁵² Consequently, the use of a
10 forecast test year does not reduce the Company's risk relative to the proxy group.

11 **Q. DO THE COMPANY'S COST RECOVERY MECHANISMS REDUCE ITS COST**
12 **OF EQUITY?**

13 **A.** No, they do not. The principal analytical issue is whether the Company is so less risky
14 than its peers as a direct result of its recovery mechanisms that investors would specifically
15 and measurably reduce their return requirements. The fact that the Company's existing
16 recovery mechanisms may, to a degree, stabilize the Company's revenues will not affect its
17 Cost of Equity unless it can be demonstrated that (1) the Company is materially less risky
18 than the proxy group by virtue of those mechanisms; and (2) investors are likely to react to
19 the incremental effect of those mechanisms. Because revenue stabilization and cost
20 recovery mechanisms are common among the proxy companies, there is no reason to

⁵⁰ Source: Regulatory Research Associates.

⁵¹ See, Paul E. Debbas, CFA, *What Electric Utilities Are Doing About Regulatory Lag*, Value Line, May 23, 2012.

⁵² S&P RatingsDirect, *Industry Economic and Ratings Outlook: U.S. Regulated Utilities Expected To Continue On Stable Trajectory In 2013*, January 25, 2013.

1 assume that I&M would be materially less risky, and that its Cost of Equity would be lower
2 than its peers' as a result of its recovery mechanisms.

3
4 **VII. CAPITAL MARKET ENVIRONMENT**

5 **Q. HOW DO ECONOMIC CONDITIONS INFLUENCE THE REQUIRED COST OF**
6 **CAPITAL AND REQUIRED RETURN ON COMMON EQUITY?**

7 A. As discussed in Section VI, the models used to estimate the Cost of Equity are meant to
8 reflect, and therefore are influenced by, current and expected capital market conditions.
9 Further, because all models are based on simplifying assumptions, their applicability to
10 market conditions change over time. That is why (as discussed earlier) no one method is
11 more reliable than all others at all times, or under all market conditions. To the extent a
12 given model's assumptions become incompatible with market conditions, or its results are
13 inconsistent with basic financial principles, it is appropriate to consider whether alternative
14 methods are likely to provide more meaningful and reliable results.

15 **Q. DO YOU HAVE ANY GENERAL OBSERVATIONS REGARDING THE**
16 **RELATIONSHIP BETWEEN FEDERAL RESERVE MONETARY POLICY,**
17 **CAPITAL MARKET CONDITIONS, AND THE COMPANY'S COST OF**
18 **EQUITY?**

19 A. Yes, I do. Much has been reported about the Federal Reserve's Quantitative Easing policy
20 and its effect on interest rates. Although the Federal Reserve completed its Quantitative
21 Easing initiative in October 2014, it was not until December 2015 that it raised the Federal
22 Funds rate, and began the process of rate normalization.⁵³ Therefore, a significant issue is

⁵³ See Federal Reserve Press Release (December 16, 2015).

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

8 More recently, interest rates have risen and become increasingly volatile. In the
9 equity markets, sectors that historically have included dividend-paying companies have
10 lost value, as increasing interest rates have provided investors with other sources of current
11 yields. Because those dynamics affect different models in different ways, placing undue
12 weight on a single method may produce an unbalanced view of the Company's Cost of
13 Equity. A more balanced approach is to understand the relationships among Federal
14 Reserve policies, interest rates, and measures of market risk, and to assess how those
15 factors may affect different models and their results.

16 **Q. PLEASE SUMMARIZE THE EFFECT OF RECENT FEDERAL RESERVE**
17 **POLICIES ON INTEREST RATES AND THE COST OF CAPITAL.**

18 A. Beginning in 2008, the Federal Reserve proceeded on a steady path of initiatives intended
19 to lower long-term Treasury yields.⁵⁴ The Federal Reserve policy actions "were designed
20 to put downward pressure on longer-term interest rates by having the Federal Reserve take
21 onto its balance sheet some of the duration and prepayment risks that would otherwise have

⁵⁴ See Federal Reserve Press Release, dated June 19, 2013.

1 been borne by private investors.”⁵⁵ Under that policy, “Securities held outright” on the
 2 Federal Reserve’s balance sheet increased from approximately \$489 billion at the
 3 beginning of October 2008 to \$4.24 trillion by May 2017.⁵⁶ To put that increase in context,
 4 the securities held by the Federal Reserve represented approximately 3.29 percent of Gross
 5 Domestic Product (GDP) at the end of September 2008, and had risen to approximately
 6 22.31 percent of GDP in May 2017.⁵⁷ As such, the Federal Reserve policy actions continue
 7 to represent a significant source of liquidity, and have a substantial effect on capital
 8 markets.

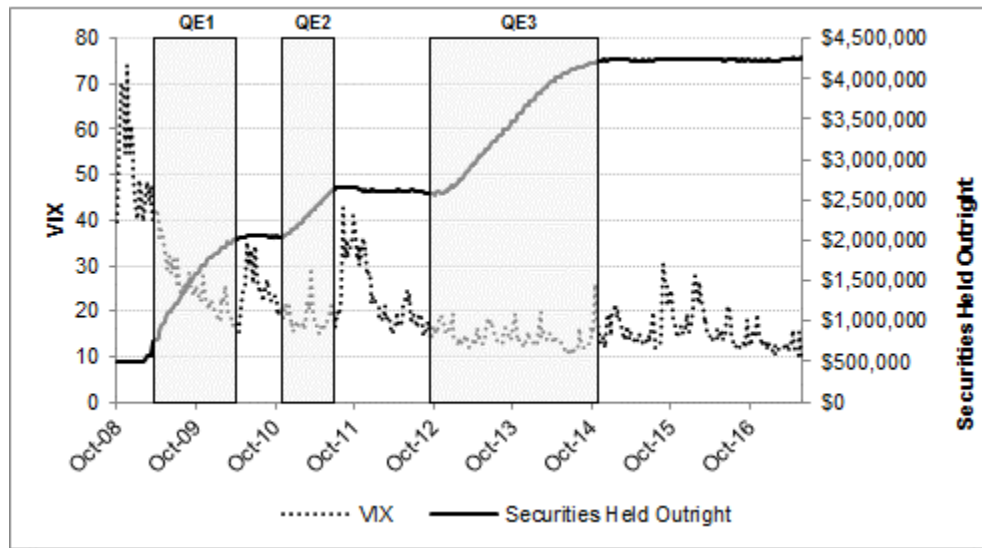
9 Just as market intervention by the Federal Reserve has reduced interest rates, it also
 10 had the effect of reducing market volatility. As shown in Chart 3 (below), each time the
 11 Federal Reserve began to purchase bonds (as evidenced by the increase in “Securities Held
 12 Outright” on its balance sheet), volatility subsequently declined. In fact, in September
 13 2012, when the Federal Reserve began to purchase long-term securities at a pace of \$85
 14 billion per month, volatility (as measured by the CBOE Volatility Index, known as the
 15 “VIX”) fell, and through October 2014 remained in a relatively narrow range. The reason
 16 is quite straight-forward: Investors became confident that the Federal Reserve would
 17 intervene if markets were to become unstable.

⁵⁵ Federal Reserve Bank of New York, *Domestic Open Market Operations During 2012*, April 2013, at 29.

⁵⁶ Source: Federal Reserve Board Schedule H.4.1. “Securities held outright” include U.S. Treasury securities, Federal agency debt securities, and mortgage-backed securities

⁵⁷ Source: Federal Reserve Board Schedule H.4.1; Bureau of Economic Analysis.

Chart 3: VIX and Federal Reserve Asset Purchases⁵⁸



The important analytical issue is whether we can infer that risk aversion among investors is at a historically low level, implying a Cost of Equity that is well below recently authorized returns. Given the negative correlation between the expansion of the Federal Reserve's balance sheet and the VIX, it is difficult to conclude that fundamental risk aversion and investor return requirements have fallen. If it were the case that investors believe that volatility will remain at low levels (that is, that market risk and uncertainty will remain low), it is not clear why they would decrease their return requirements for defensive sectors such as utilities.

Q. DOES YOUR RECOMMENDATION ALSO CONSIDER THE INTEREST RATE ENVIRONMENT?

A. Yes, it does. The low interest rate environment associated with central bank intervention may lead some analysts to conclude that current capital costs, including the Cost of Equity,

⁵⁸ Source: Federal Reserve Economic Data ("FRED"), Federal Reserve Bank of St. Louis; Federal Reserve Statistical Release H.4.1, Factors Affecting Reserve Balances.

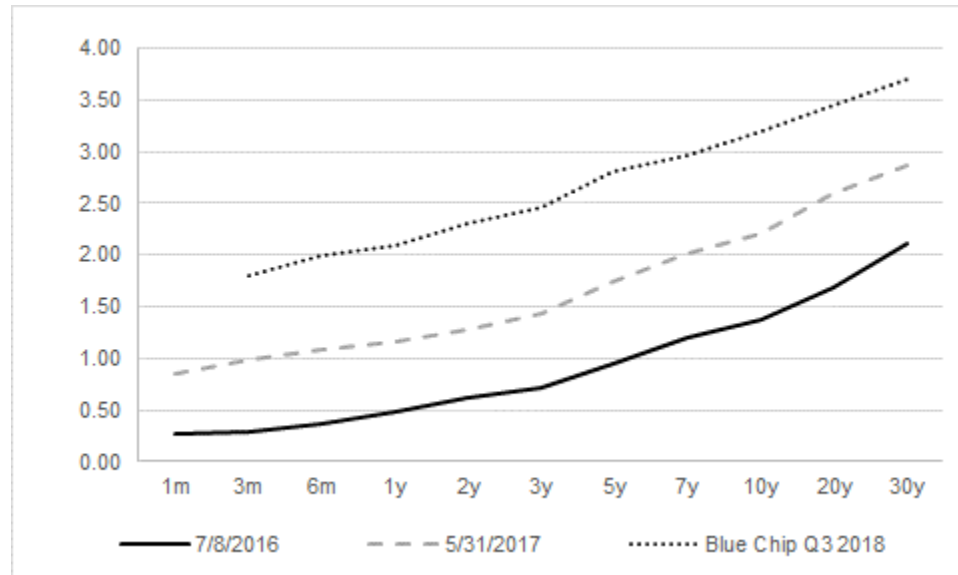
1 are low and will remain as such. However, that conclusion only holds true under the
2 hypothesis of Perfectly Competitive Capital Markets (“PCCM”) and the classical valuation
3 framework which, under normal economic and capital market conditions, underpin the
4 traditional Cost of Equity models. Perfectly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

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

18 Although the Federal Reserve’s market intervention policies have kept interest rates
19 historically low, since July 8, 2016 (when the 30-year Treasury yield hit a low of 2.11
20 percent), rates have risen. As the Federal Reserve increased the Federal Funds target rate
21 by 25 basis points in December 2016 (from 0.25 percent - 0.50 percent to 0.50 percent -
22 0.75 percent) and again in March 2017 (to 0.75 percent - 1.00 percent), short-term interest

rates increased by a corresponding amount.⁵⁹ Long-term yields increased by wider margins, with the ten-year and 30-year Treasury yields increasing by 84 basis points and 76 basis points, respectively, by May 31, 2017 (*see* Chart 4, below).

**Chart 4: Treasury Yield Curve
7/8/2016, 5/31/2017, and Projected Q3 2018⁶⁰**



The increase in the ten- and 30-year yields from July 2016 to May 2017 is among the highest increase in at least 25 years.⁶¹ That increase in Treasury yields is highly related to increasing inflation. To that point, leading up to and following the November 2016 Presidential election expected inflation, as measured by the difference between nominal Treasury yields and Treasury Inflation Protected Securities (that difference often is referred

⁵⁹ Federal Reserve Board Schedule H.15. 6-month and 1-year Treasury yields increased by 72 basis points and 69 basis points, respectively, July 8, 2016 to May 31, 2017. I recognize that on June 14, 2017 the Federal Reserve increased its target rate to 1.00 percent - 1.25 percent; that rate increase occurred subsequent to the market data included in my analyses.

⁶⁰ Sources: Federal Reserve Board Schedule H.15.; *Blue Chip Financial Forecasts*, Vol. 36, No.6, June 1, 2017, at 2. 3-year, 7-year and 20-year projected Treasury yields interpolated.

⁶¹ Source: Federal Reserve Schedule H.15. The increases fall in the top 92nd percentiles for both the ten- and 30-year Treasury yields, respectively.

to as the “TIPS spread”) also increased, such that it stands approximately equal to the Federal Reserve’s 2.00 percent inflation target (*see* Chart 5, below).

Chart 5: Forward Inflation Estimates 7/8/2016 – 5/31/2017⁶²



The increase in both long-term interest rates and inflation, particularly considering the magnitude of the changes over an abbreviated period, suggest higher investor return requirements.

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

A. Yes. Forward Treasury yields implied by the slope of the yield curve and published projections by sources such as *Blue Chip Financial Forecasts* (which provides consensus estimates from approximately 50 professional economists) indicate investors expect long-term interest rates to increase. Similarly, investors’ expectations for increased long-term Treasury yields are apparent in the prices investors are willing to pay today for the option

⁶² Source: Federal Reserve Schedule H.15. Forward inflation estimates calculated as the difference between implied nominal and inflation protected 20-year Treasury yields in ten years.

1 to buy or sell long-term Government bonds, at today's price, in the future. Because the
2 value of bonds falls as interest rates increase, the option to sell bonds at today's price
3 becomes more valuable when interest rates are expected to increase.⁶³ Currently option
4 prices show that investors are willing to pay about 50.00 percent more for the option to sell
5 bonds in the future (at today's price) than they are willing to pay for the option to buy those
6 bonds.⁶⁴ That market-based data tells us that investors consider an increase in interest rates
7 as likely.

8 Looking to short-term interest rates, data compiled by CME Group indicates
9 investors see a high likelihood of further Federal Funds rate increases, even after the recent
10 increases. As shown in Table 9, (below) the market now anticipates at least one additional
11 rate increase (67.60 percent probability), and possibly two or more (25.30 percent and 5.00
12 percent probability, respectively) by June 2018.

⁶³ 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.

⁶⁴ 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>.

Table 9: Probability of Federal Funds Rate Increases⁶⁵

Target Rate (bps)	Federal Reserve Meeting Date							
	7/26/17	9/20/17	11/1/17	12/13/17	1/31/18	3/21/2018	5/2/2018	6/13/2018
100-125	97.5%	81.6%	79.9%	53.1%	52.0%	46.1%	44.7%	32.4%
125-150	2.5%	18.0%	19.3%	39.7%	39.9%	41.3%	41.4%	42.3%
150-175		0.4%	0.8%	7.0%	7.7%	11.3%	12.2%	20.3%
175-200				0.3%	0.4%	1.2%	1.5%	4.5%
200-225						0.1%	0.1%	0.5%

Q. HOW DOES THAT MARKET INFORMATION AFFECT THE MODELS USED TO ESTIMATE THE COMPANY'S COST OF EQUITY?

A. It does so in various ways. First, utilities' stock prices historically have been sensitive to changes in interest rates. Because the Federal Reserve's monetary policies, including the nearly \$4 trillion of assets currently on its balance sheet, continue to put downward pressure on long-term interest rates, dividend-paying companies have been a source of current yield for investors. As investors sought that yield, they bid up utility prices to levels that well exceeded historical valuation levels. The analytical issue created is that stock prices were strongly influenced by monetary policy and temporary swings in interest rates; they were not focused on the fundamental growth prospects that underlie the DCF model.

The DCF model also assumes that the Price/Earnings multiple in place at the time the analysis is performed will stay constant forever. Recent P/E ratios, however, have been strongly influenced by monetary policy. We know, however, that the Federal Reserve has begun to normalize its policy. Consequently, we know that the conditions that have

⁶⁵ Source: <http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed June 14, 2017.

supported the sector's elevated P/E ratios will not be in place forever, as the DCF model implicitly assumes.

In short, recent utility stock prices have been largely influenced by monetary policies that will not be in place in perpetuity. Because the DCF model estimates cash flows, and the required return associated with those cash flows in perpetuity, we should be very cautious as to how we interpret the DCF model's results.

VIII. CAPITAL STRUCTURE AND COST OF DEBT

A. *Capital Structure*

Q. PLEASE SUMMARIZE THE COMPANY'S REQUESTED CAPITAL STRUCTURE AND OVERALL RATE OF RETURN.

A. The Company is proposing an end of test year capital structure components and resulting overall rate of return on an investor-supplied capital basis as presented in Table 10 below:

Table 10: Summary of Overall Rate of Return (Investor-Supplied Capital)⁶⁶

Capital Components	Ratio	Cost	Weighted Cost
Long-Term Debt	53.54%	5.14%	2.75%
Common Equity	46.46%	10.60%	4.93%
Total	100.00%		7.68%

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

A. In practice, the capital structure should enable the Company to maintain or enhance its financial integrity, thereby enabling access to capital at competitive rates under a variety of economic and financial market conditions. The capital structure relates to financial risk,

⁶⁶ See Exhibit A-7, page 3.

1 which is a function of the percentage of debt relative to equity (that relationship is often
2 referred to as "financial leverage"). As the percentage of debt in the capital structure
3 increases, so do the fixed obligations for the repayment of that debt and, therefore, the risk
4 that cash flows may not be sufficient to meet those obligations on a timely basis.
5 Consequently, as the degree of financial leverage increases, the risk of financial distress
6 (*i.e.*, financial risk) also increases. Because the capital structure can affect the subject
7 company's overall level of risk, it is an important consideration in establishing a just and
8 reasonable rate of return. Therefore, it is important to consider the capital structure in the
9 context of industry practice and investor requirements.

10 **Q. PLEASE DESCRIBE YOUR ANALYSIS OF THE COMPANY'S CAPITAL**
11 **STRUCTURE RELATIVE TO INDUSTRY PRACTICE.**

12 A. As a measure of industry practice, I calculated the average capital structure for each of the
13 utility operating companies held by the proxy companies over the last eight fiscal quarters.
14 As shown in Attachment RBH-11, the average capital structure over that period included
15 52.59 percent common equity and 47.71 percent long-term debt; the average common
16 equity ratios (on a company-specific basis) range from 45.55 percent to 58.93 percent.
17 Based on that review, it is apparent that I&M's projected investor-supplied capital structure
18 is consistent with those in place at the operating companies held within the proxy group.

19 **Q. WHAT IS THE BASIS FOR USING AVERAGE CAPITAL COMPONENTS**
20 **RATHER 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

appropriate to normalize the relative relationship between the capital components over a period of time.

Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL STRUCTURE FOR I&M?

A. Considering the range of proxy company average equity ratios from 45.55 percent to 58.93 percent, I believe that I&M's 46.46 percent common equity ratio is appropriate, although it is somewhat below those of its peers.

B. Cost of Debt

Q. WHAT COST OF DEBT HAS THE COMPANY REQUESTED IN THIS PROCEEDING?

A. The Company has proposed a cost of debt of 5.14 percent, which is the Company's weighted average cost of debt at the end of the Test Year.

Q. PLEASE DISCUSS YOUR ANALYSIS OF THE COMPANY'S COST OF DEBT.

A. To test the reasonableness of the Company's proposed cost of debt I reviewed the yield on equivalent debt at the time of issuance. As shown in Attachment RBH-12, I compared the cost of each individual issuance to the Moody's BBB Utility Index at the time of the issuance.⁶⁷ The expected cost of debt, based on the Moody's BBB Utility Bond Index (the "Moody's Index") was 5.21 percent, indicating that the Company's 5.14 percent proposed weighted average Cost of Debt is reasonable.

⁶⁷ See also Exhibit A-7, Page 2.

1 **IX. CONCLUSIONS AND RECOMMENDATION**

2 **Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S COST OF**
3 **EQUITY?**

4 **A.** As discussed in Section V (and as shown in Attachments RBH-2 through RBH-12), I have
5 performed several analyses to estimate I&M's Cost of Equity. In light of those results, and
6 taking into consideration other relevant and observable market data, I believe that an ROE
7 in the range of 10.00 percent to 11.00 percent represents the range of returns required by
8 equity investors under current and expected market conditions. As discussed earlier in my
9 testimony, my recommendation reflects analytical results based on a proxy group of
10 electric utilities, and takes into consideration the Company's risk profile, including: (1) the
11 Company's generation portfolio and the risks associated with environmental regulations;
12 (2) I&M's planned capital investment program; (3) the risks associated with customer
13 concentration; (4) flotation costs associated with equity issuances; and (5) the Company's
14 cost recovery mechanisms.

15 As discussed throughout my Direct Testimony, all of the models used to estimate
16 the Cost of Equity are subject to certain assumptions, which may become more or less
17 relevant as market conditions, and market data, change. It therefore is important to
18 consider a variety of empirical and qualitative information in reviewing analytical results
19 and arriving at ROE recommendations. That review includes an assessment of the various
20 models used, and the consistency of their underlying assumptions with current and
21 expected market conditions. In the end, it is the reasonableness and consistency of the
22 ROE determination that is of principal concern to investors. With those points in mind, I
23 applied and reviewed the following models:

- 1 • *Constant Growth DCF Model* – As discussed earlier in my Direct Testimony, the

2 proxy companies have traded at P/E ratios well in excess of their historical average

3 and, for a time, in excess of the market. Because that condition is unlikely to persist,

4 it violates two principal assumptions of the Constant Growth DCF model, *i.e.*, that

5 the P/E ratio will not change, and that the ROE stays constant in perpetuity. As a

6 practical matter, the Constant Growth DCF results are well below a highly

7 observable and relevant benchmark: the returns authorized for vertically integrated

8 electric utilities. As such, considering multiple methods, including the Multi-Stage

9 DCF model, the CAPM approach, and the Bond Yield Plus Risk Premium model,

10 is more appropriate in current market conditions.
- 11 • *Multi-Stage DCF Model* – Because the Multi-Stage DCF Model provides the ability

12 to specify near, intermediate, and long-term growth rates, it avoids the sometimes

13 limiting assumption that the subject company will grow at the same, constant rate

14 in perpetuity. The model also enables analysts to assess the reasonableness of the

15 inputs and results by reference to certain market-based metrics. The Multi-Stage

16 DCF analysis produces a range of results from 8.73 percent to 10.11 percent.
- 17 • *CAPM Approach* – Unlike the DCF-based methods, the CAPM, is a risk premium-

18 based method, assumes that investors must be compensated for the time value of

19 money and for taking on additional risk. The time value of money is measured by

20 long-term Treasury yields; compensation for additional risk is measured by the

21 stock's Beta coefficient and the expected Market Risk Premium. The Market Risk

22 Premium reflects the additional return that investors expect to receive by investing

23 in the market as a whole over the return they would receive by investing only in

1 long-term Treasury bonds. The CAPM analyses produce an ROE range of 9.26
2 percent to 11.20 percent.

- 3 • *Bond Yield Plus Risk Premium Analysis* – This risk premium-based method
4 assumes that the Cost of Equity equals the sum of (1) long-term Treasury bond
5 yields, and (2) an Equity Risk Premium, which represents the additional risk
6 associated with investing in utility stocks. This model focuses on the relationship
7 between interest rates and the Equity Risk Premium and demonstrates that over
8 time, there has been a statistically significant, negative relationship between the
9 two. Based a regression analysis of that relationship, the estimated Cost of Equity
10 is for an electric utility is between 9.98 percent 10.34 percent.

11 Reviewing the results of the DCF, CAPM, and Bond Yield Plus Risk Premium
12 models, I believe that an ROE in the range of 10.00 percent to 11.00 percent represents the
13 range of equity investors' required ROE for investment in vertically integrated electric
14 utilities in today's capital markets. Within my recommended range, I believe that 10.60
15 percent reasonably represents the Cost of Equity required to invest in a company with a
16 risk profile comparable to I&M.

17 I also conclude that the Company's 5.14 percent projected Cost of Debt at the end
18 of the test year reflects prevailing market conditions at the times of issuance, and therefore
19 is reasonable and appropriate. Lastly, I conclude that the Company's investor-supplied
20 capital structure, which includes 46.46 percent common equity and 53.54 percent long-
21 term debt is reasonable relative to its peers, although it does contain somewhat more
22 financial leverage. The Company's proposed capital structure is consistent with industry
23 practice, and supports I&M's financial integrity.

- 1 Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?
- 2 A. Yes, it does.

VERIFICATION

I, Robert B. Hevert, Partner of ScottMadden, Inc., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: July 3, 2017

A handwritten signature in black ink, appearing to read "Robert B. Hevert", written over a horizontal line.

Robert B. Hevert

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 100 occasions at the state, provincial, and federal levels.

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

Areas of Specialization

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

Recent Expert Testimony Submission/Appearance

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

Recent Assignments

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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Regulatory Commission of Alaska				
ENSTAR Natural Gas Company	06/16	ENSTAR Natural Gas Company	Matter No. TA 285-4	Return on Equity
ENSTAR Natural Gas Company	08/14	ENSTAR Natural Gas Company	Matter No. TA 262-4	Return on Equity
Alberta Utilities Commission				
Altalink, L.P., and EPCOR Distribution & Transmission, Inc.	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				
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)
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)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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	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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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				
Hawaiian Electric Company, Inc.	12/16	Hawaiian Electric Company, Inc.	Docket No. 2016-0328	Return on Equity
Hawai'i Electric Light Company, Inc.	09/16	Hawai'i Electric Light Company, Inc.	Docket No. 2015-0170	Return on Equity
Maui Electric Company, Limited	12/14	Maui Electric Company, Limited	Docket No. 2014-0318	Return on Equity
Hawaiian Electric Company, Inc.	06/14	Hawaiian Electric Company, Inc.	Docket No. 2013-0373	Return on Equity
Hawai'i Electric Light Company, Inc.	08/12	Hawai'i Electric Light Company, Inc.	Docket No. 2012-0099	Return on Equity
Illinois Commerce Commission				
Ameren Illinois Company d/b/a Ameren Illinois	01/15	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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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				
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				
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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 Unitil	06/15	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 15-80	Return on Equity
NSTAR Gas Company	12/14	NSTAR Gas Company	DPU 14-150	Return on Equity
Fitchburg Gas and Electric Light Company d/b/a Unitil	07/13	Fitchburg Gas and Electric Light Company d/b/a Unitil	DPU 13-90	Return on Equity
Bay State Gas Company d/b/a Columbia Gas of Massachusetts	04/12	Bay State Gas Company d/b/a Columbia Gas of Massachusetts	DPU 12-25	Capital Cost Recovery
National Grid	08/09	Massachusetts Electric Company d/b/a National Grid	DPU 09-39	Revenue Decoupling and Return on Equity
National Grid	08/09	Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid	DPU 09-38	Return on Equity – Solar Generation
Bay State Gas Company	04/09	Bay State Gas Company	DPU 09-30	Return on Equity
NSTAR Electric	09/04	NSTAR Electric	DTE 04-85	Divestiture of Power Purchase Agreement
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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				
ALLETE, Inc., d/b/a Minnesota Power Inc.	11/16	ALLETE, Inc., d/b/a Minnesota Power Inc.	Docket No. E015/GR-16-664	Return on Equity
Otter Tail Power Corporation	02/16	Otter Tail Power Company	Docket No. E017/GR-15-1033	Return on Equity
Minnesota Energy Resources Corporation	09/15	Minnesota Energy Resources Corporation	Docket No. G-011/GR-15-736	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/15	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-15-424	Return on Equity
Xcel Energy, Inc.	11/13	Northern States Power Company	Docket No. E002/GR-13-868	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	08/13	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-13-316	Return on Equity
Xcel Energy, Inc.	11/12	Northern States Power Company	Docket No. E002/GR-12-961	Return on Equity
Otter Tail Power Corporation	04/10	Otter Tail Power Company	Docket No. E-017/GR-10-239	Return on Equity
Minnesota Power a division of ALLETE, Inc.	11/09	Minnesota Power	Docket No. E-015/GR-09-1151	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas	11/08	CenterPoint Energy Minnesota Gas	Docket No. G-008/GR-08-1075	Return on Equity
Otter Tail Power Corporation	10/07	Otter Tail Power Company	Docket No. E-017/GR-07-1178	Return on Equity
Xcel Energy, Inc.	11/05	Northern States Power Company - Minnesota	Docket No. E-002/GR-05-1428	Return on Equity (electric)
Xcel Energy, Inc.	09/04	Northern States Power Company - Minnesota	Docket No. G-002/GR-04-1511	Return on Equity (gas)
Mississippi Public Service Commission				
CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Mississippi Gas	07/09	CenterPoint Energy Mississippi Gas	Docket No. 09-UN-334	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Missouri Public Service Commission				
Union Electric Company d/b/a Ameren Missouri	07/16	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2016-0179	Return on Equity (electric)
Kansas City Power & Light Company	07/16	Kansas City Power & Light Company	Case No. ER-2016-0285	Return on Equity (electric)
Kansas City Power & Light Company	02/16	Kansas City Power & Light Company	Case No. ER-2016-0156	Return on Equity (electric)
Kansas City Power & Light Company	10/14	Kansas City Power & Light Company	Case No. ER-2014-0370	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	07/14	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2014-0258	Return on Equity (electric)
Union Electric Company d/b/a Ameren Missouri	06/14	Union Electric Company d/b/a Ameren Missouri	Case No. EC-2014-0223	Return on Equity (electric)
Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	02/14	Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities	Case No. GR-2014-0152	Return on Equity
Laclede Gas Company	12/12	Laclede Gas Company	Case No. GR-2013-0171	Return on Equity
Union Electric Company d/b/a Ameren Missouri	02/12	Union Electric Company d/b/a Ameren Missouri	Case No. ER-2012-0166	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	09/10	Union Electric Company d/b/a AmerenUE	Case No. ER-2011-0028	Return on Equity (electric)
Union Electric Company d/b/a AmerenUE	06/10	Union Electric Company d/b/a AmerenUE	Case No. GR-2010-0363	Return on Equity (gas)
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
Unitil Energy Systems, Inc.	04/16	Unitil Energy Systems, Inc.	Docket No. DE 16-384	Return on Equity
Liberty Utilities d/b/a Granite State Electric Company	04/16	Liberty Utilities d/b/a Granite State Electric Company	Docket No. DE 16-383	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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				
Pivotal Utility Holdings, Inc.	08/16	Elizabethtown Gas	Docket No. GR16090826	Return on Equity
The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	04/16	The Southern Company; AGL Resources Inc.; AMS Corp. and Pivotal Holdings, Inc. d/b/a Elizabethtown Gas	BPU Docket No. GM15101196	Merger Approval
Atlantic City Electric Company	03/16	Atlantic City Electric Company	Docket No. ER16030252	Return on Equity
Pepco Holdings, Inc.	04/14	Atlantic City Electric Company	Docket No. ER14030245	Return on Equity
Orange and Rockland Utilities	11/13	Rockland Electric Company	Docket No. ER13111135	Return on Equity
Atlantic City Electric Company	12/12	Atlantic City Electric Company	Docket No. ER12121071	Return on Equity
Atlantic City Electric Company	08/11	Atlantic City Electric Company	Docket No. ER11080469	Return on Equity
Pepco Holdings, Inc.	09/06	Atlantic City Electric Company	Docket No. EM06090638	Divestiture and Valuation of Electric Generating Assets
Pepco Holdings, Inc.	12/05	Atlantic City Electric Company	Docket No. EM05121058	Market Value of Electric Generation Assets; Auction
Conectiv	06/03	Atlantic City Electric Company	Docket No. EO03020091	Market Value of Electric Generation Assets; Auction Process
New Mexico Public Regulation Commission				
Public Service Company of New Mexico	12/16	Public Service Company of New Mexico	Case No. 16-00276-UT	Return on Equity (electric)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Public Service Company of New Mexico	08/15	Public Service Company of New Mexico	Case No. 15-00261-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 14-00332-UT	Return on Equity (electric)
Public Service Company of New Mexico	12/14	Public Service Company of New Mexico	Case No. 13-00390-UT	Cost of Capital and Financial Integrity
Southwestern Public Service Company	02/11	Southwestern Public Service Company	Case No. 10-00395-UT	Return on Equity (electric)
Public Service Company of New Mexico	06/10	Public Service Company of New Mexico	Case No. 10-00086-UT	Return on Equity (electric)
Public Service Company of New Mexico	09/08	Public Service Company of New Mexico	Case No. 08-00273-UT	Return on Equity (electric)
Xcel Energy, Inc.	07/07	Southwestern Public Service Company	Case No. 07-00319-UT	Return on Equity (electric)
New York State Public Service Commission				
Consolidated Edison Company of New York, Inc.	01/15	Consolidated Edison Company of New York, Inc.	Case No. 15-E-0050	Return on Equity (electric)
Orange and Rockland Utilities, Inc.	11/14	Orange and Rockland Utilities, Inc.	Case Nos. 14-E-0493 and 14-G-0494	Return on Equity (electric and gas)
Consolidated Edison Company of New York, Inc.	01/13	Consolidated Edison Company of New York, Inc.	Case No. 13-E-0030	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Electric Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Electric Service	Case No. 12-E-0201	Return on Equity (electric)
Niagara Mohawk Corporation d/b/a National Grid for Gas Service	04/12	Niagara Mohawk Corporation d/b/a National Grid for Gas Service	Case No. 12-G-0202	Return on Equity (gas)
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
North Carolina Utilities Commission				
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)
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)

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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)
Texas Public Utility Commission				
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	09/16	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

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/12	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10182	Return on Equity
Atmos Energy Corporation – West Texas Division	06/12	Atmos Energy Corporation – West Texas Division	GUD 10175	Return on Equity
Atmos Energy Corporation – Mid-Texas Division	06/12	Atmos Energy Corporation – Mid-Texas Division	GUD 10171	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	12/10	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 10038	Return on Equity
Atmos Pipeline – Texas	09/10	Atmos Pipeline - Texas	GUD 10000	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	07/09	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD 9902	Return on Equity
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	03/08	CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas	GUD 9791	Return on Equity
Utah Public Service Commission				
Questar Gas Company	12/07	Questar Gas Company	Docket No. 07-057-13	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
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 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
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

Constant Growth Discounted Cash Flow Model with Half Year Growth Adjustment
30 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.14	\$70.19	3.05%	3.13%	6.10%	5.00%	5.00%	5.37%	8.13%	8.50%	9.24%
Alliant Energy Corporation	LNT	\$1.26	\$40.01	3.15%	3.24%	5.50%	6.35%	6.00%	5.95%	8.74%	9.19%	9.60%
Ameren Corporation	AEE	\$1.76	\$55.15	3.19%	3.29%	6.50%	6.05%	6.00%	6.18%	9.29%	9.47%	9.79%
Avista Corporation	AVA	\$1.43	\$41.24	3.47%	3.54%	NA	5.65%	2.50%	4.08%	6.01%	7.61%	9.22%
Black Hills Corporation	BKH	\$1.78	\$68.30	2.61%	2.71%	5.00%	12.00%	7.50%	8.17%	7.67%	10.88%	14.76%
CMS Energy Corporation	CMS	\$1.33	\$45.76	2.91%	3.00%	6.00%	7.52%	6.50%	6.67%	8.99%	9.68%	10.54%
DTE Energy Company	DTE	\$3.30	\$105.47	3.13%	3.21%	5.90%	4.58%	5.00%	5.16%	7.78%	8.37%	9.12%
El Paso Electric Company	EE	\$1.34	\$51.94	2.58%	2.66%	7.90%	6.50%	5.00%	6.47%	7.64%	9.13%	10.58%
IDACORP, Inc.	IDA	\$2.20	\$84.58	2.60%	2.65%	4.00%	4.00%	3.50%	3.83%	6.15%	6.48%	6.65%
NorthWestern Corporation	NWE	\$2.10	\$60.40	3.48%	3.54%	3.30%	3.37%	4.50%	3.72%	6.83%	7.27%	8.06%
OGE Energy Corp.	OGE	\$1.21	\$34.59	3.50%	3.60%	5.30%	6.30%	5.50%	5.70%	8.89%	9.30%	9.91%
Otter Tail Corporation	OTTR	\$1.28	\$38.63	3.31%	3.40%	NA	5.20%	5.00%	5.10%	8.40%	8.50%	8.60%
Pinnacle West Capital Corporation	PNW	\$2.62	\$85.38	3.07%	3.15%	5.10%	6.05%	5.50%	5.55%	8.25%	8.70%	9.21%
PNM Resources, Inc.	PNM	\$0.97	\$37.28	2.60%	2.70%	6.50%	7.00%	9.00%	7.50%	9.19%	10.20%	11.72%
Portland General Electric Company	POR	\$1.36	\$45.65	2.98%	3.06%	5.30%	5.55%	6.00%	5.62%	8.36%	8.68%	9.07%
SCANA Corporation	SCG	\$2.45	\$66.14	3.70%	3.80%	5.30%	5.80%	4.00%	5.03%	7.78%	8.83%	9.61%
WEC Energy Group, Inc.	WEC	\$2.08	\$61.08	3.41%	3.51%	6.00%	5.61%	6.00%	5.87%	9.11%	9.38%	9.51%
Xcel Energy Inc.	XEL	\$1.44	\$45.58	3.16%	3.24%	5.40%	NA	4.50%	4.95%	7.73%	8.19%	8.64%
Proxy Group Mean				3.10%	3.19%	5.57%	6.03%	5.39%	5.61%	8.05%	8.80%	9.66%
Proxy Group Median				3.14%	3.22%	5.45%	5.80%	5.25%	5.58%	8.19%	8.77%	9.37%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of May 31, 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 with Half Year Growth Adjustment
90 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.14	\$67.81	3.16%	3.24%	6.10%	5.00%	5.00%	5.37%	8.23%	8.61%	9.35%
Alliant Energy Corporation	LNT	\$1.26	\$39.19	3.21%	3.31%	5.50%	6.35%	6.00%	5.95%	8.80%	9.26%	9.67%
Ameren Corporation	AEE	\$1.76	\$54.42	3.23%	3.33%	6.50%	6.05%	6.00%	6.18%	9.33%	9.52%	9.84%
Avista Corporation	AVA	\$1.43	\$39.89	3.58%	3.66%	NA	5.65%	2.50%	4.08%	6.13%	7.73%	9.34%
Black Hills Corporation	BKH	\$1.78	\$65.75	2.71%	2.82%	5.00%	12.00%	7.50%	8.17%	7.78%	10.98%	14.87%
CMS Energy Corporation	CMS	\$1.33	\$44.57	2.98%	3.08%	6.00%	7.52%	6.50%	6.67%	9.07%	9.76%	10.62%
DTE Energy Company	DTE	\$3.30	\$102.12	3.23%	3.31%	5.90%	4.58%	5.00%	5.16%	7.89%	8.47%	9.23%
El Paso Electric Company	EE	\$1.34	\$49.48	2.71%	2.80%	7.90%	6.50%	5.00%	6.47%	7.78%	9.26%	10.72%
IDACORP, Inc.	IDA	\$2.20	\$82.52	2.67%	2.72%	4.00%	4.00%	3.50%	3.83%	6.21%	6.55%	6.72%
NorthWestern Corporation	NWE	\$2.10	\$58.72	3.58%	3.64%	3.30%	3.37%	4.50%	3.72%	6.94%	7.37%	8.16%
OGE Energy Corp.	OGE	\$1.21	\$34.94	3.46%	3.56%	5.30%	6.30%	5.50%	5.70%	8.85%	9.26%	9.87%
Otter Tail Corporation	OTTR	\$1.28	\$38.02	3.37%	3.45%	NA	5.20%	5.00%	5.10%	8.45%	8.55%	8.65%
Pinnacle West Capital Corporation	PNW	\$2.62	\$82.67	3.17%	3.26%	5.10%	6.05%	5.50%	5.55%	8.35%	8.81%	9.32%
PNM Resources, Inc.	PNM	\$0.97	\$36.45	2.66%	2.76%	6.50%	7.00%	9.00%	7.50%	9.25%	10.26%	11.78%
Portland General Electric Company	POR	\$1.36	\$44.77	3.04%	3.12%	5.30%	5.55%	6.00%	5.62%	8.42%	8.74%	9.13%
SCANA Corporation	SCG	\$2.45	\$67.27	3.64%	3.73%	5.30%	5.80%	4.00%	5.03%	7.71%	8.77%	9.55%
WEC Energy Group, Inc.	WEC	\$2.08	\$59.91	3.47%	3.57%	6.00%	5.61%	6.00%	5.87%	9.18%	9.44%	9.58%
Xcel Energy Inc.	XEL	\$1.44	\$43.95	3.28%	3.36%	5.40%	NA	4.50%	4.95%	7.85%	8.31%	8.76%
Proxy Group Mean				3.18%	3.26%	5.57%	6.03%	5.39%	5.61%	8.12%	8.87%	9.73%
Proxy Group Median				3.22%	3.31%	5.45%	5.80%	5.25%	5.58%	8.29%	8.79%	9.45%

Notes:

- [1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals indicated number of trading day average as of May 31, 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 with Half Year Growth Adjustment
180 Day Average Stock Price

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.14	\$64.56	3.31%	3.40%	6.10%	5.00%	5.00%	5.37%	8.40%	8.77%	9.52%
Alliant Energy Corporation	LNT	\$1.26	\$38.26	3.29%	3.39%	5.50%	6.35%	6.00%	5.95%	8.88%	9.34%	9.75%
Ameren Corporation	AEE	\$1.76	\$52.23	3.37%	3.47%	6.50%	6.05%	6.00%	6.18%	9.47%	9.66%	9.98%
Avista Corporation	AVA	\$1.43	\$40.23	3.55%	3.63%	NA	5.65%	2.50%	4.08%	6.10%	7.70%	9.30%
Black Hills Corporation	BKH	\$1.78	\$62.93	2.83%	2.94%	5.00%	12.00%	7.50%	8.17%	7.90%	11.11%	15.00%
CMS Energy Corporation	CMS	\$1.33	\$42.95	3.10%	3.20%	6.00%	7.52%	6.50%	6.67%	9.19%	9.87%	10.73%
DTE Energy Company	DTE	\$3.30	\$98.56	3.35%	3.43%	5.90%	4.58%	5.00%	5.16%	8.00%	8.59%	9.35%
El Paso Electric Company	EE	\$1.34	\$47.61	2.81%	2.91%	7.90%	6.50%	5.00%	6.47%	7.89%	9.37%	10.83%
IDACORP, Inc.	IDA	\$2.20	\$80.09	2.75%	2.80%	4.00%	4.00%	3.50%	3.83%	6.30%	6.63%	6.80%
NorthWestern Corporation	NWE	\$2.10	\$57.72	3.64%	3.71%	3.30%	3.37%	4.50%	3.72%	7.00%	7.43%	8.22%
OGE Energy Corp.	OGE	\$1.21	\$33.43	3.62%	3.72%	5.30%	6.30%	5.50%	5.70%	9.02%	9.42%	10.03%
Otter Tail Corporation	OTTR	\$1.28	\$37.56	3.41%	3.49%	NA	5.20%	5.00%	5.10%	8.49%	8.59%	8.70%
Pinnacle West Capital Corporation	PNW	\$2.62	\$79.18	3.31%	3.40%	5.10%	6.05%	5.50%	5.55%	8.49%	8.95%	9.46%
PNM Resources, Inc.	PNM	\$0.97	\$34.64	2.80%	2.91%	6.50%	7.00%	9.00%	7.50%	9.39%	10.41%	11.93%
Portland General Electric Company	POR	\$1.36	\$43.65	3.12%	3.20%	5.30%	5.55%	6.00%	5.62%	8.50%	8.82%	9.21%
SCANA Corporation	SCG	\$2.45	\$69.48	3.53%	3.62%	5.30%	5.80%	4.00%	5.03%	7.60%	8.65%	9.43%
WEC Energy Group, Inc.	WEC	\$2.08	\$59.04	3.52%	3.63%	6.00%	5.61%	6.00%	5.87%	9.23%	9.50%	9.63%
Xcel Energy Inc.	XEL	\$1.44	\$42.17	3.41%	3.50%	5.40%	NA	4.50%	4.95%	7.99%	8.45%	8.91%
Proxy Group Mean				3.26%	3.35%	5.57%	6.03%	5.39%	5.61%	8.21%	8.96%	9.82%
Proxy Group Median				3.33%	3.42%	5.45%	5.80%	5.25%	5.58%	8.45%	8.89%	9.49%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals indicated number of trading day average as of May 31, 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])

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

Inputs	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
	Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal PEG	
Company	Ticker	Price	Zacks	First Call	Value Line	High Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio
ALLETE, Inc.	ALE	\$64.56	6.10%	5.00%	5.00%	6.10%	5.40%	65.00%	62.00%	65.89%	\$0.00	9.13%	18.62
Alliant Energy Corporation	LNT	\$38.26	5.50%	6.35%	6.00%	6.35%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.76%	20.68
Ameren Corporation	AEE	\$52.23	6.50%	6.05%	6.00%	6.50%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.42%	17.28
Avista Corporation	AVA	\$40.23	5.0A	5.65%	2.50%	5.65%	5.40%	73.00%	71.00%	65.89%	\$0.00	9.51%	16.91
Black Hills Corporation	BKH	\$62.93	5.00%	12.00%	7.50%	12.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	9.85%	15.61
CMS Energy Corporation	CMS	\$42.95	6.00%	7.52%	6.50%	7.52%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.25%	18.06
DTE Energy Company	DTE	\$98.56	5.90%	4.58%	5.00%	5.90%	5.40%	63.00%	65.00%	65.89%	\$0.00	9.13%	18.64
El Paso Electric Company	EE	\$47.61	7.90%	6.50%	5.00%	7.90%	5.40%	52.00%	58.00%	65.89%	\$0.00	9.61%	16.50
IDACORP, Inc.	IDA	\$80.09	4.00%	4.00%	3.50%	4.00%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.65%	21.35
NorthWestern Corporation	NWE	\$57.72	3.30%	3.37%	4.50%	4.50%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.46%	17.10
OGE Energy Corp.	OGE	\$33.43	5.30%	6.30%	5.50%	6.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.39%	17.40
Otter Tail Corporation	OTTR	\$37.56	NA	5.20%	5.00%	5.20%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.54%	22.10
Pinnacle West Capital Corporation	PNW	\$79.18	5.10%	6.05%	5.50%	6.05%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.19%	18.32
PNM Resources, Inc.	PNM	\$34.64	6.50%	7.00%	9.00%	9.00%	5.40%	52.00%	56.00%	65.89%	\$0.00	9.66%	16.30
Portland General Electric Company	POR	\$43.65	5.30%	5.55%	6.00%	6.00%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.12%	18.66
SCANA Corporation	SCG	\$69.48	5.30%	5.80%	4.00%	5.80%	5.40%	60.00%	57.00%	65.89%	\$0.00	9.82%	15.70
WEC Energy Group, Inc.	WEC	\$59.04	6.00%	5.61%	6.00%	6.00%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.27%	17.94
Xcel Energy Inc.	XEL	\$42.17	5.40%	NA	4.50%	5.40%	5.40%	62.00%	66.00%	65.89%	(\$0.00)	9.26%	17.98

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
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	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.87	\$1.98	\$2.11	\$2.24	\$2.38	\$2.53	\$2.68	\$2.83	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.88
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.04	\$3.24	\$3.45	\$3.67	\$3.90	\$4.14	\$4.39	\$4.64	\$4.90	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38
Avista Corporation	AVA	\$2.15	\$2.27	\$2.40	\$2.54	\$2.68	\$2.83	\$2.99	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	\$4.82
Black Hills Corporation	BKH	\$2.63	\$2.95	\$3.30	\$3.69	\$4.14	\$4.63	\$5.14	\$5.64	\$6.13	\$6.60	\$7.03	\$7.41	\$7.81	\$8.23	\$8.68	\$9.15
CMS Energy Corporation	CMS	\$1.98	\$2.13	\$2.29	\$2.46	\$2.65	\$2.85	\$3.05	\$3.26	\$3.47	\$3.68	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$5.06
DTE Energy Company	DTE	\$4.83	\$5.11	\$5.42	\$5.74	\$6.07	\$6.43	\$6.81	\$7.20	\$7.60	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02
El Paso Electric Company	EE	\$2.39	\$2.58	\$2.78	\$3.00	\$3.24	\$3.50	\$3.76	\$4.02	\$4.29	\$4.56	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.26	\$4.43	\$4.61	\$4.79	\$5.00	\$5.22	\$5.47	\$5.73	\$6.03	\$6.36	\$6.70	\$7.06	\$7.44	\$7.85
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30	\$6.64	\$7.00
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.21	\$3.39	\$3.57	\$3.76	\$3.96
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.96	\$2.06	\$2.17	\$2.28	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29	\$3.47
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.19	\$4.44	\$4.71	\$5.00	\$5.30	\$5.61	\$5.94	\$6.28	\$6.63	\$7.00	\$7.38	\$7.78	\$8.20	\$8.64	\$9.10
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	\$3.79	\$3.99	\$4.21	\$4.44	\$4.67
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.24	\$3.42	\$3.61	\$3.81	\$4.02	\$4.24	\$4.47	\$4.71	\$4.96
SCANA Corporation	SCG	\$4.16	\$4.40	\$4.66	\$4.93	\$5.21	\$5.51	\$5.83	\$6.16	\$6.51	\$6.87	\$7.24	\$7.63	\$8.05	\$8.48	\$8.94	\$9.42
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.19	\$4.44	\$4.69	\$4.95	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.80
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$4.86

Projected Annual Dividend Payout Ratio	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	[45]	[46]
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ALLETE, Inc.	ALE	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.36%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.33%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%
Otter Tail Corporation	OTTR	60.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%
Portland General Electric Company	POR	61.00%	60.25%	59.50%	58.75%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.81%	66.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%

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	\$2.17	\$2.27	\$2.38	\$2.50	\$2.62	\$2.80	\$3.00	\$3.20	\$3.42	\$3.64	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$142.56
Alliant Energy Corporation	LNT	\$1.11	\$1.18	\$1.25	\$1.33	\$1.41	\$1.51	\$1.62	\$1.72	\$1.84	\$1.95	\$2.07	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$84.66
Ameren Corporation	AEE	\$1.80	\$1.90	\$2.01	\$2.12	\$2.24	\$2.41	\$2.59	\$2.78	\$2.98	\$3.19	\$3.40	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$116.16
Avista Corporation	AVA	\$1.66	\$1.74	\$1.83	\$1.92	\$2.01	\$2.10	\$2.19	\$2.28	\$2.37	\$2.47	\$2.57	\$2.71	\$2.86	\$3.01	\$3.17	\$3.35	\$85.87
Black Hills Corporation	BKH	\$1.47	\$1.67	\$1.88	\$2.13	\$2.41	\$2.79	\$3.20	\$3.62	\$4.04	\$4.47	\$4.88	\$5.15	\$5.42	\$5.72	\$6.03	\$6.38	\$150.50
CMS Energy Corporation	CMS	\$1.30	\$1.40	\$1.50	\$1.61	\$1.74	\$1.88	\$2.04	\$2.20	\$2.36	\$2.53	\$2.70	\$2.85	\$3.00	\$3.16	\$3.33	\$3.51	\$96.36
DTE Energy Company	DTE	\$3.22	\$3.44	\$3.67	\$3.92	\$4.18	\$4.43	\$4.70	\$4.98	\$5.27	\$5.57	\$5.88	\$6.20	\$6.53	\$6.89	\$7.26	\$7.65	\$216.46
El Paso Electric Company	EE	\$1.34	\$1.49	\$1.65	\$1.83	\$2.03	\$2.23	\$2.44	\$2.66	\$2.88	\$3.11	\$3.35	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$109.12
IDACORP, Inc.	IDA	\$2.25	\$2.42	\$2.59	\$2.78	\$2.97	\$3.13	\$3.30	\$3.49	\$3.70	\$3.93	\$4.19	\$4.41	\$4.65	\$4.90	\$5.17	\$5.45	\$176.56
NorthWestern Corporation	NWE	\$2.20	\$2.30	\$2.42	\$2.54	\$2.66	\$2.81	\$2.96	\$3.13	\$3.32	\$3.52	\$3.74	\$3.94	\$4.15	\$4.37	\$4.61	\$4.86	\$126.09
OGE Energy Corp.	OGE	\$1.11	\$1.23	\$1.35	\$1.48	\$1.63	\$1.71	\$1.79	\$1.87	\$1.95	\$2.03	\$2.12	\$2.23	\$2.35	\$2.48	\$2.61	\$2.75	\$72.71
Otter Tail Corporation	OTTR	\$1.35	\$1.35	\$1.35	\$1.35	\$1.34	\$1.41	\$1.49	\$1.57	\$1.66	\$1.75	\$1.85	\$1.95	\$2.06	\$2.17	\$2.29	\$2.41	\$80.89
Pinnacle West Capital Corporation	PNW	\$2.60	\$2.74	\$2.90	\$3.06	\$3.23	\$3.47	\$3.72	\$3.98	\$4.26	\$4.55	\$4.86	\$5.12	\$5.40	\$5.69	\$6.00	\$6.32	\$175.76
PNM Resources, Inc.	PNM	\$0.94	\$1.04	\$1.15	\$1.28	\$1.42	\$1.59	\$1.76	\$1.94	\$2.12	\$2.31	\$2.50	\$2.72	\$2.97	\$3.20	\$3.48	\$3.80	\$90.33
Portland General Electric Company	PG	\$1.40	\$1.46	\$1.53	\$1.60	\$1.68	\$1.82	\$1.96	\$2.12	\$2.29	\$2.46	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$87.59
SCANA Corporation	SCG	\$2.64	\$2.76	\$2.88	\$3.01	\$3.14	\$3.41	\$3.69	\$4.00	\$4.32	\$4.66	\$5.03	\$5.30	\$5.59	\$5.89	\$6.21	\$6.54	\$155.91
WEC Energy Group, Inc.	WEC	\$2.10	\$2.23	\$2.36	\$2.50	\$2.65	\$2.80	\$2.96	\$3.12	\$3.28	\$3.45	\$3.63	\$3.83	\$4.03	\$4.25	\$4.48	\$4.72	\$128.55
Xcel Energy Inc.	CEL	\$1.44	\$1.55	\$1.66	\$1.77	\$1.90	\$2.00	\$2.11	\$2.22	\$2.34	\$2.46	\$2.60	\$2.74	\$2.88	\$3.04	\$3.20	\$3.38	\$92.18

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

Inputs	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	
	Stock	EPS Growth Rate Estimates				Long-Term		Payout Ratio		Iterative Solution	Terminal	Terminal		
					Value	Low								
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	Terminal PEG Ratio
ALLETE, Inc.	ALE	\$64.56	6.10%	5.00%	5.00%	5.00%	5.40%	65.00%	62.00%	65.89%	\$0.00	8.87%	20.00	3.70
Alliant Energy Corporation	LNT	\$38.26	5.50%	6.35%	6.00%	5.50%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.58%	21.85	4.05
Ameren Corporation	AEE	\$52.23	6.50%	6.05%	6.00%	6.00%	5.40%	63.00%	61.00%	65.89%	(\$0.00)	9.29%	17.84	3.30
Avista Corporation	AVA	\$40.23	NA	5.65%	2.50%	2.50%	5.40%	73.00%	71.00%	65.89%	\$0.00	8.73%	20.86	3.86
Black Hills Corporation	BKH	\$62.93	5.00%	12.00%	7.50%	5.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	8.29%	24.06	4.46
CMS Energy Corporation	CMS	\$42.95	6.00%	7.52%	6.50%	6.00%	5.40%	61.00%	61.00%	65.89%	\$0.00	8.89%	19.90	3.68
DTE Energy Company	DTE	\$98.56	5.90%	4.58%	5.00%	4.58%	5.40%	63.00%	65.00%	65.89%	\$0.00	8.82%	20.32	3.76
El Paso Electric Company	EE	\$47.61	7.90%	6.50%	5.00%	5.00%	5.40%	52.00%	58.00%	65.89%	\$0.00	8.90%	19.82	3.67
IDACORP, Inc.	IDA	\$80.09	4.00%	4.00%	3.50%	3.50%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.55%	22.07	4.09
NorthWestern Corporation	NWE	\$57.72	3.30%	3.37%	4.50%	3.30%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.16%	18.50	3.42
OGE Energy Corp.	OGE	\$33.43	5.30%	6.30%	5.50%	5.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.14%	18.57	3.44
Otter Tail Corporation	OTTR	\$37.56	NA	5.20%	5.00%	5.00%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.50%	22.40	4.15
Pinnacle West Capital Corporation	PNW	\$79.18	5.10%	6.05%	5.50%	5.10%	5.40%	62.00%	61.00%	65.89%	\$0.00	8.97%	19.47	3.61
PNM Resources, Inc.	PNM	\$34.64	6.50%	7.00%	9.00%	6.50%	5.40%	52.00%	56.00%	65.89%	\$0.00	9.05%	19.04	3.53
Portland General Electric Company	POR	\$43.65	5.30%	5.55%	6.00%	5.30%	5.40%	61.00%	58.00%	65.89%	\$0.00	8.96%	19.52	3.61
SCANA Corporation	SCG	\$69.48	5.30%	5.80%	4.00%	4.00%	5.40%	60.00%	57.00%	65.89%	\$0.00	9.34%	17.61	3.26
WEC Energy Group, Inc.	WEC	\$59.04	6.00%	5.61%	6.00%	5.61%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.18%	18.40	3.41
Xcel Energy Inc.	XEL	\$42.17	5.40%	NA	4.50%	4.50%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.04%	19.07	3.53
										Mean		8.90%		
										Max		9.34%		
										Min		8.29%		

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	\$5.44	\$5.74	\$6.05	\$6.37	\$6.72	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$3.66	\$3.86
Ameren Corporation	AEE	\$2.68	\$2.84	\$3.01	\$3.19	\$3.38	\$3.59	\$3.80	\$4.02	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	\$5.54	\$5.84	\$6.16	\$6.49
Avista Corporation	AVA	\$2.15	\$2.20	\$2.26	\$2.32	\$2.37	\$2.43	\$2.51	\$2.59	\$2.69	\$2.81	\$2.95	\$3.11	\$3.28	\$3.46	\$3.64	\$3.84	\$4.05
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.80	\$5.06	\$5.34	\$5.63	\$5.93
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.22	\$2.36	\$2.50	\$2.65	\$2.81	\$2.97	\$3.14	\$3.31	\$3.50	\$3.69	\$3.88	\$4.09	\$4.31	\$4.55	\$4.79
DTE Energy Company	DTE	\$4.83	\$5.05	\$5.28	\$5.52	\$5.78	\$6.04	\$6.33	\$6.63	\$6.97	\$7.32	\$7.71	\$8.12	\$8.56	\$9.03	\$9.51	\$10.03	\$10.57
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	\$4.14	\$4.37	\$4.60	\$4.85	\$5.11	\$5.39
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.54	\$5.82	\$6.13	\$6.46	\$6.81	\$7.18	\$7.57	\$7.98
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.86	\$3.99	\$4.13	\$4.30	\$4.49	\$4.70	\$4.93	\$5.20	\$5.48	\$5.78	\$6.09	\$6.42	\$6.76
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.15	\$2.26	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.15	\$4.36	\$4.59	\$4.82	\$5.07	\$5.33	\$5.60	\$5.90	\$6.21	\$6.54	\$6.90	\$7.27	\$7.66	\$8.07	\$8.51	\$8.97
PNM Resources, Inc.	PNM	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14
Portland General Electric Company	POR	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$2.80	\$2.95	\$3.10	\$3.27	\$3.43	\$3.63	\$3.82	\$4.03	\$4.25	\$4.48	\$4.72	\$4.98
SCANA Corporation	SCG	\$4.16	\$4.33	\$4.50	\$4.68	\$4.87	\$5.06	\$5.28	\$5.51	\$5.77	\$6.05	\$6.37	\$6.71	\$7.07	\$7.46	\$7.86	\$8.28	\$8.73
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.30	\$3.49	\$3.68	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61	\$6.97
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.02	\$3.17	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81

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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Otter Tail Corporation	OTTR	60.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Portland General Electric Company	POR	61.00%	60.25%	59.50%	58.75%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	66.81%	66.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	66.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%

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	\$2.14	\$2.22	\$2.31	\$2.39	\$2.48	\$2.64	\$2.80	\$2.98	\$3.17	\$3.37	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.66	\$141.58
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	\$2.06	\$2.17	\$2.29	\$2.41	\$2.54	\$84.24
Ameren Corporation	AEE	\$1.79	\$1.88	\$1.98	\$2.08	\$2.19	\$2.35	\$2.52	\$2.69	\$2.88	\$3.08	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06	\$4.27	\$115.75
Avista Corporation	AVA	\$1.61	\$1.64	\$1.67	\$1.70	\$1.73	\$1.76	\$1.80	\$1.84	\$1.90	\$1.97	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$2.67	\$84.45
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.55	\$1.65	\$1.75	\$1.92	\$2.10	\$2.30	\$2.52	\$2.75	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$142.69
CMS Energy Corporation	CMS	\$1.28	\$1.36	\$1.44	\$1.52	\$1.62	\$1.73	\$1.86	\$1.99	\$2.13	\$2.27	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	\$95.39
DTE Energy Company	DTE	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93	\$4.12	\$4.33	\$4.56	\$4.80	\$5.07	\$5.35	\$5.64	\$5.95	\$6.27	\$6.61	\$6.96	\$214.76
El Paso Electric Company	EE	\$1.30	\$1.41	\$1.52	\$1.64	\$1.77	\$1.90	\$2.04	\$2.20	\$2.36	\$2.54	\$2.73	\$2.88	\$3.03	\$3.20	\$3.37	\$3.55	\$106.82
IDACORP, Inc.	IDA	\$2.24	\$2.40	\$2.56	\$2.72	\$2.90	\$3.04	\$3.20	\$3.38	\$3.58	\$3.80	\$4.04	\$4.26	\$4.49	\$4.73	\$4.99	\$5.26	\$176.06
NorthWestern Corporation	NWE	\$2.17	\$2.25	\$2.34	\$2.42	\$2.51	\$2.62	\$2.75	\$2.89	\$3.05	\$3.23	\$3.43	\$3.61	\$3.81	\$4.01	\$4.23	\$4.46	\$125.11
OGE Energy Corp.	OGE	\$1.10	\$1.20	\$1.31	\$1.43	\$1.55	\$1.62	\$1.68	\$1.75	\$1.82	\$1.89	\$1.97	\$2.08	\$2.19	\$2.31	\$2.43	\$2.56	\$72.28
Otter Tail Corporation	OTTR	\$1.34	\$1.35	\$1.34	\$1.34	\$1.33	\$1.40	\$1.47	\$1.55	\$1.64	\$1.73	\$1.83	\$1.93	\$2.03	\$2.14	\$2.26	\$2.38	\$80.81
Pinnacol West Capital Corporation	PNW	\$2.57	\$2.69	\$2.82	\$2.95	\$3.09	\$3.29	\$3.51	\$3.74	\$3.99	\$4.26	\$4.54	\$4.79	\$5.05	\$5.32	\$5.61	\$5.91	\$174.87
PNM Resources, Inc.	PNM	\$1.91	\$1.98	\$2.08	\$2.17	\$2.27	\$2.41	\$2.57	\$2.73	\$2.91	\$3.10	\$3.29	\$3.45	\$3.61	\$3.79	\$3.95	\$4.13	\$174.79
Portland General Electric Company	POR	\$1.39	\$1.44	\$1.50	\$1.56	\$1.62	\$1.75	\$1.88	\$2.02	\$2.18	\$2.34	\$2.52	\$2.66	\$2.80	\$2.95	\$3.11	\$3.28	\$97.13
SCANA Corporation	SCG	\$2.60	\$2.67	\$2.74	\$2.81	\$2.88	\$3.09	\$3.30	\$3.55	\$3.81	\$4.10	\$4.42	\$4.66	\$4.91	\$5.18	\$5.46	\$5.75	\$153.78
WEC Energy Group, Inc.	WEC	\$2.09	\$2.21	\$2.34	\$2.47	\$2.61	\$2.74	\$2.89	\$3.04	\$3.19	\$3.36	\$3.53	\$3.72	\$3.92	\$4.13	\$4.36	\$4.59	\$128.24
Xcel Energy Inc.	XEL	\$1.43	\$1.52	\$1.61	\$1.71	\$1.82	\$1.90	\$1.99	\$2.09	\$2.20	\$2.31	\$2.44	\$2.57	\$2.71	\$2.85	\$3.01	\$3.17	\$91.67

Multi-Stage DCF Notes:

-
- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of May 31, 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 - 5/31/2017) / 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 - Terminal P/E of 20.94
30 Day Average Stock Price
Average EPS Growth Rate Estimate in First Stage

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
	Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal						
		Value																
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$70.19	6.10%	5.00%	5.00%	5.37%	5.40%	65.00%	62.00%	65.89%	\$0.00	8.59%	20.94	3.88				
Alliant Energy Corporation	LNT	\$40.01	5.50%	6.35%	6.00%	5.95%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.20%	20.94	3.88				
Ameren Corporation	AEE	\$55.15	6.50%	6.05%	6.00%	6.18%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.78%	20.94	3.88				
Avista Corporation	AVA	\$41.24	NA	5.65%	2.50%	4.08%	5.40%	73.00%	71.00%	65.89%	\$0.00	9.47%	20.94	3.88				
Black Hills Corporation	BKH	\$68.30	5.00%	12.00%	7.50%	8.17%	5.40%	50.00%	52.00%	65.89%	\$0.00	8.57%	20.94	3.88				
CMS Energy Corporation	CMS	\$45.76	6.00%	7.52%	6.50%	6.67%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.00%	20.94	3.88				
DTE Energy Company	DTE	\$105.47	5.90%	4.58%	5.00%	5.16%	5.40%	63.00%	65.00%	65.89%	\$0.00	8.71%	20.94	3.88				
El Paso Electric Company	EE	\$51.94	7.90%	6.50%	5.00%	6.47%	5.40%	52.00%	58.00%	65.89%	\$0.00	9.29%	20.94	3.88				
IDACORP, Inc.	IDA	\$84.58	4.00%	4.00%	3.50%	3.83%	5.40%	55.00%	62.00%	65.89%	\$0.00	7.97%	20.94	3.88				
NorthWestern Corporation	NWE	\$60.40	3.30%	3.37%	4.50%	3.72%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.67%	20.94	3.88				
OGE Energy Corp.	OGE	\$34.59	5.30%	6.30%	5.50%	5.70%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.72%	20.94	3.88				
Otter Tail Corporation	OTTR	\$38.63	NA	5.20%	5.00%	5.10%	5.40%	80.00%	65.00%	65.89%	\$0.00	7.93%	20.94	3.88				
Pinnacle West Capital Corporation	PNW	\$85.38	5.10%	6.05%	5.50%	5.55%	5.40%	62.00%	61.00%	65.89%	\$0.00	8.95%	20.94	3.88				
PNM Resources, Inc.	PNM	\$37.28	6.50%	7.00%	9.00%	7.50%	5.40%	52.00%	56.00%	65.89%	\$0.00	9.50%	20.94	3.88				
Portland General Electric Company	POR	\$45.65	5.30%	5.55%	6.00%	5.62%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.13%	20.94	3.88				
SCANA Corporation	SCG	\$66.14	5.30%	5.80%	4.00%	5.03%	5.40%	60.00%	57.00%	65.89%	\$0.00	11.38%	20.94	3.88				
WEC Energy Group, Inc.	WEC	\$61.08	6.00%	5.61%	6.00%	5.87%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.72%	20.94	3.88				
Xcel Energy Inc.	XEL	\$45.58	5.40%	NA	4.50%	4.95%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.12%	20.94	3.88				
DCF Result																		
	Mean	9.15%																
	Max	11.38%																
	Min	7.93%																
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.89	\$6.21	\$6.54	\$6.89	\$7.27
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.85	\$1.96	\$2.08	\$2.20	\$2.33	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$3.58	\$3.78	\$3.98
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.02	\$3.21	\$3.41	\$3.62	\$3.84	\$4.06	\$4.30	\$4.54	\$4.79	\$5.05	\$5.33	\$5.61	\$5.92	\$6.24	\$6.57
Avista Corporation	AVA	\$2.15	\$2.24	\$2.33	\$2.42	\$2.52	\$2.63	\$2.74	\$2.86	\$3.00	\$3.15	\$3.31	\$3.49	\$3.68	\$3.87	\$4.08	\$4.30	\$4.54
Black Hills Corporation	BKH	\$2.63	\$2.84	\$3.08	\$3.33	\$3.60	\$3.89	\$4.19	\$4.50	\$4.80	\$5.11	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67	\$7.03	\$7.41
CMS Energy Corporation	CMS	\$1.98	\$2.11	\$2.25	\$2.40	\$2.56	\$2.73	\$2.91	\$3.08	\$3.28	\$3.47	\$3.67	\$3.86	\$4.07	\$4.29	\$4.52	\$4.77	\$5.03
DTE Energy Company	DTE	\$4.83	\$5.08	\$5.34	\$5.62	\$5.91	\$6.21	\$6.53	\$6.88	\$7.24	\$7.63	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.71	\$2.88	\$3.07	\$3.27	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.25	\$4.41	\$4.58	\$4.76	\$4.95	\$5.17	\$5.40	\$5.67	\$5.96	\$6.28	\$6.62	\$6.98	\$7.35	\$7.75	\$8.17
NorthWestern Corporation	NWE	\$3.39	\$3.52	\$3.65	\$3.78	\$3.92	\$4.07	\$4.23	\$4.41	\$4.62	\$4.84	\$5.09	\$5.36	\$5.65	\$5.96	\$6.28	\$6.62	\$6.97
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.00	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61	\$3.80	\$4.01
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.95	\$2.05	\$2.16	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$3.63
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.90	\$5.17	\$5.46	\$5.76	\$6.08	\$6.41	\$6.76	\$7.12	\$7.50	\$7.91	\$8.34	\$8.79	\$9.26
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.91	\$2.05	\$2.20	\$2.37	\$2.54	\$2.71	\$2.89	\$3.06	\$3.24	\$3.41	\$3.60	\$3.79	\$4.00	\$4.21	\$4.44
Portland General Electric Company	POR	\$2.16	\$2.28	\$2.41	\$2.54	\$2.69	\$2.84	\$3.00	\$3.16	\$3.34	\$3.52	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$5.09
SCANA Corporation	SCG	\$4.16	\$4.37	\$4.59	\$4.82	\$5.06	\$5.32	\$5.59	\$5.88	\$6.18	\$6.51	\$6.86	\$7.23	\$7.62	\$8.03	\$8.46	\$8.92	\$9.40
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.32	\$3.51	\$3.72	\$3.94	\$4.16	\$4.40	\$4.65	\$4.91	\$5.18	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.10
Xcel Energy Inc.	XEL	\$2.21	\$2.32	\$2.43	\$2.55	\$2.68	\$2.81	\$2.96	\$3.11	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71	\$4.97
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Portland General Electric Company	POR	61.00%	60.25%	59.50%	58.75%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	68.63%	68.44%	68.26%	68.07%	67.89%	67.71%	67.53%	67.35%	67.17%	66.99%	
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
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	\$2.15	\$2.24	\$2.33	\$2.43	\$2.53	\$2.69	\$2.87	\$3.05	\$3.25	\$3.46	\$3.68	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$152.20
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.31	\$1.39	\$1.48	\$1.58	\$1.68	\$1.79	\$1.90	\$2.02	\$2.12	\$2.24	\$2.36	\$2.49	\$2.62	\$83.36
Ameren Corporation	AEE	\$1.79	\$1.89	\$1.99	\$2.10	\$2.21	\$2.37	\$2.55	\$2.73	\$2.92	\$3.12	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$137.65
Avista Corporation	AVA	\$1.63	\$1.69	\$1.75	\$1.80	\$1.86	\$1.92	\$1.98	\$2.05	\$2.13	\$2.21	\$2.30	\$2.42	\$2.55	\$2.69	\$2		

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94
30 Day Average Stock Price
High EPS Growth Rate Estimate in First Stage

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
	Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal					
Company	Ticker	Price	Zacks	First Call	Value Line	High Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$70.19	6.10%	5.00%	5.00%	6.10%	5.40%	65.00%	62.00%	65.89%	\$0.00	9.02%	20.94	3.88				
Alliant Energy Corporation	LNT	\$40.01	5.50%	6.35%	6.00%	6.35%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.43%	20.94	3.88				
Ameren Corporation	AEE	\$55.15	6.50%	6.05%	6.00%	6.50%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.96%	20.94	3.88				
Avista Corporation	AVA	\$41.24	NA	5.65%	2.50%	5.65%	5.40%	73.00%	71.00%	65.89%	\$0.00	10.42%	20.94	3.88				
Black Hills Corporation	BKH	\$68.30	5.00%	12.00%	7.50%	12.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	10.72%	20.94	3.88				
CMS Energy Corporation	CMS	\$45.76	6.00%	7.52%	6.50%	7.52%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.48%	20.94	3.88				
DTE Energy Company	DTE	\$105.47	5.90%	4.58%	5.00%	5.90%	5.40%	63.00%	65.00%	65.89%	\$0.00	9.15%	20.94	3.88				
El Paso Electric Company	EE	\$51.94	7.90%	6.50%	5.00%	7.90%	5.40%	52.00%	58.00%	65.89%	\$0.00	10.11%	20.94	3.88				
IDACORP, Inc.	IDA	\$84.58	4.00%	4.00%	3.50%	4.00%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.06%	20.94	3.88				
NorthWestern Corporation	NWE	\$60.40	3.30%	3.37%	4.50%	4.50%	5.40%	62.00%	63.00%	65.89%	\$0.00	10.14%	20.94	3.88				
OGE Energy Corp.	OGE	\$34.59	5.30%	6.30%	5.50%	6.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	10.08%	20.94	3.88				
Otter Tail Corporation	OTTR	\$38.63	NA	5.20%	5.00%	5.20%	5.40%	80.00%	65.00%	65.89%	\$0.00	7.99%	20.94	3.88				
Pinnacle West Capital Corporation	PNW	\$85.38	5.10%	6.05%	5.50%	6.05%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.24%	20.94	3.88				
PNM Resources, Inc.	PNM	\$37.28	6.50%	7.00%	9.00%	9.00%	5.40%	52.00%	56.00%	65.89%	\$0.00	10.36%	20.94	3.88				
Portland General Electric Company	POR	\$45.65	5.30%	5.55%	6.00%	6.00%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.35%	20.94	3.88				
SCANA Corporation	SCG	\$66.14	5.30%	5.80%	4.00%	5.80%	5.40%	60.00%	57.00%	65.89%	\$0.00	11.85%	20.94	3.88				
WEC Energy Group, Inc.	WEC	\$61.08	6.00%	5.61%	6.00%	6.00%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.80%	20.94	3.88				
Xcel Energy Inc.	XEL	\$45.58	5.40%	NA	4.50%	5.40%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.38%	20.94	3.88				
DCF Result																		
		Mean	9.64%															
		Max	11.85%															
		Min	7.99%															
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26	\$7.66
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.87	\$1.98	\$2.11	\$2.24	\$2.38	\$2.53	\$2.68	\$2.83	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.88	\$4.09
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.04	\$3.24	\$3.45	\$3.67	\$3.90	\$4.14	\$4.39	\$4.64	\$4.90	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72
Avista Corporation	AVA	\$2.15	\$2.27	\$2.40	\$2.54	\$2.68	\$2.83	\$2.99	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	\$4.82	\$5.08
Black Hills Corporation	BKH	\$2.63	\$2.95	\$3.30	\$3.69	\$4.14	\$4.63	\$5.14	\$5.64	\$6.13	\$6.60	\$7.03	\$7.41	\$7.81	\$8.23	\$8.68	\$9.15	\$9.64
CMS Energy Corporation	CMS	\$1.98	\$2.13	\$2.29	\$2.46	\$2.65	\$2.85	\$3.05	\$3.27	\$3.47	\$3.69	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$5.06	\$5.33
DTE Energy Company	DTE	\$4.83	\$5.11	\$5.42	\$5.74	\$6.07	\$6.43	\$6.81	\$7.20	\$7.60	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02	\$11.61
El Paso Electric Company	EE	\$2.39	\$2.58	\$2.78	\$3.00	\$3.24	\$3.50	\$3.76	\$4.02	\$4.29	\$4.56	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.26	\$4.43	\$4.61	\$4.79	\$5.00	\$5.22	\$5.47	\$5.73	\$6.03	\$6.36	\$6.70	\$7.06	\$7.44	\$7.85	\$8.27
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30	\$6.64	\$7.00	\$7.37
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.21	\$3.39	\$3.57	\$3.76	\$3.96	\$4.18
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.96	\$2.06	\$2.17	\$2.28	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29	\$3.47	\$3.66
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.19	\$4.44	\$4.71	\$5.00	\$5.30	\$5.61	\$5.94	\$6.28	\$6.63	\$7.00	\$7.38	\$7.78	\$8.20	\$8.64	\$9.10	\$9.60
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.79	\$3.99	\$4.21	\$4.44	\$4.67	\$4.93
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.24	\$3.42	\$3.61	\$3.81	\$4.02	\$4.24	\$4.47	\$4.71	\$4.96	\$5.23
SCANA Corporation	SCG	\$4.16	\$4.40	\$4.66	\$4.93	\$5.21	\$5.51	\$5.83	\$6.16	\$6.51	\$6.87	\$7.24	\$7.63	\$8.05	\$8.48	\$8.94	\$9.42	\$9.93
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.19	\$4.44	\$4.69	\$4.95	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.80	\$7.17
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$4.86	\$5.13
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Portland General Electric Company	POR	61.00%	60.25%	59.50%	58.75%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	66.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
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	\$2.17	\$2.27	\$2.38	\$2.50	\$2.62	\$2.80	\$3.00	\$3.20	\$3.42	\$3.64	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$160.33
Alliant Energy Corporation	LNT	\$1.11	\$1.18	\$1.25	\$1.33	\$1.41	\$1.51	\$1.62	\$1.72	\$1.84	\$1.95	\$2.07	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$85.75
Ameren Corporation	AEE	\$1.80	\$1.90	\$2.01	\$2.12	\$2.24	\$2.41	\$2.59	\$2.78	\$2.98	\$3.19	\$3.40	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$140.76
Avista Corporation	AVA	\$1.66.																

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94 30 Day Average Stock Price Low EPS Growth Rate Estimate in First Stage																														
Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]																
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal																
				Value	Low	Growth																								
Company	Ticker	Price	Zacks	First Call	Line	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio																	
ALLETE, Inc.	ALE	\$70.19	6.10%	5.00%	5.00%	5.00%	5.40%	65.00%	62.00%	65.89%	\$0.00	8.38%	20.94	3.88																
Alliant Energy Corporation	LNT	\$40.01	5.50%	6.35%	6.00%	5.50%	5.40%	63.00%	63.00%	65.89%	\$0.00	7.95%	20.94	3.88																
Ameren Corporation	AEE	\$55.15	6.50%	6.05%	6.00%	6.00%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.67%	20.94	3.88																
Avista Corporation	AVA	\$41.24	NA	5.65%	2.50%	2.50%	5.40%	73.00%	71.00%	65.89%	\$0.00	8.52%	20.94	3.88																
Black Hills Corporation	BKH	\$68.30	5.00%	12.00%	7.50%	5.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	6.80%	20.94	3.88																
CMS Energy Corporation	CMS	\$45.76	6.00%	7.52%	6.50%	6.00%	5.40%	61.00%	61.00%	65.89%	\$0.00	8.61%	20.94	3.88																
DTE Energy Company	DTE	\$105.47	5.90%	4.58%	5.00%	4.58%	5.40%	63.00%	65.00%	65.89%	\$0.00	8.37%	20.94	3.88																
El Paso Electric Company	EE	\$51.94	7.90%	6.50%	5.00%	5.00%	5.40%	52.00%	58.00%	65.89%	\$0.00	8.44%	20.94	3.88																
IDACORP, Inc.	IDA	\$84.58	4.00%	4.00%	3.50%	3.50%	5.40%	55.00%	62.00%	65.89%	\$0.00	7.77%	20.94	3.88																
NorthWestern Corporation	NWE	\$60.40	3.30%	3.37%	4.50%	3.30%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.41%	20.94	3.88																
OGE Energy Corp.	OGE	\$34.59	5.30%	6.30%	5.50%	5.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.48%	20.94	3.88																
Otter Tail Corporation	OTTR	\$38.63	NA	5.20%	5.00%	5.00%	5.40%	80.00%	65.00%	65.89%	\$0.00	7.87%	20.94	3.88																
Pinnacle West Capital Corporation	PNW	\$85.38	5.10%	6.05%	5.50%	5.10%	5.40%	62.00%	61.00%	65.89%	\$0.00	8.69%	20.94	3.88																
PNM Resources, Inc.	PNM	\$37.28	6.50%	7.00%	9.00%	6.50%	5.40%	52.00%	56.00%	65.89%	\$0.00	8.93%	20.94	3.88																
Portland General Electric Company	POR	\$45.65	5.30%	5.55%	6.00%	5.30%	5.40%	61.00%	58.00%	65.89%	\$0.00	8.95%	20.94	3.88																
SCANA Corporation	SCG	\$66.14	5.30%	5.80%	4.00%	4.00%	5.40%	60.00%	57.00%	65.89%	\$0.00	10.75%	20.94	3.88																
WEC Energy Group, Inc.	WEC	\$61.08	6.00%	5.61%	6.00%	5.61%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.57%	20.94	3.88																
Xcel Energy Inc.	XEL	\$45.58	5.40%	NA	4.50%	4.50%	5.40%	62.00%	66.00%	65.89%	\$0.00	8.85%	20.94	3.88																
															DCF Result															
															Mean	8.72%														
															Max	10.75%														
															Min	6.80%														
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	\$5.44	\$5.74	\$6.05	\$6.37	\$6.72	\$7.08												
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$3.66	\$3.86												
Ameren Corporation	AEE	\$2.68	\$2.84	\$3.01	\$3.19	\$3.38	\$3.59	\$3.80	\$4.02	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	\$5.54	\$5.84	\$6.16	\$6.49												
Avista Corporation	AVA	\$2.15	\$2.20	\$2.26	\$2.32	\$2.37	\$2.43	\$2.51	\$2.59	\$2.69	\$2.81	\$2.95	\$3.11	\$3.28	\$3.46	\$3.64	\$3.84	\$4.05												
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.80	\$5.06	\$5.34	\$5.63	\$5.93												
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.22	\$2.36	\$2.50	\$2.65	\$2.81	\$2.97	\$3.14	\$3.31	\$3.50	\$3.68	\$3.88	\$4.09	\$4.31	\$4.55	\$4.79												
DTE Energy Company	DTE	\$4.83	\$5.05	\$5.28	\$5.52	\$5.78	\$6.04	\$6.33	\$6.63	\$6.97	\$7.32	\$7.71	\$8.12	\$8.56	\$9.03	\$9.51	\$10.03	\$10.57												
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	\$4.14	\$4.37	\$4.60	\$4.85	\$5.11	\$5.39												
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.54	\$5.82	\$6.13	\$6.46	\$6.81	\$7.18	\$7.57	\$7.98												
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.86	\$3.99	\$4.13	\$4.30	\$4.49	\$4.70	\$4.93	\$5.20	\$5.48	\$5.78	\$6.09	\$6.42	\$6.76												
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89												
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.15	\$2.26	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61												
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.15	\$4.36	\$4.59	\$4.82	\$5.07	\$5.33	\$5.60	\$5.90	\$6.21	\$6.54	\$6.90	\$7.27	\$7.66	\$8.07	\$8.51	\$8.97												
PNM Resources, Inc.	PNM	\$1.65	\$1.76	\$1.87	\$1.99	\$2.12	\$2.26	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14												
Portland General Electric Company	POR	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.63	\$3.82	\$4.03	\$4.25	\$4.48	\$4.72	\$4.98												
SCANA Corporation	SCG	\$4.16	\$4.33	\$4.50	\$4.68	\$4.87	\$5.06	\$5.28	\$5.51	\$5.77	\$6.05	\$6.37	\$6.71	\$7.07	\$7.46	\$7.86	\$8.28	\$8.73												
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.30	\$3.49	\$3.68	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61	\$6.97												
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.02	\$3.17	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81												
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Portland General Electric Company	POR	61.00%	62.00%	63.00%	64.00%	65.00%	65.31%	65.63%	65.94%	66.26%	66.57%	66.89%	67.21%	67.53%	67.85%	68.17%	68.49%													
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	67.00%	66.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%													
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	\$2.14	\$2.22	\$2.31	\$2.39	\$2.48	\$2.64	\$2.80	\$2.98	\$3.17	\$3.37	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.66	\$148.27												
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	\$2.06	\$2.17	\$2.29	\$2.41	\$2.54	\$80.74												
Ameren Corporation	AEE	\$1.79	\$1.88	\$1.98	\$2.08	\$2.19	\$2.35	\$2.52	\$2.69	\$2.88	\$3.08	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06	\$4.27	\$135.88												
Avista Corporation	AVA	\$1.61	\$1.64	\$1.67	\$1.70	\$1.73	\$1.76	\$1.80	\$1.84	\$1.90	\$1.97																			

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94
90 Day Average Stock Price
Average EPS Growth Rate Estimate in First Stage

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]				
		Stock	EPS Growth Rate Estimates			Long-Term	Payout Ratio		Iterative Solution		Terminal	Terminal						
					Value													
Company	Ticker	Price	Zacks	First Call	Line	Average	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$67.81	6.10%	5.00%	5.00%	5.37%	5.40%	65.00%	62.00%	65.89%	\$0.00	8.90%	20.94	3.88				
Alliant Energy Corporation	LNT	\$39.19	5.50%	6.35%	6.00%	5.95%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.39%	20.94	3.88				
Ameren Corporation	AEE	\$54.42	6.50%	6.05%	6.00%	6.18%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.90%	20.94	3.88				
Avista Corporation	AVA	\$39.89	NA	5.65%	2.50%	4.08%	5.40%	73.00%	71.00%	65.89%	\$0.00	9.78%	20.94	3.88				
Black Hills Corporation	BKH	\$65.75	5.00%	12.00%	7.50%	8.17%	5.40%	50.00%	52.00%	65.89%	\$0.00	8.90%	20.94	3.88				
CMS Energy Corporation	CMS	\$44.57	6.00%	7.52%	6.50%	6.67%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.23%	20.94	3.88				
DTE Energy Company	DTE	\$102.12	5.90%	4.58%	5.00%	5.16%	5.40%	63.00%	65.00%	65.89%	\$0.00	9.00%	20.94	3.88				
El Paso Electric Company	EE	\$49.48	7.90%	6.50%	5.00%	6.47%	5.40%	52.00%	58.00%	65.89%	\$0.00	9.72%	20.94	3.88				
IDACORP, Inc.	IDA	\$82.52	4.00%	4.00%	3.50%	3.83%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.18%	20.94	3.88				
NorthWestern Corporation	NWE	\$58.72	3.30%	3.37%	4.50%	3.72%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.93%	20.94	3.88				
OGE Energy Corp.	OGE	\$34.94	5.30%	6.30%	5.50%	5.70%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.63%	20.94	3.88				
Otter Tail Corporation	OTTR	\$38.02	NA	5.20%	5.00%	5.10%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.07%	20.94	3.88				
Pinnacle West Capital Corporation	PNW	\$82.67	5.10%	6.05%	5.50%	5.55%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.24%	20.94	3.88				
PNM Resources, Inc.	PNM	\$36.45	6.50%	7.00%	9.00%	7.50%	5.40%	52.00%	56.00%	65.89%	\$0.00	9.70%	20.94	3.88				
Portland General Electric Company	POR	\$44.77	5.30%	5.55%	6.00%	5.62%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.30%	20.94	3.88				
SCANA Corporation	SCG	\$67.27	5.30%	5.80%	4.00%	5.03%	5.40%	60.00%	57.00%	65.89%	\$0.00	11.22%	20.94	3.88				
WEC Energy Group, Inc.	WEC	\$59.91	6.00%	5.61%	6.00%	5.87%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.90%	20.94	3.88				
Xcel Energy Inc.	XEL	\$43.95	5.40%	NA	4.50%	4.95%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.45%	20.94	3.88				
DCF Result																		
Mean											9.36%							
Max											11.22%							
Min											8.07%							
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	\$3.31	\$3.49	\$3.67	\$3.87	\$4.08	\$4.30	\$4.53	\$4.77	\$5.03	\$5.30	\$5.59	\$5.89	\$6.21	\$6.54	\$6.89	\$7.27
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.85	\$1.96	\$2.08	\$2.20	\$2.33	\$2.47	\$2.61	\$2.75	\$2.90	\$3.06	\$3.23	\$3.40	\$3.58	\$3.78	\$3.98
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.02	\$3.21	\$3.41	\$3.62	\$3.84	\$4.06	\$4.30	\$4.54	\$4.79	\$5.05	\$5.33	\$5.61	\$5.92	\$6.24	\$6.57
Avista Corporation	AVA	\$2.15	\$2.24	\$2.33	\$2.42	\$2.52	\$2.63	\$2.74	\$2.86	\$3.00	\$3.15	\$3.31	\$3.49	\$3.68	\$3.87	\$4.08	\$4.30	\$4.54
Black Hills Corporation	BKH	\$2.63	\$2.84	\$3.08	\$3.33	\$3.60	\$3.89	\$4.19	\$4.50	\$4.80	\$5.11	\$5.41	\$5.70	\$6.01	\$6.33	\$6.67	\$7.03	\$7.41
CMS Energy Corporation	CMS	\$1.98	\$2.11	\$2.25	\$2.40	\$2.56	\$2.73	\$2.91	\$3.09	\$3.28	\$3.47	\$3.67	\$3.86	\$4.07	\$4.29	\$4.52	\$4.77	\$5.03
DTE Energy Company	DTE	\$4.83	\$5.08	\$5.34	\$5.62	\$5.91	\$6.21	\$6.53	\$6.88	\$7.24	\$7.63	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02
El Paso Electric Company	EE	\$2.39	\$2.54	\$2.71	\$2.88	\$3.07	\$3.27	\$3.47	\$3.69	\$3.91	\$4.13	\$4.36	\$4.60	\$4.85	\$5.11	\$5.38	\$5.67	\$5.98
IDACORP, Inc.	IDA	\$3.94	\$4.09	\$4.25	\$4.41	\$4.58	\$4.76	\$4.95	\$5.17	\$5.40	\$5.67	\$5.96	\$6.28	\$6.62	\$6.98	\$7.35	\$7.75	\$8.17
NorthWestern Corporation	NWE	\$3.39	\$3.52	\$3.65	\$3.78	\$3.92	\$4.07	\$4.23	\$4.41	\$4.62	\$4.84	\$5.09	\$5.36	\$5.65	\$5.96	\$6.28	\$6.62	\$6.97
OGE Energy Corp.	OGE	\$1.69	\$1.79	\$1.89	\$2.00	\$2.11	\$2.23	\$2.36	\$2.49	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61	\$3.80	\$4.01
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.95	\$2.05	\$2.16	\$2.27	\$2.39	\$2.52	\$2.65	\$2.79	\$2.94	\$3.10	\$3.27	\$3.45	\$3.63
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.17	\$4.40	\$4.64	\$4.90	\$5.17	\$5.46	\$5.76	\$6.08	\$6.41	\$6.76	\$7.12	\$7.50	\$7.91	\$8.34	\$8.79	\$9.26
PNM Resources, Inc.	PNM	\$1.65	\$1.77	\$1.91	\$2.05	\$2.20	\$2.37	\$2.54	\$2.71	\$2.89	\$3.06	\$3.24	\$3.41	\$3.60	\$3.79	\$4.00	\$4.21	\$4.44
Portland General Electric Company	POR	\$2.16	\$2.28	\$2.41	\$2.54	\$2.69	\$2.84	\$3.00	\$3.16	\$3.34	\$3.52	\$3.71	\$3.91	\$4.12	\$4.35	\$4.58	\$4.83	\$5.09
SCANA Corporation	SCG	\$4.16	\$4.37	\$4.59	\$4.82	\$5.06	\$5.32	\$5.59	\$5.88	\$6.18	\$6.51	\$6.86	\$7.23	\$7.62	\$8.03	\$8.46	\$8.92	\$9.40
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.32	\$3.51	\$3.72	\$3.94	\$4.16	\$4.40	\$4.65	\$4.91	\$5.18	\$5.46	\$5.75	\$6.06	\$6.39	\$6.74	\$7.10
Xcel Energy Inc.	XEL	\$2.21	\$2.32	\$2.43	\$2.55	\$2.68	\$2.81	\$2.96	\$3.11	\$3.27	\$3.44	\$3.62	\$3.82	\$4.02	\$4.24	\$4.47	\$4.71	\$4.97
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Portland General Electric Company	POR	61.00%	61.25%	61.50%	61.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	68.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%
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	\$2.15	\$2.24	\$2.33	\$2.43	\$2.53	\$2.69	\$2.87	\$3.05	\$3.25	\$3.46	\$3.68	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$152.20
Alliant Energy Corporation	LNT	\$1.10	\$1.17	\$1.24	\$1.31	\$1.39	\$1.48	\$1.58	\$1.68	\$1.79	\$1.90	\$2.02	\$2.12	\$2.24	\$2.36	\$2.49	\$2.62	\$83.36
Ameren Corporation	AEE	\$1.79	\$1.89	\$1.99	\$2.10	\$2.21	\$2.37	\$2.55	\$2.73	\$2.92	\$3.12	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$137.65
Avista Corporation	AVA	\$1.63	\$1.69	\$1.75	\$1.80	\$1.86	\$1.92	\$1.98	\$2.05	\$2.13	\$2.21	\$2.30	\$2.42	\$2.55	\$2.69	\$2.84	\$2.99	\$95.01
Black Hills Corporation	BKH	\$1.42	\$1.55	\$1.70	\$1.85	\$2.03	\$2.28	\$2.55	\$2.83	\$3.13	\$3.44	\$3.75	\$3.96	\$4.17	\$4.40	\$4.63	\$4.88	\$155.24
CMS Energy Corporation	CMS	\$1.29	\$1.37	\$1.47	\$1.56	\$1.67	\$1.80	\$1.94	\$2.08	\$2.23	\$2.39	\$2.55	\$2.68	\$2.83	\$2.98	\$3.14	\$3.31	\$105.28
DTE Energy Company	DTE	\$3.20	\$3.39	\$3.59	\$3.81	\$4.04	\$4.26	\$4.49	\$4.74	\$5.00	\$5.28	\$5.58	\$5.88	\$6.20	\$6.53	\$6.89	\$7.26	\$230.70
El Paso Electric Company	EE	\$1.32	\$1.45	\$1.59	\$1.74	\$1.90	\$2.06	\$2.24	\$2.42	\$2.61	\$2.82	\$3.03						

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94 90 Day Average Stock Price High EPS Growth Rate Estimate in First Stage																				
Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]						
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal						
				Value	High															
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio						
ALLETE, Inc.	ALE	\$67.81	6.10%	5.00%	5.00%	6.10%	5.40%	65.00%	62.00%	65.89%	\$0.00	9.33%	20.94	3.88						
Alliant Energy Corporation	LNT	\$39.19	5.50%	6.35%	6.00%	6.35%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.62%	20.94	3.88						
Ameren Corporation	AEE	\$54.42	6.50%	6.05%	6.00%	6.50%	5.40%	63.00%	61.00%	65.89%	\$0.00	10.09%	20.94	3.88						
Avista Corporation	AVA	\$39.89	NA	5.65%	2.50%	5.65%	5.40%	73.00%	71.00%	65.89%	\$0.00	10.74%	20.94	3.88						
Black Hills Corporation	BKH	\$65.75	5.00%	12.00%	7.50%	12.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	11.06%	20.94	3.88						
CMS Energy Corporation	CMS	\$44.57	6.00%	7.52%	6.50%	7.52%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.72%	20.94	3.88						
DTE Energy Company	DTE	\$102.12	5.90%	4.58%	5.00%	5.90%	5.40%	63.00%	65.00%	65.89%	\$0.00	9.44%	20.94	3.88						
El Paso Electric Company	EE	\$49.48	7.90%	6.50%	5.00%	7.90%	5.40%	52.00%	58.00%	65.89%	\$0.00	10.55%	20.94	3.88						
IDACORP, Inc.	IDA	\$82.52	4.00%	4.00%	3.50%	4.00%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.28%	20.94	3.88						
NorthWestern Corporation	NWE	\$58.72	3.30%	3.37%	4.50%	4.50%	5.40%	62.00%	63.00%	65.89%	\$0.00	10.40%	20.94	3.88						
OGE Energy Corp.	OGE	\$34.94	5.30%	6.30%	5.50%	6.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.98%	20.94	3.88						
Otter Tail Corporation	OTTR	\$38.02	NA	5.20%	5.00%	5.20%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.13%	20.94	3.88						
Pinnacle West Capital Corporation	PNW	\$82.67	5.10%	6.05%	5.50%	6.05%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.54%	20.94	3.88						
PNM Resources, Inc.	PNM	\$36.45	6.50%	7.00%	9.00%	9.00%	5.40%	52.00%	56.00%	65.89%	\$0.00	10.56%	20.94	3.88						
Portland General Electric Company	POR	\$44.77	5.30%	5.55%	6.00%	6.00%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.53%	20.94	3.88						
SCANA Corporation	SCG	\$67.27	5.30%	5.80%	4.00%	5.80%	5.40%	60.00%	57.00%	65.89%	\$0.00	11.68%	20.94	3.88						
WEC Energy Group, Inc.	WEC	\$59.91	6.00%	5.61%	6.00%	6.00%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.98%	20.94	3.88						
Xcel Energy Inc.	XEL	\$43.95	5.40%	NA	4.50%	5.40%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.71%	20.94	3.88						
															DCF Result					
															Mean 9.85%					
															Max 11.68%					
															Min 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	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26	\$7.66		
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.87	\$1.98	\$2.11	\$2.24	\$2.38	\$2.53	\$2.68	\$2.83	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.88	\$4.09		
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.04	\$3.24	\$3.45	\$3.67	\$3.90	\$4.14	\$4.39	\$4.64	\$4.90	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72		
Avista Corporation	AVA	\$2.15	\$2.27	\$2.40	\$2.54	\$2.68	\$2.83	\$2.99	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	\$4.82	\$5.08		
Black Hills Corporation	BKH	\$2.63	\$2.95	\$3.30	\$3.69	\$4.14	\$4.63	\$5.14	\$5.64	\$6.13	\$6.60	\$7.03	\$7.41	\$7.81	\$8.23	\$8.68	\$9.15	\$9.64		
CMS Energy Corporation	CMS	\$1.98	\$2.13	\$2.29	\$2.46	\$2.65	\$2.85	\$3.05	\$3.26	\$3.47	\$3.68	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$5.06	\$5.33		
DTE Energy Company	DTE	\$4.83	\$5.11	\$5.42	\$5.74	\$6.07	\$6.43	\$6.81	\$7.20	\$7.60	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02	\$11.61		
El Paso Electric Company	EE	\$2.39	\$2.58	\$2.78	\$3.00	\$3.24	\$3.50	\$3.76	\$4.02	\$4.29	\$4.56	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61		
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.26	\$4.43	\$4.61	\$4.79	\$5.00	\$5.22	\$5.47	\$5.73	\$6.03	\$6.36	\$6.70	\$7.06	\$7.44	\$7.85	\$8.27		
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30	\$6.64	\$7.00	\$7.37		
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.21	\$3.39	\$3.57	\$3.76	\$3.96	\$4.18		
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.96	\$2.06	\$2.17	\$2.28	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29	\$3.47	\$3.66		
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.19	\$4.44	\$4.71	\$5.00	\$5.30	\$5.61	\$5.94	\$6.28	\$6.63	\$7.00	\$7.38	\$7.78	\$8.20	\$8.64	\$9.10	\$9.60		
PNM Resources, Inc.	PNM	\$1.65	\$1.80	\$1.96	\$2.14	\$2.33	\$2.54	\$2.75	\$2.97	\$3.18	\$3.39	\$3.60	\$3.79	\$3.99	\$4.21	\$4.44	\$4.67	\$4.93		
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.24	\$3.42	\$3.61	\$3.81	\$4.02	\$4.24	\$4.47	\$4.71	\$4.96	\$5.23		
SCANA Corporation	SCG	\$4.16	\$4.40	\$4.66	\$4.93	\$5.21	\$5.51	\$5.83	\$6.16	\$6.51	\$6.87	\$7.24	\$7.63	\$8.05	\$8.48	\$8.94	\$9.42	\$9.93		
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.19	\$4.44	\$4.69	\$4.95	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.80	\$7.17		
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$4.86	\$5.13		
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%			
Portland General Electric Company	POR	61.00%	61.25%	61.50%	61.75%	62.00%	62.31%	62.63%	62.94%	63.26%	63.57%	63.89%	64.21%	64.53%	64.84%	65.16%	65.48%			
SCANA Corporation	SCG	60.00%	60.25%	60.50%	60.75%	61.00%	61.31%	61.63%	61.94%	62.26%	62.57%	62.89%	63.21%	63.53%	63.84%	64.16%	64.48%			
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	68.63%	68.44%	68.26%	68.07%	67.89%	67.71%	67.53%	67.34%	67.16%	66.98%			
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.89%	65.96%	66.04%	66.12%	66.20%	66.28%	66.36%	66.44%	66.52%	66.60%	66.68%			
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	\$2.17	\$2.27	\$2.38	\$2.50	\$2.62	\$2.80	\$3.00	\$3.20	\$3.42	\$3.64	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$160.33		
Alliant Energy Corporation	LNT	\$1.11	\$1.18	\$1.25	\$1.33	\$1.41	\$1.51	\$1.62	\$1.72	\$1.84	\$1.95	\$2.07	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$85.75		
Ameren Corporation	AEE	\$1.80	\$1.90	\$2.01	\$2.12	\$2.24	\$2.41	\$2.59	\$2.78	\$2.98	\$3.									

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94 90 Day Average Stock Price Low EPS Growth Rate Estimate in First Stage																			
Inputs	[1] Stock	[2] EPS Growth Rate	[3] Value			[5] Long-Term	[6] Growth	[7] Payout Ratio			[9] Iterative Solution	[10] IRR	[11] P/E Ratio	[12] Terminal	[13] Terminal				
			[4] Zacks	[4] First Call	[4] Line			[8] 2017	[8] 2021	[8] 2027									
Company	Ticker	Price	Zacks	First Call	Line	Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio					
ALLETE, Inc.	ALE	\$67.81	6.10%	5.00%	5.00%	5.00%	5.40%	65.00%	62.00%	65.89%	\$0.00	8.69%	20.94	3.88					
Alliant Energy Corporation	LNT	\$39.19	5.50%	6.35%	6.00%	5.50%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.13%	20.94	3.88					
Ameren Corporation	AEE	\$54.42	6.50%	6.05%	6.00%	6.00%	5.40%	63.00%	61.00%	65.89%	\$0.00	9.79%	20.94	3.88					
Avista Corporation	AVA	\$39.89	NA	5.65%	2.50%	2.50%	5.40%	73.00%	71.00%	65.89%	(\$0.00)	8.83%	20.94	3.88					
Black Hills Corporation	BKH	\$65.75	5.00%	12.00%	7.50%	5.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	7.12%	20.94	3.88					
CMS Energy Corporation	CMS	\$44.57	6.00%	7.52%	6.50%	6.00%	5.40%	61.00%	61.00%	65.89%	\$0.00	8.84%	20.94	3.88					
DTE Energy Company	DTE	\$102.12	5.90%	4.58%	5.00%	4.58%	5.40%	63.00%	65.00%	65.89%	\$0.00	8.66%	20.94	3.88					
El Paso Electric Company	EE	\$49.48	7.90%	6.50%	5.00%	5.00%	5.40%	52.00%	58.00%	65.89%	\$0.00	8.87%	20.94	3.88					
IDACORP, Inc.	IDA	\$82.52	4.00%	4.00%	3.50%	3.50%	5.40%	55.00%	62.00%	65.89%	\$0.00	7.99%	20.94	3.88					
NorthWestern Corporation	NWE	\$58.72	3.30%	3.37%	4.50%	3.30%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.67%	20.94	3.88					
OGE Energy Corp.	OGE	\$34.94	5.30%	6.30%	5.50%	5.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.39%	20.94	3.88					
Otter Tail Corporation	OTTR	\$38.02	NA	5.20%	5.00%	5.00%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.02%	20.94	3.88					
Pinnacle West Capital Corporation	PNW	\$82.67	5.10%	6.05%	5.50%	5.10%	5.40%	62.00%	61.00%	65.89%	\$0.00	8.98%	20.94	3.88					
PNM Resources, Inc.	PNM	\$36.45	6.50%	7.00%	9.00%	6.50%	5.40%	52.00%	56.00%	65.89%	\$0.00	9.12%	20.94	3.88					
Portland General Electric Company	POR	\$44.77	5.30%	5.55%	6.00%	5.30%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.12%	20.94	3.88					
SCANA Corporation	SCG	\$67.27	5.30%	5.80%	4.00%	4.00%	5.40%	60.00%	57.00%	65.89%	\$0.00	10.59%	20.94	3.88					
WEC Energy Group, Inc.	WEC	\$59.91	6.00%	5.61%	6.00%	5.61%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.75%	20.94	3.88					
Xcel Energy Inc.	XEL	\$43.95	5.40%	NA	4.50%	4.50%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.18%	20.94	3.88					
DCF Result																			
Mean															8.93%				
Max															10.59%				
Min															7.12%				
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	\$3.30	\$3.46	\$3.63	\$3.82	\$4.01	\$4.21	\$4.43	\$4.66	\$4.90	\$5.16	\$5.44	\$5.74	\$6.05	\$6.37	\$6.72	\$7.08	
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$3.66	\$3.86	
Ameren Corporation	AEE	\$2.68	\$2.84	\$3.01	\$3.19	\$3.38	\$3.59	\$3.80	\$4.02	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	\$5.54	\$5.84	\$6.16	\$6.49	
Avista Corporation	AVA	\$2.15	\$2.20	\$2.26	\$2.32	\$2.37	\$2.43	\$2.51	\$2.59	\$2.69	\$2.81	\$2.95	\$3.11	\$3.28	\$3.46	\$3.64	\$3.84	\$4.05	
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.80	\$5.06	\$5.34	\$5.63	\$5.93	
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.22	\$2.36	\$2.50	\$2.65	\$2.81	\$2.97	\$3.14	\$3.31	\$3.50	\$3.68	\$3.88	\$4.09	\$4.31	\$4.55	\$4.79	
DTE Energy Company	DTE	\$4.83	\$5.05	\$5.28	\$5.52	\$5.78	\$6.04	\$6.33	\$6.63	\$6.97	\$7.32	\$7.71	\$8.12	\$8.56	\$9.03	\$9.51	\$10.03	\$10.57	
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	\$4.14	\$4.37	\$4.60	\$4.85	\$5.11	\$5.39	
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.54	\$5.82	\$6.13	\$6.46	\$6.81	\$7.18	\$7.57	\$7.98	
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.86	\$3.99	\$4.13	\$4.30	\$4.49	\$4.70	\$4.93	\$5.20	\$5.48	\$5.78	\$6.09	\$6.42	\$6.76	
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89	
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.15	\$2.26	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61	
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.15	\$4.36	\$4.59	\$4.82	\$5.07	\$5.33	\$5.60	\$5.90	\$6.21	\$6.54	\$6.90	\$7.27	\$7.66	\$8.07	\$8.51	\$8.97	
PNM Resources, Inc.	PNM	\$1.65	\$1.71	\$1.87	\$1.99	\$2.12	\$2.26	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14	
Portland General Electric Company	POR	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.63	\$3.82	\$4.03	\$4.25	\$4.48	\$4.72	\$4.98	
SCANA Corporation	SCG	\$4.16	\$4.33	\$4.50	\$4.68	\$4.87	\$5.06	\$5.28	\$5.51	\$5.77	\$6.05	\$6.37	\$6.71	\$7.07	\$7.46	\$7.86	\$8.28	\$8.73	
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.30	\$3.49	\$3.68	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61	\$6.97	
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.02	\$3.17	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81	
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.15%	58.30%	59.44%	60.59%	61.74%	62.89%	64.04%	65.19%	66.34%	67.49%	68.64%	69.79%	
Portland General Electric Company	POR	61.00%	62.00%	63.00%	64.00%	65.00%	65.31%	65.63%	65.94%	66.26%	66.57%	66.89%	67.21%	67.53%	67.85%	68.17%	68.49%	68.81%	
SCANA Corporation	SCG	60.00%	60.25%	60.50%	60.75%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	68.63%	68.44%	68.26%	68.07%	67.89%	67.71%	67.53%	67.35%	67.17%	66.99%	66.81%	
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
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	\$2.14	\$2.22	\$2.31	\$2.39	\$2.48	\$2.64	\$2.80	\$2.98	\$3.17	\$3.37	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.66	\$148.27	
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	\$2.06	\$2.17	\$2.29	\$2.41	\$2.54	\$80.74	
Ameren Corporation	AEE	\$1.79	\$1.88	\$1.98	\$2.08	\$2.19	\$2.35	\$2.52	\$2.69	\$2.88	\$3.08	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06	\$4.27	\$135.88	

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94
180 Day Average Stock Price
Average EPS Growth Rate Estimate in First Stage

Inputs	Company	Ticker	EPS Growth Rate Estimates					Long-Term	Payout Ratio			Iterative Solution	Terminal	Terminal						
			Stock	Value					2017	2021	2027									
				Price	Zacks	First Call	Average				Proof	IRR	PEG Ratio							

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94
180 Day Average Stock Price
High EPS Growth Rate Estimate in First Stage

		[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								
Company	Ticker	Price	Zacks	First Call	Value Line	High Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$64.56	6.10%	5.00%	5.00%	6.10%	5.40%	65.00%	62.00%	65.89%	\$0.00	9.78%	20.94	3.88				
Alliant Energy Corporation	LNT	\$38.26	5.50%	6.35%	6.00%	6.35%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.83%	20.94	3.88				
Ameren Corporation	AEE	\$52.23	6.50%	6.05%	6.00%	6.50%	5.40%	63.00%	61.00%	65.89%	\$0.00	10.47%	20.94	3.88				
Avista Corporation	AVA	\$40.23	NA	5.65%	2.50%	5.65%	5.40%	73.00%	71.00%	65.89%	\$0.00	10.65%	20.94	3.88				
Black Hills Corporation	BKH	\$62.93	5.00%	12.00%	7.50%	12.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	11.45%	20.94	3.88				
CMS Energy Corporation	CMS	\$42.95	6.00%	7.52%	6.50%	7.52%	5.40%	61.00%	61.00%	65.89%	\$0.00	10.06%	20.94	3.88				
DTE Energy Company	DTE	\$98.56	5.90%	4.58%	5.00%	5.90%	5.40%	63.00%	65.00%	65.89%	\$0.00	9.76%	20.94	3.88				
El Paso Electric Company	EE	\$47.61	7.90%	6.50%	5.00%	7.90%	5.40%	52.00%	58.00%	65.89%	\$0.00	10.91%	20.94	3.88				
IDACORP, Inc.	IDA	\$80.09	4.00%	4.00%	3.50%	4.00%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.55%	20.94	3.88				
NorthWestern Corporation	NWE	\$57.72	3.30%	3.37%	4.50%	4.50%	5.40%	62.00%	63.00%	65.89%	\$0.00	10.56%	20.94	3.88				
OGE Energy Corp.	OGE	\$33.43	5.30%	6.30%	5.50%	6.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	10.39%	20.94	3.88				
Otter Tail Corporation	OTTR	\$37.56	NA	5.20%	5.00%	5.20%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.24%	20.94	3.88				
Pinnacle West Capital Corporation	PNW	\$79.18	5.10%	6.05%	5.50%	6.05%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.93%	20.94	3.88				
PNM Resources, Inc.	PNM	\$34.64	6.50%	7.00%	9.00%	9.00%	5.40%	52.00%	56.00%	65.89%	\$0.00	11.03%	20.94	3.88				
Portland General Electric Company	POR	\$43.65	5.30%	5.55%	6.00%	6.00%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.76%	20.94	3.88				
SCANA Corporation	SCG	\$69.48	5.30%	5.80%	4.00%	5.80%	5.40%	60.00%	57.00%	65.89%	\$0.00	11.38%	20.94	3.88				
WEC Energy Group, Inc.	WEC	\$59.04	6.00%	5.61%	6.00%	6.00%	5.40%	67.00%	67.00%	65.89%	\$0.00	10.11%	20.94	3.88				
Xcel Energy Inc.	XEL	\$42.17	5.40%	NA	4.50%	5.40%	5.40%	62.00%	66.00%	65.89%	\$0.00	10.09%	20.94	3.88				
DCF Result																		
		Mean	10.11%															
		Max	11.45%															
		Min	8.24%															
Projected Annual Earnings per Share		[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]
Company	Ticker	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
ALLETE, Inc.	ALE	\$3.14	\$3.33	\$3.53	\$3.75	\$3.98	\$4.22	\$4.47	\$4.74	\$5.01	\$5.29	\$5.58	\$5.89	\$6.20	\$6.54	\$6.89	\$7.26	\$7.66
Alliant Energy Corporation	LNT	\$1.65	\$1.75	\$1.87	\$1.98	\$2.11	\$2.24	\$2.38	\$2.53	\$2.68	\$2.83	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.88	\$4.09
Ameren Corporation	AEE	\$2.68	\$2.85	\$3.04	\$3.24	\$3.45	\$3.67	\$3.90	\$4.14	\$4.39	\$4.64	\$4.90	\$5.17	\$5.45	\$5.74	\$6.05	\$6.38	\$6.72
Avista Corporation	AVA	\$2.15	\$2.27	\$2.40	\$2.54	\$2.68	\$2.83	\$2.99	\$3.16	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.34	\$4.57	\$4.82	\$5.08
Black Hills Corporation	BKH	\$2.63	\$2.95	\$3.30	\$3.69	\$4.14	\$4.63	\$5.14	\$5.64	\$6.13	\$6.60	\$7.03	\$7.41	\$7.81	\$8.23	\$8.68	\$9.15	\$9.64
CMS Energy Corporation	CMS	\$1.98	\$2.13	\$2.29	\$2.46	\$2.65	\$2.85	\$3.05	\$3.27	\$3.47	\$3.69	\$3.89	\$4.10	\$4.32	\$4.56	\$4.80	\$5.06	\$5.33
DTE Energy Company	DTE	\$4.83	\$5.11	\$5.42	\$5.74	\$6.07	\$6.43	\$6.81	\$7.20	\$7.60	\$8.03	\$8.47	\$8.93	\$9.41	\$9.92	\$10.45	\$11.02	\$11.61
El Paso Electric Company	EE	\$2.39	\$2.58	\$2.78	\$3.00	\$3.24	\$3.50	\$3.76	\$4.02	\$4.29	\$4.56	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61
IDACORP, Inc.	IDA	\$3.94	\$4.10	\$4.26	\$4.43	\$4.61	\$4.79	\$5.00	\$5.22	\$5.47	\$5.73	\$6.03	\$6.36	\$6.70	\$7.06	\$7.44	\$7.85	\$8.27
NorthWestern Corporation	NWE	\$3.39	\$3.54	\$3.70	\$3.87	\$4.04	\$4.22	\$4.42	\$4.63	\$4.86	\$5.11	\$5.38	\$5.67	\$5.98	\$6.30	\$6.64	\$7.00	\$7.37
OGE Energy Corp.	OGE	\$1.69	\$1.80	\$1.91	\$2.03	\$2.16	\$2.29	\$2.43	\$2.58	\$2.73	\$2.89	\$3.05	\$3.21	\$3.39	\$3.57	\$3.76	\$3.96	\$4.18
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.77	\$1.86	\$1.96	\$2.06	\$2.17	\$2.28	\$2.40	\$2.53	\$2.67	\$2.81	\$2.97	\$3.13	\$3.29	\$3.47	\$3.66
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.19	\$4.44	\$4.71	\$5.00	\$5.30	\$5.61	\$5.94	\$6.28	\$6.63	\$7.00	\$7.38	\$7.78	\$8.20	\$8.64	\$9.10	\$9.60
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	\$3.79	\$3.99	\$4.21	\$4.44	\$4.67	\$4.93
Portland General Electric Company	POR	\$2.16	\$2.29	\$2.43	\$2.57	\$2.73	\$2.89	\$3.06	\$3.24	\$3.42	\$3.61	\$3.81	\$4.02	\$4.24	\$4.47	\$4.71	\$4.96	\$5.23
SCANA Corporation	SCG	\$4.16	\$4.40	\$4.66	\$4.93	\$5.21	\$5.51	\$5.83	\$6.16	\$6.51	\$6.87	\$7.24	\$7.63	\$8.05	\$8.48	\$8.94	\$9.42	\$9.93
WEC Energy Group, Inc.	WEC	\$2.96	\$3.14	\$3.33	\$3.53	\$3.74	\$3.96	\$4.19	\$4.44	\$4.69	\$4.95	\$5.23	\$5.51	\$5.81	\$6.12	\$6.45	\$6.80	\$7.17
Xcel Energy Inc.	XEL	\$2.21	\$2.33	\$2.46	\$2.59	\$2.73	\$2.87	\$3.03	\$3.19	\$3.37	\$3.55	\$3.74	\$3.94	\$4.15	\$4.38	\$4.62	\$4.86	\$5.13
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.65%	59.30%	60.94%	62.59%	64.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Portland General Electric Company	POR	61.00%	60.25%	59.50%	58.75%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
SCANA Corporation	SCG	60.00%	59.25%	58.50%	57.75%	57.00%	58.48%	59.96%	61.44%	62.92%	64.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	66.63%	66.44%	66.26%	66.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.89%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Projected Annual Cash Flows		[47]	[48]	[49]	[50]	[51]	[52]	[53]	[54]	[55]	[56]	[57]	[58]	[59]	[60]	[61]	[62]	Terminal Value
Company	Ticker	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
ALLETE, Inc.	ALE	\$2.17	\$2.27	\$2.38	\$2.50	\$2.62	\$2.80	\$3.00	\$3.20	\$3.42	\$3.64	\$3.88	\$4.09	\$4.31	\$4.54	\$4.79	\$5.04	\$160.33
Alliant Energy Corporation	LNT	\$1.11	\$1.18	\$1.25	\$1.33	\$1.41	\$1.51	\$1.62	\$1.72	\$1.84	\$1.95	\$2.07	\$2.19	\$2.30	\$2.43	\$2.56	\$2.70	\$85.75
Ameren Corporation	AEE	\$1.80	\$1.90	\$2.01	\$2.12	\$2.24	\$2.41	\$2.59	\$2.78	\$2.98	\$3.19	\$3.40	\$3.59	\$3.78	\$3.99	\$4.20	\$4.43	\$140.76
Avista Corporation	AVA	\$1.66	\$1.74	\$1.83	\$1.92	\$2.01	\$2.10	\$2.19	\$2.28	\$2.37	\$2.47	\$2.57	\$2.71	\$2.86	\$3.01	\$3.17	\$3.35	\$106.33
Black Hills Corporation	BKH	\$1.47	\$1.67	\$1.88	\$2.13	\$2.41	\$2.79	\$3.20	\$3.62	\$4.04	\$4							

Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E of 20.94
180 Day Average Stock Price
Low EPS Growth Rate Estimate in First Stage

Inputs	[1] Stock	[2] Price	[3] EPS Growth Rate Estimates				[5] Long-Term Growth	[6] Payout Ratio			[10] Iterative Solution	[11] IRR	[12] P/E Ratio	[13] Terminal				
			Zacks	First Call	Line	Low Growth		[7]	[8]	[9]								
Company	Ticker	Price	Zacks	First Call	Line	Low Growth	Growth	2017	2021	2027	Proof	IRR	P/E Ratio	PEG Ratio				
ALLETE, Inc.	ALE	\$64.56	6.10%	5.00%	5.00%	5.00%	5.40%	65.00%	62.00%	65.89%	\$0.00	9.13%	20.94	3.88				
Alliant Energy Corporation	LNT	\$38.26	5.50%	6.35%	6.00%	5.50%	5.40%	63.00%	63.00%	65.89%	\$0.00	8.34%	20.94	3.88				
Ameren Corporation	AEE	\$52.23	6.50%	6.05%	6.00%	6.00%	5.40%	63.00%	61.00%	65.89%	\$0.00	10.17%	20.94	3.88				
Avista Corporation	AVA	\$40.23	NA	5.65%	2.50%	2.50%	5.40%	73.00%	71.00%	65.89%	(\$0.00)	8.75%	20.94	3.88				
Black Hills Corporation	BKH	\$62.93	5.00%	12.00%	7.50%	5.00%	5.40%	50.00%	52.00%	65.89%	\$0.00	7.49%	20.94	3.88				
CMS Energy Corporation	CMS	\$42.95	6.00%	7.52%	6.50%	6.00%	5.40%	61.00%	61.00%	65.89%	\$0.00	9.17%	20.94	3.88				
DTE Energy Company	DTE	\$98.56	5.90%	4.58%	5.00%	4.58%	5.40%	63.00%	65.00%	65.89%	\$0.00	8.98%	20.94	3.88				
El Paso Electric Company	EE	\$47.61	7.90%	6.50%	5.00%	5.00%	5.40%	52.00%	58.00%	65.89%	\$0.00	9.21%	20.94	3.88				
IDACORP, Inc.	IDA	\$80.09	4.00%	4.00%	3.50%	3.50%	5.40%	55.00%	62.00%	65.89%	\$0.00	8.25%	20.94	3.88				
NorthWestern Corporation	NWE	\$57.72	3.30%	3.37%	4.50%	3.30%	5.40%	62.00%	63.00%	65.89%	\$0.00	9.83%	20.94	3.88				
OGE Energy Corp.	OGE	\$33.43	5.30%	6.30%	5.50%	5.30%	5.40%	62.00%	71.00%	65.89%	\$0.00	9.80%	20.94	3.88				
Otter Tail Corporation	OTTR	\$37.56	NA	5.20%	5.00%	5.00%	5.40%	80.00%	65.00%	65.89%	\$0.00	8.12%	20.94	3.88				
Pinnacle West Capital Corporation	PNW	\$79.18	5.10%	6.05%	5.50%	5.10%	5.40%	62.00%	61.00%	65.89%	\$0.00	9.37%	20.94	3.88				
PNM Resources, Inc.	PNM	\$34.64	6.50%	7.00%	9.00%	6.50%	5.40%	52.00%	66.00%	65.89%	\$0.00	9.58%	20.94	3.88				
Portland General Electric Company	POR	\$43.65	5.30%	5.55%	6.00%	5.30%	5.40%	61.00%	58.00%	65.89%	\$0.00	9.35%	20.94	3.88				
SCANA Corporation	SCG	\$69.48	5.30%	5.80%	4.00%	4.00%	5.40%	60.00%	57.00%	65.89%	\$0.00	10.29%	20.94	3.88				
WEC Energy Group, Inc.	WEC	\$59.04	6.00%	5.61%	6.00%	5.61%	5.40%	67.00%	67.00%	65.89%	\$0.00	9.88%	20.94	3.88				
Xcel Energy Inc.	XEL	\$42.17	5.40%	NA	4.50%	4.50%	5.40%	62.00%	66.00%	65.89%	\$0.00	9.56%	20.94	3.88				
DCF Result																		
Mean 9.18%																		
Max 10.29%																		
Min 7.49%																		
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	\$4.66	\$4.90	\$5.16	\$5.44	\$5.74	\$6.05	\$6.37	\$6.72	\$7.08
Alliant Energy Corporation	LNT	\$1.65	\$1.74	\$1.84	\$1.94	\$2.04	\$2.16	\$2.27	\$2.40	\$2.53	\$2.67	\$2.81	\$2.96	\$3.12	\$3.29	\$3.47	\$3.66	\$3.86
Ameren Corporation	AEE	\$2.68	\$2.84	\$3.01	\$3.19	\$3.38	\$3.59	\$3.80	\$4.02	\$4.25	\$4.49	\$4.73	\$4.99	\$5.26	\$5.54	\$5.84	\$6.16	\$6.49
Avista Corporation	AVA	\$2.15	\$2.20	\$2.26	\$2.32	\$2.37	\$2.43	\$2.51	\$2.59	\$2.69	\$2.81	\$2.95	\$3.11	\$3.28	\$3.46	\$3.64	\$3.84	\$4.05
Black Hills Corporation	BKH	\$2.63	\$2.76	\$2.90	\$3.04	\$3.20	\$3.36	\$3.53	\$3.71	\$3.90	\$4.11	\$4.33	\$4.56	\$4.80	\$5.06	\$5.34	\$5.63	\$5.93
CMS Energy Corporation	CMS	\$1.98	\$2.10	\$2.22	\$2.36	\$2.50	\$2.65	\$2.81	\$2.97	\$3.14	\$3.31	\$3.50	\$3.68	\$3.88	\$4.09	\$4.31	\$4.55	\$4.79
DTE Energy Company	DTE	\$4.83	\$5.05	\$5.28	\$5.52	\$5.78	\$6.04	\$6.33	\$6.63	\$6.97	\$7.32	\$7.71	\$8.12	\$8.56	\$9.03	\$9.51	\$10.03	\$10.57
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	\$4.14	\$4.37	\$4.60	\$4.85	\$5.11	\$5.39
IDACORP, Inc.	IDA	\$3.94	\$4.08	\$4.22	\$4.37	\$4.52	\$4.68	\$4.86	\$5.06	\$5.28	\$5.54	\$5.82	\$6.13	\$6.46	\$6.81	\$7.18	\$7.57	\$7.98
NorthWestern Corporation	NWE	\$3.39	\$3.50	\$3.62	\$3.74	\$3.86	\$3.99	\$4.13	\$4.30	\$4.49	\$4.70	\$4.93	\$5.20	\$5.48	\$5.78	\$6.09	\$6.42	\$6.76
OGE Energy Corp.	OGE	\$1.69	\$1.78	\$1.87	\$1.97	\$2.08	\$2.19	\$2.30	\$2.43	\$2.56	\$2.69	\$2.84	\$2.99	\$3.15	\$3.32	\$3.50	\$3.69	\$3.89
Otter Tail Corporation	OTTR	\$1.60	\$1.68	\$1.76	\$1.85	\$1.94	\$2.04	\$2.15	\$2.26	\$2.37	\$2.50	\$2.63	\$2.77	\$2.92	\$3.08	\$3.25	\$3.42	\$3.61
Pinnacle West Capital Corporation	PNW	\$3.95	\$4.15	\$4.36	\$4.59	\$4.82	\$5.07	\$5.33	\$5.60	\$5.90	\$6.21	\$6.54	\$6.90	\$7.27	\$7.66	\$8.07	\$8.51	\$8.97
PNM Resources, Inc.	PNM	\$1.65	\$1.78	\$1.87	\$1.99	\$2.12	\$2.26	\$2.40	\$2.55	\$2.70	\$2.86	\$3.02	\$3.18	\$3.35	\$3.53	\$3.72	\$3.93	\$4.14
Portland General Electric Company	POR	\$2.16	\$2.27	\$2.40	\$2.52	\$2.66	\$2.80	\$2.95	\$3.10	\$3.27	\$3.44	\$3.63	\$3.82	\$4.03	\$4.25	\$4.48	\$4.72	\$4.98
SCANA Corporation	SCG	\$4.16	\$4.33	\$4.50	\$4.68	\$4.87	\$5.06	\$5.28	\$5.51	\$5.77	\$6.05	\$6.37	\$6.71	\$7.07	\$7.46	\$7.86	\$8.28	\$8.73
WEC Energy Group, Inc.	WEC	\$2.96	\$3.13	\$3.30	\$3.49	\$3.68	\$3.89	\$4.11	\$4.33	\$4.57	\$4.82	\$5.08	\$5.36	\$5.65	\$5.95	\$6.27	\$6.61	\$6.97
Xcel Energy Inc.	XEL	\$2.21	\$2.31	\$2.41	\$2.52	\$2.64	\$2.75	\$2.88	\$3.02	\$3.17	\$3.33	\$3.51	\$3.70	\$3.90	\$4.11	\$4.33	\$4.56	\$4.81
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	65.00%	64.25%	63.50%	62.75%	62.00%	62.65%	62.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Alliant Energy Corporation	LNT	63.00%	63.00%	63.00%	63.00%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Ameren Corporation	AEE	63.00%	62.50%	62.00%	61.50%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Avista Corporation	AVA	73.00%	72.50%	72.00%	71.50%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Black Hills Corporation	BKH	50.00%	50.50%	51.00%	51.50%	52.00%	54.31%	56.63%	58.94%	61.26%	63.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
CMS Energy Corporation	CMS	61.00%	61.00%	61.00%	61.00%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
DTE Energy Company	DTE	63.00%	63.50%	64.00%	64.50%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
El Paso Electric Company	EE	52.00%	53.50%	55.00%	56.50%	58.00%	59.31%	60.63%	61.94%	63.26%	64.57%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
IDACORP, Inc.	IDA	55.00%	56.75%	58.50%	60.25%	62.00%	62.65%	63.30%	63.94%	64.59%	65.24%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
NorthWestern Corporation	NWE	62.00%	62.25%	62.50%	62.75%	63.00%	63.48%	63.96%	64.44%	64.92%	65.41%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
OGE Energy Corp.	OGE	62.00%	64.25%	66.50%	68.75%	71.00%	70.15%	69.30%	68.44%	67.59%	66.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Otter Tail Corporation	OTTR	80.00%	76.25%	72.50%	68.75%	65.00%	65.15%	65.30%	65.44%	65.59%	65.74%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
Pinnacle West Capital Corporation	PNW	62.00%	61.75%	61.50%	61.25%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
PNM Resources, Inc.	PNM	52.00%	53.00%	54.00%	55.00%	56.00%	57.15%	58.30%	59.44%	60.59%	61.74%	62.89%	64.04%	65.19%	66.34%	67.49%	68.64%	
Portland General Electric Company	POR	61.00%	63.00%	65.00%	67.00%	69.00%	69.31%	69.63%	69.96%	70.28%	70.61%	70.94%	71.27%	71.60%	71.93%	72.26%	72.59%	
SCANA Corporation	SCG	60.00%	60.25%	60.50%	60.75%	61.00%	61.81%	62.63%	63.44%	64.26%	65.07%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
WEC Energy Group, Inc.	WEC	67.00%	67.00%	67.00%	67.00%	67.00%	68.81%	68.63%	68.44%	68.26%	68.07%	67.89%	67.71%	67.53%	67.35%	67.17%	66.99%	
Xcel Energy Inc.	XEL	62.00%	63.00%	64.00%	65.00%	66.00%	65.98%	65.96%	65.94%	65.92%	65.91%	65.89%	65.89%	65.89%	65.89%	65.89%	65.89%	
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	\$2.14	\$2.22	\$2.31	\$2.39	\$2.48	\$2.64	\$2.80	\$2.98	\$3.17	\$3.37	\$3.59	\$3.78	\$3.98	\$4.20	\$4.43	\$4.66	\$148.27
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	\$2.06	\$2.17	\$2.29	\$2.41	\$2.54	\$80.74
Ameren Corporation	AEE	\$1.79	\$1.88	\$1.98	\$2.08	\$2.19	\$2.35	\$2.52	\$2.69	\$2.88	\$3.08	\$3.29	\$3.46	\$3.65	\$3.85	\$4.06	\$4.27	\$135.88
Avista Corporation	AVA	\$1.61	\$1.64	\$1.67	\$1.70	\$1.73	\$1.76	\$1.80	\$1.84	\$1.90	\$1.97	\$2.05	\$2.16	\$2.28	\$2.40	\$2.53	\$2.67	\$84.77
Black Hills Corporation	BKH	\$1.38	\$1.46	\$1.55	\$1.65	\$1.75	\$1.92	\$2.10	\$2.30	\$2.52	\$2.75	\$3.00	\$3.17	\$3.34	\$3.52	\$3.71	\$3.91	\$124.19
CMS Energy Corporation	CMS	\$1.28	\$1.36	\$1.44	\$1.52	\$1.62	\$1.73	\$1.86	\$1.99	\$2.13	\$2.27	\$2.43	\$2.56	\$2.70	\$2.84	\$3.00	\$3.16	\$100.39
DTE Energy Company	DTE	\$3.18	\$3.35	\$3.54	\$3.73	\$3.93	\$4.12	\$4.33	\$4.56	\$4.80	\$5.07	\$5.35	\$5.64	\$5.95	\$6.27	\$6.61	\$6.96	\$221.33
El Paso Electric Company	EE	\$1.30	\$1.41	\$1.52	\$1.64	\$1.77	\$1.90	\$2.04	\$2.20	\$2.36	\$2.54	\$2.73	\$2.98	\$3.03	\$3.20			

Multi-Stage DCF Notes:

- [1] Source: Bloomberg; based on 30-, 90-, and 180-day historical average as of May 31, 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 - 5/31/2017) / 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
13.65%	2.95%	10.70%

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	19,447.64	0.09%	0.86%	10.20%	11.10%	0.0101%
American Airlines Group Inc	AAL	23,846.22	0.11%	0.88%	0.11%	0.99%	0.0011%
Advance Auto Parts Inc	AAP	9,867.86	0.05%	0.19%	14.85%	15.05%	0.0069%
Apple Inc	AAPL	796,466.20	3.71%	1.47%	10.43%	11.98%	0.4441%
AbbVie Inc	ABBV	105,073.50	0.49%	3.90%	10.97%	15.08%	0.0738%
AmerisourceBergen Corp	ABC	20,038.54	0.09%	1.59%	9.45%	11.12%	0.0104%
Abbott Laboratories	ABT	79,232.52	0.37%	2.38%	10.63%	13.13%	0.0484%
Accenture PLC	ACN	80,671.37	0.38%	1.95%	10.07%	12.12%	0.0455%
Adobe Systems Inc	ADBE	70,177.86	0.33%	0.00%	17.48%	17.48%	0.0571%
Analog Devices Inc	ADI	31,474.90	0.15%	1.97%	10.96%	13.04%	0.0191%
Archer-Daniels-Midland Co	ADM	23,632.29	0.11%	3.09%	10.00%	13.24%	0.0146%
Automatic Data Processing Inc	ADP	45,801.40	0.21%	2.18%	11.10%	13.40%	0.0286%
Alliance Data Systems Corp	ADS	13,425.14	0.06%	0.86%	14.50%	15.43%	0.0096%
Autodesk Inc	ADSK	24,627.11	0.11%	0.00%	71.51%	71.51%	0.0820%
Ameren Corp	AEE	13,769.52	0.06%	3.17%	5.80%	9.06%	0.0058%
American Electric Power Co Inc	AEP	35,295.09	0.16%	3.34%	4.00%	7.40%	0.0122%
AES Corp/VA	AES	7,710.49	0.04%	4.14%	7.50%	11.79%	0.0042%
Aetna Inc	AET	48,050.06	0.22%	1.18%	11.61%	12.86%	0.0288%
Aflac Inc	AFL	29,914.30	0.14%	2.32%	3.30%	5.66%	0.0079%
Allergan PLC	AGN	75,150.25	0.35%	1.26%	13.30%	14.65%	0.0513%
American International Group Inc	AIG	58,674.29	0.27%	2.04%	11.00%	13.16%	0.0359%
Apartment Investment & Management Co	AIV	6,739.39	0.03%	3.36%	6.53%	10.00%	0.0031%
Assurant Inc	AIZ	5,368.13	0.02%	2.21%	21.41%	23.86%	0.0060%
Arthur J Gallagher & Co	AJG	10,183.83	0.05%	2.75%	9.95%	12.84%	0.0061%
Akamai Technologies Inc	AKAM	8,150.98	0.04%	0.00%	14.18%	14.18%	0.0054%
Albemarle Corp	ALB	12,581.46	0.06%	1.13%	11.70%	12.90%	0.0076%
Alaska Air Group Inc	ALK	10,759.72	0.05%	1.39%	11.77%	13.24%	0.0066%
Allstate Corp/The	ALL	31,472.49	0.15%	1.70%	10.60%	12.39%	0.0182%
Allegion PLC	ALLE	7,492.41	0.03%	0.77%	13.10%	13.92%	0.0049%
Alexion Pharmaceuticals Inc	ALXN	22,013.28	0.10%	0.00%	20.93%	20.93%	0.0214%
Applied Materials Inc	AMAT	49,304.10	0.23%	0.90%	18.97%	19.96%	0.0458%
Advanced Micro Devices Inc	AMD	10,574.73	0.05%	0.00%	5.00%	5.00%	0.0025%
AMETEK Inc	AME	14,041.20	0.07%	0.62%	9.86%	10.51%	0.0069%
Affiliated Managers Group Inc	AMG	8,708.29	0.04%	0.52%	15.57%	16.13%	0.0065%
Amgen Inc	AMGN	114,163.36	0.53%	2.96%	4.86%	7.90%	0.0420%
Ameriprise Financial Inc	AMP	18,414.91	0.09%	2.69%	8.40%	11.20%	0.0096%
American Tower Corp	AMT	55,756.99	0.26%	1.99%	19.73%	21.92%	0.0569%
Amazon.com Inc	AMZN	475,403.99	2.21%	0.00%	34.40%	34.40%	0.7615%
AutoNation Inc	AN	4,001.85	0.02%	0.00%	7.92%	7.92%	0.0015%
Anthem Inc	ANTM	48,320.24	0.22%	1.43%	9.49%	10.98%	0.0247%
Aon PLC	AON	34,307.59	0.16%	1.08%	11.08%	12.22%	0.0195%
Apache Corp	APA	17,789.25	0.08%	2.12%	-16.24%	-14.29%	-0.0118%
Anadarko Petroleum Corp	APC	28,313.94	0.13%	0.40%	-2.25%	-1.86%	-0.0024%
Air Products & Chemicals Inc	APD	31,365.39	0.15%	2.57%	8.78%	11.46%	0.0167%
Amphenol Corp	APH	22,798.92	0.11%	0.86%	10.03%	10.93%	0.0116%
Alexandria Real Estate Equities Inc	ARE	10,626.44	0.05%	2.87%	7.09%	10.06%	0.0050%
Arconic Inc	ARNC	12,109.50	0.06%	0.87%	13.10%	14.03%	0.0079%
Activision Blizzard Inc	ATVI	44,149.54	0.21%	0.26%	10.92%	11.19%	0.0230%
AvalonBay Communities Inc	AVB	26,350.21	0.12%	2.97%	6.87%	9.95%	0.0122%
Broadcom Ltd	AVGO	96,118.28	0.45%	1.71%	15.64%	17.48%	0.0782%
Avery Dennison Corp	AVY	7,461.86	0.03%	2.00%	7.10%	9.17%	0.0032%
American Water Works Co Inc	AWK	13,930.98	0.06%	2.08%	7.00%	9.15%	0.0059%
American Express Co	AXP	68,767.37	0.32%	1.72%	7.25%	9.03%	0.0289%
Acuity Brands Inc	AYI	7,183.11	0.03%	0.32%	20.00%	20.35%	0.0068%
AutoZone Inc	AZO	17,212.46	0.08%	0.00%	12.80%	12.80%	0.0103%
Boeing Co/The	BA	113,249.90	0.53%	3.01%	14.57%	17.80%	0.0939%
Bank of America Corp	BAC	223,022.05	1.04%	1.70%	14.95%	16.78%	0.1742%
Baxter International Inc	BAX	32,245.02	0.15%	0.91%	13.08%	14.05%	0.0211%
Bed Bath & Beyond Inc	BBBY	4,994.74	0.02%	1.15%	5.64%	6.82%	0.0016%
BB&T Corp	BBT	33,793.57	0.16%	3.04%	8.41%	11.58%	0.0182%
Best Buy Co Inc	BBY	18,257.09	0.09%	2.28%	13.28%	15.71%	0.0134%
CR Bard Inc	BCR	22,263.21	0.10%	0.35%	9.30%	9.66%	0.0100%
Becton Dickinson and Co	BDX	43,021.92	0.20%	1.58%	10.47%	12.13%	0.0243%
Franklin Resources Inc	BEN	23,457.42	0.11%	1.91%	10.00%	12.01%	0.0131%
Brown-Forman Corp	BF/B	20,127.90	0.09%	1.37%	1.53%	2.91%	0.0027%
Baker Hughes Inc	BHI	23,465.40	0.11%	1.24%	33.00%	34.44%	0.0376%
Biogen Inc	BIIB	52,555.78	0.24%	0.00%	7.09%	7.09%	0.0173%
Bank of New York Mellon Corp/The	BK	48,999.01	0.23%	1.76%	11.73%	13.59%	0.0310%
BlackRock Inc	BLK	66,805.46	0.31%	2.45%	13.16%	15.78%	0.0491%
Ball Corp	BLL	14,362.30	0.07%	0.78%	8.00%	8.81%	0.0059%
Bristol-Myers Squibb Co	BMJ	88,879.09	0.41%	2.94%	9.10%	12.17%	0.0504%
Berkshire Hathaway Inc	BRK/B	408,123.55	N/A	0.00%	N/A	N/A	N/A
Boston Scientific Corp	BSX	37,014.93	0.17%	0.00%	10.54%	10.54%	0.0182%
BorgWarner Inc	BWA	9,021.45	0.04%	1.31%	6.22%	7.57%	0.0032%
Boston Properties Inc	BXP	18,665.97	0.09%	2.48%	5.90%	8.46%	0.0073%
Citigroup Inc	C	166,682.23	0.78%	1.30%	4.43%	5.76%	0.0447%
CA Inc	CA	13,273.93	0.06%	3.21%	4.20%	7.48%	0.0046%
Conagra Brands Inc	CAG	16,398.83	0.08%	2.19%	8.65%	10.93%	0.0083%
Cardinal Health Inc	CAH	23,466.92	0.11%	2.33%	7.74%	10.16%	0.0111%
Caterpillar Inc	CAT	62,114.83	0.29%	2.94%	7.64%	10.70%	0.0309%
Chubb Ltd	CB	66,859.05	0.31%	1.92%	10.63%	12.65%	0.0394%
CBRE Group Inc	CBG	11,785.06	0.05%	0.00%	10.23%	10.23%	0.0056%
CBOE Holdings Inc	CBOE	9,677.13	0.05%	1.18%	20.00%	21.30%	0.0096%
CBS Corp	CBS	24,886.97	0.12%	1.20%	12.64%	13.92%	0.0161%

Indiana Michigan Power Company
Attachment RBH-4
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Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Crown Castle International Corp	CCI	37,214.95	0.17%	3.80%	19.97%	24.14%	0.0418%
Carnival Corp	CCL	46,383.18	0.22%	2.46%	13.55%	16.17%	0.0349%
Celgene Corp	CELG	89,334.11	0.42%	0.00%	20.51%	20.51%	0.0853%
Cerner Corp	CERN	21,593.55	0.10%	0.00%	12.43%	12.43%	0.0125%
CF Industries Holdings Inc	CF	6,272.67	0.03%	4.46%	6.00%	10.59%	0.0031%
Citizens Financial Group Inc	CFG	17,273.23	0.08%	1.79%	19.13%	21.09%	0.0170%
Church & Dwight Co Inc	CHD	12,876.51	0.06%	1.47%	8.53%	10.06%	0.0060%
Chesapeake Energy Corp	CHK	4,594.82	0.02%	0.00%	-13.42%	-13.42%	-0.0029%
CH Robinson Worldwide Inc	CHRW	9,443.64	0.04%	2.72%	9.28%	12.12%	0.0053%
Charter Communications Inc	CHTR	106,380.60	0.50%	0.00%	19.30%	19.30%	0.0956%
Cigna Corp	CI	41,277.24	0.19%	0.03%	12.87%	12.90%	0.0248%
Cincinnati Financial Corp	CINF	11,541.35	N/A	2.85%	N/A	N/A	N/A
Colgate-Palmolive Co	CL	67,448.24	0.31%	2.12%	9.10%	11.32%	0.0355%
Clorox Co/The	CLX	17,481.78	0.08%	2.38%	7.14%	9.60%	0.0078%
Comerica Inc	CMA	12,130.75	0.06%	1.47%	10.97%	12.52%	0.0071%
Comcast Corp	CMCSA	197,733.87	0.92%	1.50%	10.91%	12.49%	0.1150%
CME Group Inc	CME	39,854.11	0.19%	4.98%	9.84%	15.06%	0.0279%
Chipotle Mexican Grill Inc	CMG	13,682.30	0.06%	0.00%	34.67%	34.67%	0.0221%
Cummins Inc	CMI	26,489.69	0.12%	2.63%	10.20%	12.96%	0.0160%
CMS Energy Corp	CMS	13,296.30	0.06%	2.80%	6.83%	9.72%	0.0060%
Centene Corp	CNC	12,512.53	0.06%	0.00%	13.22%	13.22%	0.0077%
CenterPoint Energy Inc	CNP	12,329.90	0.06%	3.75%	6.53%	10.40%	0.0060%
Capital One Financial Corp	COF	37,149.95	0.17%	2.20%	5.76%	8.02%	0.0139%
Cabot Oil & Gas Corp	COG	10,329.96	0.05%	0.46%	40.65%	41.20%	0.0198%
Coach Inc	COH	12,990.95	0.06%	2.92%	12.60%	15.70%	0.0095%
Rockwell Collins Inc	COL	17,707.92	0.08%	1.21%	9.60%	10.87%	0.0090%
Cooper Cos Inc/The	COO	10,704.79	0.05%	0.03%	12.00%	12.03%	0.0060%
ConocoPhillips	COP	55,286.18	0.26%	2.38%	7.00%	9.46%	0.0244%
Costco Wholesale Corp	COST	79,198.16	0.37%	2.02%	10.47%	12.60%	0.0464%
Coty Inc	COTY	14,160.27	0.07%	2.92%	2.01%	4.95%	0.0033%
Campbell Soup Co	CPB	17,547.46	0.08%	2.37%	5.49%	7.93%	0.0065%
salesforce.com Inc	CRM	63,841.61	0.30%	0.00%	27.90%	27.90%	0.0829%
Cisco Systems Inc	CSCO	157,651.72	0.73%	3.47%	7.35%	10.95%	0.0804%
CSRA Inc	CSRA	4,923.62	0.02%	1.33%	7.50%	8.88%	0.0020%
CSX Corp	CSX	49,978.39	0.23%	1.43%	11.06%	12.57%	0.0293%
Cintas Corp	CTAS	13,258.00	0.06%	1.06%	11.08%	12.19%	0.0075%
CenturyLink Inc	CTL	13,692.86	0.06%	8.66%	0.46%	9.14%	0.0058%
Cognizant Technology Solutions Corp	CTSH	39,409.78	0.18%	0.75%	14.03%	14.83%	0.0272%
Citrix Systems Inc	CTXS	12,475.78	0.06%	0.00%	12.73%	12.73%	0.0074%
CVS Health Corp	CVS	78,274.05	0.36%	2.56%	11.87%	14.58%	0.0531%
Chevron Corp	CVX	196,049.24	0.91%	4.20%	48.63%	53.85%	0.4915%
Concho Resources Inc	CXO	18,816.66	0.09%	0.00%	-1.89%	-1.89%	-0.0017%
Dominion Energy Inc	D	50,803.18	0.24%	3.72%	5.23%	9.05%	0.0214%
Delta Air Lines Inc	DAL	36,161.74	0.17%	1.90%	11.38%	13.39%	0.0225%
El du Pont de Nemours & Co	DD	68,426.17	0.32%	1.95%	6.90%	8.92%	0.0284%
Deere & Co	DE	38,976.96	0.18%	2.03%	8.20%	10.32%	0.0187%
Discover Financial Services	DFS	22,317.20	0.10%	2.12%	5.70%	7.88%	0.0082%
Dollar General Corp	DG	20,174.34	0.09%	1.42%	9.40%	10.89%	0.0102%
Quest Diagnostics Inc	DGX	14,882.51	0.07%	1.63%	8.64%	10.34%	0.0072%
DR Horton Inc	DHI	12,277.62	0.06%	1.21%	11.77%	13.05%	0.0075%
Danaher Corp	DHR	58,958.58	0.27%	0.66%	9.62%	10.31%	0.0283%
Walt Disney Co/The	DIS	168,913.05	0.79%	1.46%	8.60%	10.13%	0.0796%
Discovery Communications Inc	DISCA	15,091.83	0.07%	0.00%	14.10%	14.10%	0.0099%
DISH Network Corp	DISH	29,711.01	0.14%	0.00%	-4.85%	-4.85%	-0.0067%
Delphi Automotive PLC	DLPH	23,566.33	0.11%	1.35%	11.88%	13.31%	0.0146%
Digital Realty Trust Inc	DLR	19,181.75	0.09%	3.16%	5.49%	8.73%	0.0078%
Dollar Tree Inc	DLTR	18,390.70	0.09%	0.00%	15.30%	15.30%	0.0131%
Dover Corp	DOV	12,850.53	0.06%	2.20%	13.63%	15.98%	0.0096%
Dow Chemical Co/The	DOW	75,696.70	0.35%	3.14%	6.12%	9.36%	0.0330%
Dr Pepper Snapple Group Inc	DPS	17,059.83	0.08%	2.45%	8.58%	11.14%	0.0088%
Darden Restaurants Inc	DRI	11,057.44	0.05%	2.52%	9.69%	12.33%	0.0063%
DTE Energy Co	DTE	19,646.61	0.09%	3.01%	6.00%	9.10%	0.0083%
Duke Energy Corp	DUK	59,966.00	0.28%	4.11%	5.53%	9.74%	0.0272%
DaVita Inc	DVA	12,894.20	0.06%	0.00%	7.60%	7.60%	0.0046%
Devon Energy Corp	DVN	17,863.29	0.08%	0.71%	37.66%	38.50%	0.0320%
DXC Technology Co	DXC	21,985.84	N/A	1.11%	N/A	N/A	N/A
Electronic Arts Inc	EA	35,135.51	0.16%	0.00%	9.40%	9.40%	0.0154%
eBay Inc	EBAY	37,124.19	0.17%	0.00%	9.63%	9.63%	0.0166%
Ecolab Inc	ECL	38,529.63	0.18%	1.13%	12.96%	14.16%	0.0254%
Consolidated Edison Inc	ED	25,282.40	0.12%	3.32%	4.27%	7.66%	0.0090%
Equifax Inc	EFX	16,444.97	0.08%	1.11%	9.00%	10.16%	0.0078%
Edison International	EIX	26,576.42	0.12%	2.68%	6.18%	8.95%	0.0111%
Estee Lauder Cos Inc/The	EL	34,627.74	0.16%	1.40%	10.45%	11.92%	0.0192%
Eastman Chemical Co	EMN	11,682.20	0.05%	2.56%	6.97%	9.62%	0.0052%
Emerson Electric Co	EMR	38,101.67	0.18%	3.25%	7.07%	10.44%	0.0185%
EOG Resources Inc	EOG	52,133.11	0.24%	0.75%	-26.71%	-26.06%	-0.0633%
Equinix Inc	EQIX	34,359.92	0.16%	1.81%	40.67%	42.85%	0.0685%
Equity Residential	EQR	23,898.12	0.11%	3.11%	5.70%	8.90%	0.0099%
EQT Corp	EQT	9,579.18	N/A	0.22%	N/A	N/A	N/A
Eversource Energy	ES	19,669.10	0.09%	3.07%	6.10%	9.26%	0.0085%
Express Scripts Holding Co	ESRX	35,463.24	0.17%	0.00%	11.99%	11.99%	0.0198%
Essex Property Trust Inc	ESS	16,853.67	0.08%	2.71%	7.15%	9.95%	0.0078%
E*TRADE Financial Corp	ETFC	9,518.12	0.04%	0.00%	16.17%	16.17%	0.0072%
Eaton Corp PLC	ETN	34,612.07	0.16%	3.08%	10.20%	13.44%	0.0217%
Entergy Corp	ETR	14,188.57	0.07%	4.46%	-3.83%	0.55%	0.0004%
Envision Healthcare Corp	EVHC	6,418.37	0.03%	0.00%	8.06%	8.06%	0.0024%
Edwards Lifesciences Corp	EW	24,142.01	0.11%	0.00%	16.68%	16.68%	0.0187%
Exelon Corp	EXC	33,614.46	0.16%	3.59%	4.00%	7.67%	0.0120%
Expeditors International of Washington I	EXPD	9,617.19	0.04%	1.56%	8.80%	10.43%	0.0047%
Expedia Inc	EXPE	21,703.16	0.10%	0.78%	19.34%	20.19%	0.0204%
Extra Space Storage Inc	EXR	9,758.47	0.05%	4.31%	6.41%	10.85%	0.0049%
Ford Motor Co	F	44,279.69	0.21%	5.53%	3.82%	9.46%	0.0195%
Fastenal Co	FAST	12,487.52	0.06%	2.94%	14.55%	17.70%	0.0103%
Facebook Inc	FB	438,993.14	2.04%	0.00%	27.35%	27.35%	0.5590%
Fortune Brands Home & Security Inc	FBHS	9,707.59	0.05%	1.13%	12.48%	13.68%	0.0062%
Freeport-McMoRan Inc	FCX	16,623.88	0.08%	0.00%	17.33%	17.33%	0.0134%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
FedEx Corp	FDX	51,827.96	0.24%	0.87%	13.67%	14.59%	0.0352%
FirstEnergy Corp	FE	12,974.96	0.06%	4.92%	-0.40%	4.51%	0.0027%
F5 Networks Inc	FFIV	8,290.39	0.04%	0.00%	12.17%	12.17%	0.0047%
Fidelity National Information Services I	FIS	28,387.10	0.13%	1.31%	9.08%	10.45%	0.0138%
Fiserv Inc	FISV	26,606.71	0.12%	0.00%	10.13%	10.13%	0.0126%
Fifth Third Bancorp	FITB	17,811.40	0.08%	2.48%	1.40%	3.89%	0.0032%
Foot Locker Inc	FL	7,796.55	0.04%	2.07%	8.41%	10.57%	0.0038%
FLIR Systems Inc	FLIR	5,170.31	N/A	1.48%	N/A	N/A	N/A
Fluor Corp	FLR	6,270.63	0.03%	2.04%	17.50%	19.72%	0.0058%
Flowserve Corp	FLS	6,334.99	0.03%	1.60%	11.74%	13.43%	0.0040%
FMC Corp	FMC	10,099.70	0.05%	0.90%	12.00%	12.95%	0.0061%
Twenty-First Century Fox Inc	FOXA	50,019.53	0.23%	1.42%	9.60%	11.09%	0.0258%
Federal Realty Investment Trust	FRT	8,866.58	0.04%	3.29%	5.41%	8.78%	0.0036%
TechnipFMC PLC	FTI	13,507.84	0.06%	1.02%	4.30%	5.34%	0.0034%
Fortive Corp	FTV	21,645.76	0.10%	0.40%	8.70%	9.12%	0.0092%
General Dynamics Corp	GD	61,317.57	0.29%	1.62%	8.40%	10.09%	0.0288%
General Electric Co	GE	237,766.91	1.11%	3.48%	10.03%	13.68%	0.1514%
GGP Inc	GGP	19,664.56	0.09%	4.05%	5.90%	10.08%	0.0092%
Gilead Sciences Inc	GILD	84,793.61	0.39%	3.36%	-2.84%	0.48%	0.0019%
General Mills Inc	GIS	32,689.92	0.15%	3.38%	8.13%	11.65%	0.0177%
Corning Inc	GLW	26,778.74	0.12%	2.11%	9.19%	11.39%	0.0142%
General Motors Co	GM	51,204.15	0.24%	4.53%	10.23%	14.99%	0.0357%
Alphabet Inc	GOOGL	674,580.95	3.14%	0.00%	15.34%	15.34%	0.4817%
Genuine Parts Co	GPC	13,651.63	0.06%	2.93%	10.32%	13.39%	0.0085%
Global Payments Inc	GPX	13,969.08	0.07%	0.05%	13.00%	13.05%	0.0085%
Gap Inc/The	GPS	9,004.97	0.04%	4.07%	5.03%	9.20%	0.0039%
Garmin Ltd	GRMN	9,791.64	0.05%	3.86%	5.70%	9.67%	0.0044%
Goldman Sachs Group Inc/The	GS	87,343.16	0.41%	1.38%	7.16%	8.59%	0.0349%
Goodyear Tire & Rubber Co/The	GT	8,112.82	N/A	1.23%	N/A	N/A	N/A
VWV Grainger Inc	GWV	10,062.13	0.05%	2.92%	12.28%	15.37%	0.0072%
Halliburton Co	HAL	39,218.97	N/A	1.59%	N/A	N/A	N/A
Hasbro Inc	HAS	13,157.86	0.06%	2.14%	9.63%	11.88%	0.0073%
Huntington Bancshares Inc/OH	HBAN	13,632.48	0.06%	2.65%	10.43%	13.21%	0.0084%
Hanesbrands Inc	HBI	7,519.74	0.04%	2.84%	13.80%	16.84%	0.0059%
HCA Healthcare Inc	HCA	30,053.16	0.14%	0.00%	11.18%	11.18%	0.0156%
Welltower Inc	HCN	26,561.73	0.12%	4.81%	4.46%	9.37%	0.0116%
HCP Inc	HCP	14,685.05	0.07%	4.96%	-2.14%	2.77%	0.0019%
Home Depot Inc/The	HD	183,529.64	0.85%	2.33%	13.25%	15.73%	0.1345%
Hess Corp	HES	14,588.73	0.07%	2.21%	-31.26%	-29.40%	-0.0200%
Hartford Financial Services Group Inc/Th	HIG	18,143.96	0.08%	1.94%	9.50%	11.54%	0.0097%
Harley-Davidson Inc	HOG	9,278.78	0.04%	2.75%	8.80%	11.68%	0.0050%
Hologic Inc	HOLX	12,127.27	0.06%	0.00%	10.52%	10.52%	0.0059%
Honeywell International Inc	HON	101,383.35	0.47%	2.01%	9.05%	11.15%	0.0526%
Helmerich & Payne Inc	HP	5,717.14	0.03%	5.32%	-1.80%	3.47%	0.0009%
Hewlett Packard Enterprise Co	HPE	31,181.42	0.15%	1.33%	3.00%	4.35%	0.0063%
HP Inc	HPQ	31,719.07	0.15%	2.85%	1.93%	4.81%	0.0071%
H&R Block Inc	HRB	5,498.22	0.03%	3.31%	11.00%	14.49%	0.0037%
Hormel Foods Corp	HRL	17,787.35	0.08%	2.02%	5.60%	7.68%	0.0064%
Harris Corp	HRS	13,673.67	N/A	1.89%	N/A	N/A	N/A
Henry Schein Inc	HSIC	14,594.24	0.07%	0.00%	10.23%	10.23%	0.0069%
Host Hotels & Resorts Inc	HST	13,308.02	0.06%	4.51%	4.35%	8.96%	0.0055%
Hershey Co/The	HSY	24,527.92	0.11%	2.22%	9.97%	12.30%	0.0140%
Humana Inc	HUM	33,518.58	0.16%	0.69%	12.53%	13.26%	0.0207%
International Business Machines Corp	IBM	143,395.41	0.67%	3.78%	6.05%	9.95%	0.0664%
Intercontinental Exchange Inc	ICE	35,636.49	0.17%	1.33%	11.06%	12.46%	0.0207%
IDEXX Laboratories Inc	IDXX	14,839.11	0.07%	0.00%	10.42%	10.42%	0.0072%
International Flavors & Fragrances Inc	IFF	10,889.34	0.05%	1.88%	7.90%	9.85%	0.0050%
Ilumina Inc	ILMN	25,894.56	0.12%	0.00%	14.57%	14.57%	0.0176%
Inclyte Corp	INCY	26,483.47	0.12%	0.00%	41.56%	41.56%	0.0512%
Intel Corp	INTC	170,041.99	0.79%	3.00%	7.87%	10.99%	0.0870%
Intuit Inc	INTU	36,034.35	0.17%	0.96%	15.60%	16.64%	0.0279%
International Paper Co	IP	21,834.10	0.10%	3.49%	7.00%	10.62%	0.0108%
Interpublic Group of Cos Inc/The	IPG	9,850.10	0.05%	2.87%	9.21%	12.22%	0.0056%
Ingersoll-Rand PLC	IR	22,939.60	0.11%	1.81%	10.26%	12.16%	0.0130%
Iron Mountain Inc	IRM	9,222.95	0.04%	5.95%	12.90%	19.23%	0.0083%
Intuitive Surgical Inc	ISRG	33,697.51	0.16%	0.00%	9.73%	9.73%	0.0153%
Gartner Inc	IT	10,815.69	0.05%	0.00%	13.75%	13.75%	0.0069%
Illinois Tool Works Inc	ITW	48,784.59	0.23%	1.85%	8.40%	10.33%	0.0235%
Invesco Ltd	IVZ	12,897.36	0.06%	3.66%	11.75%	15.63%	0.0094%
JB Hunt Transport Services Inc	JBHT	9,390.36	0.04%	1.07%	13.43%	14.57%	0.0064%
Johnson Controls International plc	JCI	39,175.42	0.18%	2.29%	11.33%	13.75%	0.0251%
Jacobs Engineering Group Inc	JEC	6,312.67	0.03%	0.75%	10.54%	11.33%	0.0033%
Johnson & Johnson	JNJ	345,484.09	1.61%	2.62%	6.42%	9.12%	0.1467%
Juniper Networks Inc	JNPR	11,206.89	0.05%	1.43%	9.15%	10.65%	0.0056%
JPMorgan Chase & Co	JPM	291,862.83	1.36%	2.53%	8.43%	11.06%	0.1504%
Nordstrom Inc	JWN	6,974.38	0.03%	3.69%	7.13%	10.95%	0.0036%
Kellogg Co	K	25,079.88	0.12%	2.97%	6.46%	9.52%	0.0111%
KeyCorp	KEY	19,149.00	0.09%	2.15%	7.42%	9.65%	0.0086%
Kraft Heinz Co/The	KHC	112,265.76	0.52%	2.67%	8.39%	11.17%	0.0584%
Kimco Realty Corp	KIM	7,465.99	0.03%	6.23%	7.82%	14.29%	0.0050%
KLA-Tencor Corp	KLAC	16,303.31	0.08%	2.05%	4.80%	6.90%	0.0052%
Kimberly-Clark Corp	KMB	46,044.83	0.21%	2.97%	6.75%	9.82%	0.0210%
Kinder Morgan Inc/DE	KMI	41,880.62	0.19%	2.67%	9.85%	12.65%	0.0247%
CarMax Inc	KMX	11,636.73	0.05%	0.00%	13.42%	13.42%	0.0073%
Coca-Cola Co/The	KO	194,273.27	0.90%	3.26%	5.16%	8.50%	0.0769%
Michael Kors Holdings Ltd	KORS	5,389.93	0.03%	0.00%	2.19%	2.19%	0.0005%
Kroger Co/The	KR	27,579.40	0.13%	1.70%	6.60%	8.35%	0.0107%
Kohl's Corp	KSS	6,623.65	0.03%	5.76%	5.58%	11.50%	0.0035%
Kansas City Southern	KSU	10,099.17	0.05%	1.45%	12.70%	14.24%	0.0067%
Loews Corp	L	15,878.87	N/A	0.53%	N/A	N/A	N/A
L Brands Inc	LB	14,696.15	0.07%	4.68%	6.73%	11.56%	0.0079%
Leggett & Platt Inc	LEG	6,882.63	0.03%	2.73%	19.00%	21.99%	0.0070%
Lennar Corp	LEN	11,767.98	0.05%	0.31%	10.09%	10.42%	0.0057%
Laboratory Corp of America Holdings	LH	14,219.70	0.07%	0.00%	10.03%	10.03%	0.0066%
LKQ Corp	LKQ	9,707.90	0.05%	0.00%	13.05%	13.05%	0.0059%
L3 Technologies Inc	LLL	13,129.34	0.06%	1.80%	6.57%	8.42%	0.0051%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Eli Lilly & Co	LLY	87,793.91	0.41%	2.62%	12.98%	15.77%	0.0645%
Lockheed Martin Corp	LMT	81,371.13	0.38%	2.65%	6.33%	9.06%	0.0343%
Lincoln National Corp	LNC	14,573.61	0.07%	1.81%	8.98%	10.88%	0.0074%
Alliant Energy Corp	LNT	9,447.83	0.04%	3.03%	6.43%	9.56%	0.0042%
Lowe's Cos Inc	LOW	67,532.11	0.31%	1.96%	15.67%	17.78%	0.0559%
Lam Research Corp	LRCX	25,030.76	0.12%	1.00%	20.88%	21.98%	0.0256%
Leucadia National Corp	LUK	8,775.97	0.04%	1.03%	18.00%	19.12%	0.0078%
Southwest Airlines Co	LUV	36,334.18	0.17%	0.77%	8.27%	9.07%	0.0153%
Level 3 Communications Inc	LVT	21,509.78	0.10%	0.00%	5.00%	5.00%	0.0050%
LyondellBasell Industries NV	LYB	32,433.86	0.15%	4.30%	6.50%	10.94%	0.0165%
Macy's Inc	M	7,171.89	0.03%	6.66%	0.65%	7.34%	0.0024%
Mastercard Inc	MA	131,712.67	0.61%	0.71%	14.50%	15.27%	0.0936%
Mid-America Apartment Communities Inc	MAA	11,577.89	N/A	3.44%	N/A	N/A	N/A
Macerich Co/The	MAC	8,139.56	0.04%	5.34%	7.87%	13.42%	0.0051%
Marriott International Inc/MD	MAR	40,787.59	0.19%	1.19%	14.08%	15.36%	0.0292%
Masco Corp	MAS	11,896.27	0.06%	1.09%	13.68%	14.84%	0.0082%
Mattel Inc	MAT	7,847.97	0.04%	6.63%	13.00%	20.07%	0.0073%
McDonald's Corp	MCD	122,985.94	0.57%	2.52%	9.93%	12.58%	0.0720%
Microchip Technology Inc	MCHP	19,108.84	0.09%	1.74%	15.08%	16.95%	0.0151%
McKesson Corp	MCK	34,396.09	0.16%	0.70%	8.70%	9.43%	0.0151%
Moody's Corp	MCO	22,659.49	0.11%	1.25%	8.00%	9.30%	0.0098%
Mondelez International Inc	MDLZ	70,689.99	0.33%	1.65%	10.49%	12.23%	0.0402%
Medtronic PLC	MDT	115,369.63	0.54%	2.25%	6.34%	8.66%	0.0465%
MetLife Inc	MET	54,431.46	0.25%	3.19%	7.14%	10.44%	0.0265%
Mohawk Industries Inc	MHK	17,784.78	0.08%	0.00%	7.01%	7.01%	0.0058%
Mead Johnson Nutrition Co	MJN	16,421.09	0.08%	1.91%	4.65%	6.60%	0.0050%
McCormick & Co Inc/MD	MKC	12,979.88	N/A	1.80%	N/A	N/A	N/A
Martin Marietta Materials Inc	MLM	14,069.35	0.07%	0.76%	21.84%	22.69%	0.0149%
Marsh & McLennan Cos Inc	MMC	39,878.25	0.19%	1.84%	11.78%	13.73%	0.0255%
3M Co	MMM	122,117.58	0.57%	2.31%	7.87%	10.26%	0.0584%
Mallinckrodt PLC	MNK	4,284.82	0.02%	0.00%	6.50%	6.50%	0.0013%
Monster Beverage Corp	MNST	28,708.57	0.13%	0.00%	20.30%	20.30%	0.0271%
Altria Group Inc	MO	145,723.33	0.68%	3.41%	7.97%	11.51%	0.0781%
Monsanto Co	MON	51,524.79	0.24%	1.95%	10.10%	12.15%	0.0291%
Mosaic Co/The	MOS	7,943.52	0.04%	2.84%	16.35%	19.42%	0.0072%
Marathon Petroleum Corp	MPC	26,995.09	0.13%	2.88%	10.00%	13.03%	0.0164%
Merck & Co Inc	MRK	178,086.56	0.83%	2.89%	5.55%	8.52%	0.0706%
Marathon Oil Corp	MRO	11,066.89	0.05%	1.54%	8.60%	10.20%	0.0053%
Morgan Stanley	MS	77,209.91	0.36%	2.12%	15.80%	18.09%	0.0650%
Microsoft Corp	MSFT	539,200.75	2.51%	2.21%	10.48%	12.81%	0.3215%
Motorola Solutions Inc	MSI	13,661.09	0.06%	2.24%	2.80%	5.07%	0.0032%
M&T Bank Corp	MTB	24,075.08	0.11%	1.93%	6.57%	8.57%	0.0096%
Mettler-Toledo International Inc	MTD	15,049.32	0.07%	0.00%	12.24%	12.24%	0.0086%
Micron Technology Inc	MU	34,041.07	0.16%	0.00%	10.00%	10.00%	0.0158%
Murphy Oil Corp	MUR	4,211.85	N/A	4.18%	N/A	N/A	N/A
Mylan NV	MYL	20,892.57	0.10%	0.00%	12.00%	12.00%	0.0117%
Navient Corp	NAVI	4,111.70	0.02%	4.50%	8.00%	12.68%	0.0024%
Noble Energy Inc	NBL	13,955.23	0.06%	1.39%	10.59%	12.06%	0.0078%
Nasdaq Inc	NDAQ	11,174.32	0.05%	2.19%	8.35%	10.63%	0.0055%
NextEra Energy Inc	NEE	66,216.93	0.31%	2.77%	6.67%	9.53%	0.0294%
Newmont Mining Corp	NEM	18,209.92	0.08%	0.73%	-12.95%	-12.27%	-0.0104%
Netflix Inc	NFLX	70,283.89	0.33%	0.00%	41.30%	41.30%	0.1352%
Newfield Exploration Co	NFX	6,469.84	0.03%	0.00%	18.69%	18.69%	0.0056%
NiSource Inc	NI	8,464.07	0.04%	2.70%	6.98%	9.77%	0.0039%
NIKE Inc	NKE	87,474.12	0.41%	1.34%	11.59%	13.01%	0.0530%
Nielsen Holdings PLC	NLSN	13,748.99	0.06%	3.44%	10.00%	13.61%	0.0087%
Northrop Grumman Corp	NOC	45,252.75	0.21%	1.48%	7.26%	8.80%	0.0185%
National Oilwell Varco Inc	NOV	12,415.96	N/A	0.61%	N/A	N/A	N/A
NRG Energy Inc	NRG	5,076.28	0.02%	0.75%	-15.70%	-15.01%	-0.0035%
Norfolk Southern Corp	NSC	35,941.74	0.17%	1.97%	12.75%	14.85%	0.0248%
NetApp Inc	NTAP	10,970.82	0.05%	1.97%	7.39%	9.44%	0.0048%
Northern Trust Corp	NTRS	20,075.00	0.09%	1.83%	13.12%	15.06%	0.0141%
Nucor Corp	NUE	18,536.91	0.09%	2.60%	5.55%	8.22%	0.0071%
NVIDIA Corp	NVDA	85,888.25	0.40%	0.39%	9.56%	9.97%	0.0398%
Newell Brands Inc	NWL	25,580.15	0.12%	1.64%	11.96%	13.70%	0.0163%
News Corp	NWSA	7,848.52	0.04%	1.61%	13.05%	14.76%	0.0054%
Realty Income Corp	O	14,999.15	0.07%	4.60%	5.07%	9.78%	0.0068%
ONEOK Inc	OKE	10,481.32	0.05%	5.56%	25.10%	31.36%	0.0153%
Omnicom Group Inc	OMC	19,485.33	0.09%	2.71%	6.81%	9.61%	0.0087%
Oracle Corp	ORCL	186,765.51	0.87%	1.40%	9.06%	10.52%	0.0915%
O'Reilly Automotive Inc	ORLY	22,030.50	0.10%	0.00%	16.27%	16.27%	0.0167%
Occidental Petroleum Corp	OXY	45,056.80	0.21%	5.18%	-3.28%	1.82%	0.0038%
Paychex Inc	PAYX	21,278.28	0.10%	3.09%	9.00%	12.23%	0.0121%
People's United Financial Inc	PBCT	5,705.82	0.03%	4.16%	2.00%	6.21%	0.0016%
PACCAR Inc	PCAR	22,116.56	0.10%	2.74%	6.73%	9.56%	0.0098%
PG&E Corp	PCG	34,942.24	0.16%	3.05%	3.70%	6.81%	0.0111%
Priceline Group Inc/The	PCLN	92,244.78	0.43%	0.00%	16.75%	16.75%	0.0719%
Patterson Cos Inc	PDCO	4,289.44	0.02%	2.48%	2.69%	5.21%	0.0010%
Public Service Enterprise Group Inc	PEG	22,719.02	0.11%	3.82%	3.20%	7.08%	0.0075%
PepsiCo Inc	PEP	166,948.94	0.78%	2.70%	6.40%	9.19%	0.0714%
Pfizer Inc	PFE	194,850.12	0.91%	3.92%	5.14%	9.16%	0.0831%
Principal Financial Group Inc	PFG	18,131.80	0.08%	2.94%	9.64%	12.72%	0.0107%
Procter & Gamble Co/The	PG	225,300.25	1.05%	3.08%	7.50%	10.70%	0.1122%
Progressive Corp/The	PGR	24,647.67	0.11%	2.52%	11.08%	13.73%	0.0158%
Parker-Hannifin Corp	PH	20,972.38	0.10%	1.64%	10.27%	11.99%	0.0117%
PulteGroup Inc	PHM	7,152.47	0.03%	1.63%	17.50%	19.28%	0.0064%
PerkinElmer Inc	PKI	6,939.06	0.03%	0.44%	8.10%	8.56%	0.0028%
Prologis Inc	PLD	29,411.75	0.14%	3.14%	4.82%	8.04%	0.0110%
Philip Morris International Inc	PM	186,066.55	0.87%	3.55%	9.96%	13.68%	0.1185%
PNC Financial Services Group Inc/The	PNC	57,439.10	0.27%	1.97%	6.65%	8.68%	0.0232%
Pentair PLC	PNR	12,068.27	0.06%	2.12%	5.28%	7.45%	0.0042%
Pinnacle West Capital Corp	PNW	9,856.36	0.05%	3.00%	5.90%	8.99%	0.0041%
PPG Industries Inc	PPG	27,298.27	0.13%	1.54%	8.14%	9.74%	0.0124%
PPL Corp	PPL	27,170.38	0.13%	3.96%	1.80%	5.79%	0.0073%
Perrigo Co PLC	PRGO	10,446.49	0.05%	0.74%	1.21%	1.95%	0.0009%
Prudential Financial Inc	PRU	44,980.65	0.21%	2.93%	9.70%	12.77%	0.0267%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Public Storage	PSA	37,437.71	0.17%	3.77%	5.75%	9.64%	0.0168%
Phillips 66	PSX	39,042.19	0.18%	3.53%	16.53%	20.36%	0.0370%
PVH Corp	PVH	8,264.68	0.04%	0.16%	8.32%	8.48%	0.0033%
Quanta Services Inc	PWR	4,751.92	0.02%	0.00%	16.80%	16.80%	0.0037%
Praxair Inc	PX	37,749.47	0.18%	2.40%	11.30%	13.83%	0.0243%
Pioneer Natural Resources Co	PXD	28,381.91	0.13%	0.05%	15.00%	15.05%	0.0199%
PayPal Holdings Inc	PYPL	62,717.71	0.29%	0.00%	19.55%	19.55%	0.0571%
QUALCOMM Inc	QCOM	84,612.79	0.39%	3.81%	8.40%	12.37%	0.0487%
Qorvo Inc	QRVO	9,907.23	0.05%	0.00%	13.24%	13.24%	0.0061%
Ryder System Inc	R	3,557.47	0.02%	2.76%	15.00%	17.96%	0.0030%
Reynolds American Inc	RAI	95,946.38	0.45%	3.02%	8.88%	12.03%	0.0537%
Royal Caribbean Cruises Ltd	RCL	23,696.96	0.11%	1.80%	18.43%	20.40%	0.0225%
Regency Centers Corp	REG	10,361.01	0.05%	3.43%	8.80%	12.39%	0.0060%
Regeneron Pharmaceuticals Inc	REGN	48,793.77	0.23%	0.00%	19.77%	19.77%	0.0449%
Regions Financial Corp	RF	16,636.55	0.08%	2.17%	9.76%	12.04%	0.0093%
Robert Half International Inc	RHI	5,912.57	0.03%	2.07%	8.00%	10.15%	0.0028%
Red Hat Inc	RHT	15,923.47	0.07%	0.00%	14.92%	14.92%	0.0111%
Transocean Ltd	RIG	3,554.60	0.02%	0.00%	-29.00%	-29.00%	-0.0048%
Raymond James Financial Inc	RJF	10,408.40	0.05%	1.21%	17.00%	18.31%	0.0089%
Ralph Lauren Corp	RL	5,491.48	0.03%	3.14%	1.79%	4.96%	0.0013%
Rockwell Automation Inc	ROK	20,448.76	0.10%	2.07%	11.21%	13.39%	0.0127%
Roper Technologies Inc	ROP	23,181.66	0.11%	0.60%	12.87%	13.50%	0.0146%
Ross Stores Inc	ROST	25,056.61	0.12%	0.96%	12.51%	13.53%	0.0158%
Range Resources Corp	RRC	5,709.43	0.03%	0.35%	-13.43%	-13.11%	-0.0035%
Republic Services Inc	RSG	21,505.38	0.10%	2.02%	9.48%	11.60%	0.0116%
Raytheon Co	RTN	47,739.05	0.22%	1.92%	7.83%	9.83%	0.0218%
Starbucks Corp	SBUX	92,113.64	0.43%	1.58%	17.30%	19.01%	0.0815%
SCANA Corp	SCG	9,746.93	0.05%	3.59%	6.00%	9.70%	0.0044%
Charles Schwab Corp/The	SCHW	51,813.90	0.24%	0.82%	20.22%	21.13%	0.0510%
Sealed Air Corp	SEE	8,697.99	0.04%	1.44%	2.51%	3.96%	0.0016%
Sherwin-Williams Co/The	SHW	30,897.18	0.14%	1.02%	10.59%	11.67%	0.0168%
Signet Jewelers Ltd	SIG	3,291.93	0.02%	2.17%	3.53%	5.75%	0.0009%
JM Smucker Co/The	SJM	14,887.00	0.07%	2.29%	6.20%	8.57%	0.0059%
Schlumberger Ltd	SLB	96,693.69	0.45%	2.89%	44.77%	48.31%	0.2175%
SL Green Realty Corp	SLG	10,433.55	0.05%	3.11%	0.27%	3.38%	0.0016%
Snap-on Inc	SNA	9,368.05	0.04%	2.12%	9.55%	11.77%	0.0051%
Scripps Networks Interactive Inc	SNI	8,592.47	0.04%	1.76%	7.56%	9.38%	0.0038%
Synopsys Inc	SNPS	11,253.76	0.05%	0.00%	9.03%	9.03%	0.0047%
Southern Co/The	SO	50,368.35	0.23%	4.56%	4.65%	9.32%	0.0218%
Simon Property Group Inc	SPG	48,157.19	0.22%	4.57%	7.64%	12.39%	0.0278%
S&P Global Inc	SPGI	36,816.42	0.17%	1.15%	10.00%	11.20%	0.0192%
Staples Inc	SPLS	5,930.74	0.03%	5.36%	1.27%	6.67%	0.0018%
Stericycle Inc	SRCL	6,972.37	0.03%	0.06%	9.18%	9.24%	0.0030%
Sempra Energy	SRE	29,192.99	0.14%	2.82%	12.15%	15.14%	0.0206%
SunTrust Banks Inc	STI	25,803.13	0.12%	2.12%	8.20%	10.40%	0.0125%
State Street Corp	STT	30,648.16	0.14%	1.95%	11.28%	13.34%	0.0190%
Seagate Technology PLC	STX	12,924.06	0.06%	5.25%	13.27%	18.86%	0.0114%
Constellation Brands Inc	STZ	35,571.33	0.17%	1.12%	15.95%	17.16%	0.0284%
Stanley Black & Decker Inc	SWK	21,065.15	0.10%	1.72%	11.00%	12.81%	0.0126%
Skyworks Solutions Inc	SWKS	19,638.95	0.09%	1.06%	14.35%	15.48%	0.0142%
Synchrony Financial	SYF	21,775.71	0.10%	2.13%	8.20%	10.41%	0.0106%
Stryker Corp	SYK	53,433.45	0.25%	1.12%	8.04%	9.20%	0.0229%
Symantec Corp	SYMC	18,435.76	0.09%	1.00%	11.77%	12.83%	0.0110%
Sysco Corp	SY	29,200.38	0.14%	2.41%	8.92%	11.43%	0.0155%
AT&T Inc	T	236,882.44	1.10%	5.11%	4.50%	9.72%	0.1072%
Molson Coors Brewing Co	TAP	20,397.22	0.09%	1.75%	8.80%	10.62%	0.0101%
Teradata Corp	TDC	3,524.72	0.02%	0.00%	3.39%	3.39%	0.0006%
TransDigm Group Inc	TDG	13,946.54	0.06%	2.24%	8.32%	10.65%	0.0069%
TE Connectivity Ltd	TEL	27,993.90	0.13%	1.93%	6.75%	8.74%	0.0114%
TEGNA Inc	TGNA	5,099.11	0.02%	2.72%	5.50%	8.29%	0.0020%
Target Corp	TGT	30,426.71	0.14%	4.45%	-1.49%	2.93%	0.0041%
Tiffany & Co	TIF	10,839.48	0.05%	2.16%	9.90%	12.16%	0.0061%
TJX Cos Inc/The	TJX	48,380.81	0.23%	1.58%	11.70%	13.37%	0.0301%
Torchmark Corp	TMK	8,832.16	0.04%	0.79%	7.57%	8.40%	0.0035%
Thermo Fisher Scientific Inc	TMO	67,598.89	0.31%	0.35%	11.78%	12.15%	0.0382%
TripAdvisor Inc	TRIP	5,438.65	0.03%	0.00%	15.14%	15.14%	0.0038%
T Rowe Price Group Inc	TROW	16,994.94	0.08%	3.22%	11.72%	15.13%	0.0120%
Travelers Cos Inc/The	TRV	34,885.07	0.16%	2.26%	6.88%	9.22%	0.0150%
Tractor Supply Co	TSCO	7,090.31	0.03%	1.90%	14.10%	16.13%	0.0053%
Tyson Foods Inc	TSN	22,368.49	0.10%	1.57%	7.40%	9.03%	0.0094%
Tesoro Corp	TSO	9,782.45	0.05%	2.73%	16.90%	19.86%	0.0090%
Total System Services Inc	TSS	10,959.06	0.05%	0.67%	11.00%	11.71%	0.0060%
Time Warner Inc	TWX	77,158.23	0.36%	1.63%	9.30%	11.00%	0.0395%
Texas Instruments Inc	TXN	82,186.75	0.38%	2.48%	10.43%	13.03%	0.0499%
Textron Inc	TXT	12,795.55	0.06%	0.18%	9.16%	9.35%	0.0056%
Under Armour Inc	UAA	8,119.40	0.04%	0.00%	16.49%	16.49%	0.0062%
United Continental Holdings Inc	UAL	25,057.72	0.12%	0.00%	1.91%	1.91%	0.0022%
UDR Inc	UDR	10,323.99	0.05%	3.21%	6.48%	9.79%	0.0047%
Universal Health Services Inc	UHS	11,027.72	0.05%	0.28%	9.49%	9.78%	0.0050%
Ulta Beauty Inc	ULTA	18,942.09	0.09%	0.00%	21.83%	21.83%	0.0193%
UnitedHealth Group Inc	UNH	168,814.23	0.79%	1.50%	12.96%	14.56%	0.1144%
Unum Group	UNM	10,265.06	0.05%	1.86%	6.53%	8.45%	0.0040%
Union Pacific Corp	UNP	89,060.55	0.41%	2.21%	9.58%	11.90%	0.0493%
United Parcel Service Inc	UPS	91,956.86	0.43%	3.11%	8.50%	11.74%	0.0503%
United Rentals Inc	URI	9,189.14	0.04%	0.00%	17.76%	17.76%	0.0076%
US Bancorp	USB	85,764.06	0.40%	2.31%	8.54%	10.95%	0.0437%
United Technologies Corp	UTX	97,172.87	0.45%	2.25%	8.56%	10.91%	0.0494%
Visa Inc	V	219,568.70	1.02%	0.69%	16.57%	17.32%	0.1771%
Varian Medical Systems Inc	VAR	9,102.08	0.04%	0.00%	8.00%	8.00%	0.0034%
VF Corp	VFC	21,544.59	0.10%	3.18%	7.91%	11.22%	0.0113%
Viacom Inc	VIAB	14,154.70	0.07%	2.31%	1.59%	3.92%	0.0026%
Valero Energy Corp	VLO	27,491.31	0.13%	4.57%	13.15%	18.01%	0.0231%
Vulcan Materials Co	VMC	16,473.28	0.08%	0.78%	25.81%	26.70%	0.0205%
Vornado Realty Trust	VNO	17,457.47	0.08%	2.99%	3.91%	6.96%	0.0057%
Verisk Analytics Inc	VRSK	13,374.35	0.06%	0.00%	9.88%	9.88%	0.0062%
VeriSign Inc	VRSN	9,149.04	0.04%	0.00%	9.30%	9.30%	0.0040%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Vertex Pharmaceuticals Inc	VRTX	30,784.90	0.14%	0.00%	69.80%	69.80%	0.1001%
Ventas Inc	VTR	23,595.56	0.11%	4.71%	4.07%	8.88%	0.0098%
Verizon Communications Inc	VZ	190,261.79	0.89%	5.00%	1.62%	6.66%	0.0590%
Waters Corp	WAT	14,376.34	0.07%	0.00%	7.55%	7.55%	0.0051%
Walgreens Boots Alliance Inc	WBA	87,578.64	0.41%	1.87%	11.00%	12.98%	0.0529%
Western Digital Corp	WDC	26,229.29	0.12%	2.23%	14.62%	17.01%	0.0208%
WEC Energy Group Inc	WEC	19,805.75	0.09%	3.32%	6.70%	10.13%	0.0093%
Wells Fargo & Co	WFC	255,562.84	1.19%	3.06%	11.71%	14.95%	0.1778%
Whole Foods Market Inc	WFM	11,181.57	0.05%	1.81%	6.65%	8.53%	0.0044%
Whirlpool Corp	WHR	13,724.46	0.06%	2.29%	15.88%	18.35%	0.0117%
Willis Towers Watson PLC	WLTW	19,823.27	0.09%	1.34%	12.85%	14.27%	0.0132%
Waste Management Inc	WM	32,221.90	0.15%	2.34%	10.77%	13.24%	0.0199%
Williams Cos Inc/The	WMB	23,631.46	0.11%	4.21%	15.50%	20.03%	0.0220%
Wal-Mart Stores Inc	WMT	238,280.32	1.11%	2.74%	5.14%	7.95%	0.0882%
WestRock Co	WRK	13,664.80	0.06%	2.92%	7.88%	10.92%	0.0069%
Western Union Co/The	WU	8,963.25	0.04%	3.68%	4.72%	8.48%	0.0035%
Weyerhaeuser Co	WY	24,783.70	0.12%	3.88%	7.50%	11.53%	0.0133%
Wyndham Worldwide Corp	WYN	10,538.69	0.05%	2.23%	13.90%	16.29%	0.0080%
Wynn Resorts Ltd	WYNN	13,174.24	0.06%	1.61%	19.80%	21.57%	0.0132%
Cimarex Energy Co	XEC	10,229.88	0.05%	0.30%	43.05%	43.41%	0.0207%
Xcel Energy Inc	XEL	24,326.92	0.11%	3.01%	5.90%	8.99%	0.0102%
XL Group Ltd	XL	11,422.39	0.05%	1.72%	9.00%	10.80%	0.0057%
Xilinx Inc	XLNX	16,547.42	0.08%	2.10%	8.55%	10.74%	0.0083%
Exxon Mobil Corp	XOM	341,099.87	1.59%	3.80%	10.04%	14.03%	0.2229%
DENTSPLY SIRONA Inc	XRAY	14,560.68	0.07%	0.54%	9.53%	10.09%	0.0068%
Xerox Corp	XRX	7,187.25	0.03%	3.79%	1.80%	5.62%	0.0019%
Xylem Inc/NY	XYL	9,370.41	0.04%	1.38%	12.10%	13.56%	0.0059%
Yahoo! Inc	YHOO	48,216.57	0.22%	0.00%	10.53%	10.53%	0.0236%
Yum! Brands Inc	YUM	25,295.46	0.12%	1.77%	12.62%	14.51%	0.0171%
Zimmer Biomet Holdings Inc	ZBH	24,037.98	0.11%	0.84%	8.38%	9.26%	0.0104%
Zions Bancorporation	ZION	8,119.36	0.04%	1.02%	9.00%	10.07%	0.0038%
Zoetis Inc	ZTS	30,566.83	0.14%	0.67%	12.76%	13.48%	0.0192%
Total Market Capitalization:		21,477,604					13.65%

Notes:

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

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

[1]	[2]	[3]
S&P 500 Est. Required Market Return	Current 30-Year Treasury (30-day average)	Implied Market Risk Premium
13.79%	2.95%	10.84%

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	19,094.60	0.10%	0.89%	6.50%	7.42%	0.0072%
American Airlines Group Inc	AAL	24,360.26	0.12%	0.83%	1.00%	1.83%	0.0023%
Advance Auto Parts Inc	AAP	9,745.33	0.05%	0.18%	9.50%	9.69%	0.0048%
Apple Inc	AAPL	801,018.80	4.06%	1.64%	10.00%	11.72%	0.4761%
AbbVie Inc	ABBV	105,539.40	0.54%	3.86%	11.50%	15.58%	0.0834%
AmerisourceBergen Corp	ABC	19,769.50	0.10%	1.60%	8.00%	9.66%	0.0097%
Abbott Laboratories	ABT	64,732.59	0.33%	2.41%	8.50%	11.01%	0.0361%
Accenture PLC	ACN	78,916.83	0.40%	2.06%	9.00%	11.15%	0.0446%
Adobe Systems Inc	ADBE	70,729.32	0.36%	0.00%	29.50%	29.50%	0.1058%
Analog Devices Inc	ADI	25,460.10	0.13%	2.19%	16.00%	18.37%	0.0237%
Archer-Daniels-Midland Co	ADM	24,250.78	0.12%	3.00%	5.00%	8.08%	0.0099%
Automatic Data Processing Inc	ADP	45,309.57	0.23%	2.43%	10.00%	12.55%	0.0288%
Alliance Data Systems Corp	ADS	14,098.59	0.07%	0.85%	9.50%	10.39%	0.0074%
Autodesk Inc	ADSK	25,089.97	N/A	0.00%	N/A	N/A	N/A
Ameren Corp	AEE	13,597.73	0.07%	3.19%	6.00%	9.29%	0.0064%
American Electric Power Co Inc	AEP	34,813.21	0.18%	3.42%	4.00%	7.49%	0.0132%
AES Corp/VA	AES	7,776.08	0.04%	4.08%	7.00%	11.22%	0.0044%
Aetna Inc	AET	51,077.39	0.26%	1.38%	8.00%	9.44%	0.0244%
Aflac Inc	AFL	30,318.07	0.15%	2.36%	4.00%	6.41%	0.0099%
Allergan PLC	AGN	75,138.16	0.38%	0.13%	10.00%	10.14%	0.0386%
American International Group Inc	AIG	62,825.61	0.32%	2.03%	25.00%	27.28%	0.0869%
Apartment Investment & Management Co	AIV	-	N/A	3.33%	N/A	N/A	N/A
Assurant Inc	AIZ	5,619.27	0.03%	2.11%	4.00%	6.15%	0.0018%
Arthur J Gallagher & Co	AJG	10,330.23	0.05%	2.71%	15.50%	18.42%	0.0096%
Akamai Technologies Inc	AKAM	8,376.43	0.04%	0.00%	12.50%	12.50%	0.0053%
Albemarle Corp	ALB	12,469.57	0.06%	1.14%	9.50%	10.69%	0.0068%
Alaska Air Group Inc	ALK	10,712.46	0.05%	1.39%	10.00%	11.46%	0.0062%
Allstate Corp/The	ALL	31,578.48	0.16%	1.72%	5.50%	7.27%	0.0116%
Allegion PLC	ALLE	7,570.47	0.04%	0.81%	10.00%	10.85%	0.0042%
Alexion Pharmaceuticals Inc	ALXN	22,064.00	0.11%	0.00%	20.00%	20.00%	0.0224%
Applied Materials Inc	AMAT	48,613.99	0.25%	0.89%	23.50%	24.49%	0.0604%
Advanced Micro Devices Inc	AMD	10,343.16	N/A	0.00%	N/A	N/A	N/A
AMETEK Inc	AME	14,057.30	0.07%	0.59%	5.50%	6.11%	0.0044%
Affiliated Managers Group Inc	AMG	8,731.80	0.04%	0.52%	7.00%	7.54%	0.0033%
Amgen Inc	AMGN	114,412.00	0.58%	3.02%	7.50%	10.63%	0.0617%
Ameriprise Financial Inc	AMP	18,757.98	0.10%	2.71%	11.50%	14.37%	0.0137%
American Tower Corp	AMT	55,859.80	0.28%	2.09%	11.00%	13.20%	0.0374%
Amazon.com Inc	AMZN	474,835.70	2.41%	0.00%	56.00%	56.00%	1.3484%
AutoNation Inc	AN	3,940.30	0.02%	0.00%	7.00%	7.00%	0.0014%
Anthem Inc	ANTM	48,111.11	0.24%	1.43%	9.00%	10.49%	0.0256%
Aon PLC	AON	34,248.10	0.17%	1.11%	9.50%	10.66%	0.0185%
Apache Corp	APA	18,150.55	0.09%	2.10%	23.00%	25.34%	0.0233%
Anadarko Petroleum Corp	APC	28,737.43	N/A	0.38%	N/A	N/A	N/A
Air Products & Chemicals Inc	APD	31,378.38	0.16%	2.64%	9.00%	11.76%	0.0187%
Amphenol Corp	APH	22,773.68	0.12%	0.86%	8.00%	8.89%	0.0103%
Alexandria Real Estate Equities Inc	ARE	N/A	N/A	0.00%	N/A	N/A	N/A
Arconic Inc	ARNC	11,994.88	N/A	0.88%	N/A	N/A	N/A
Activision Blizzard Inc	ATVI	44,625.35	0.23%	0.51%	7.00%	7.53%	0.0170%
AvalonBay Communities Inc	AVB	-	N/A	3.04%	N/A	N/A	N/A
Broadcom Ltd	AVGO	96,414.33	0.49%	1.69%	19.50%	21.35%	0.1044%
Avery Dennison Corp	AVY	7,436.98	0.04%	2.20%	9.00%	11.30%	0.0043%
American Water Works Co Inc	AWK	13,814.87	0.07%	2.14%	8.50%	10.73%	0.0075%
American Express Co	AXP	69,308.80	0.35%	1.76%	5.00%	6.80%	0.0239%
Acuity Brands Inc	AYI	7,289.70	0.04%	0.31%	19.00%	19.34%	0.0071%
AutoZone Inc	AZO	17,294.01	0.09%	0.00%	12.00%	12.00%	0.0105%
Boeing Co/The	BA	113,325.50	0.57%	3.15%	7.00%	10.26%	0.0590%
Bank of America Corp	BAC	233,723.60	1.19%	1.42%	16.00%	17.53%	0.2078%
Baxter International Inc	BAX	32,095.93	0.16%	1.08%	2.50%	3.59%	0.0058%
Bed Bath & Beyond Inc	BBBY	5,226.45	0.03%	1.73%	-1.00%	0.72%	0.0002%
BB&T Corp	BBT	34,602.77	0.18%	3.00%	5.50%	8.58%	0.0151%
Best Buy Co Inc	BBY	19,055.37	0.10%	2.22%	6.00%	8.29%	0.0080%
CR Bard Inc	BCR	22,347.16	0.11%	0.35%	9.00%	9.37%	0.0106%
Becton Dickinson and Co	BDX	39,749.32	0.20%	1.64%	9.00%	10.71%	0.0216%
Franklin Resources Inc	BEN	23,438.90	0.12%	2.01%	5.00%	7.06%	0.0084%
Brown-Forman Corp	BF/B	19,809.29	0.10%	1.43%	8.50%	9.99%	0.0100%
Baker Hughes Inc	BHI	23,332.44	N/A	1.24%	N/A	N/A	N/A
Biogen Inc	BIIB	53,658.73	0.27%	0.00%	9.50%	9.50%	0.0258%
Bank of New York Mellon Corp/The	BK	49,269.37	0.25%	1.60%	8.50%	10.17%	0.0254%
BlackRock Inc	BLK	65,748.64	0.33%	2.46%	8.50%	11.06%	0.0369%
Ball Corp	BLL	14,286.21	0.07%	0.52%	14.50%	15.06%	0.0109%
Bristol-Myers Squibb Co	BMJ	89,603.94	0.45%	2.87%	14.50%	17.58%	0.0799%
Berkshire Hathaway Inc	BRK/B	-	N/A	0.00%	N/A	N/A	N/A
Boston Scientific Corp	BSX	37,321.17	0.19%	0.00%	18.50%	18.50%	0.0350%
BorgWarner Inc	BWA	8,580.06	0.04%	1.39%	6.00%	7.43%	0.0032%
Boston Properties Inc	BXP	-	N/A	2.46%	N/A	N/A	N/A
Citigroup Inc	C	192,015.40	0.97%	1.07%	10.00%	11.12%	0.1083%
CA Inc	CA	13,337.52	0.07%	3.20%	5.50%	8.79%	0.0059%
Conagra Brands Inc	CAG	16,517.99	0.08%	2.06%	1.00%	3.07%	0.0026%
Cardinal Health Inc	CAH	23,207.04	0.12%	2.55%	13.00%	15.72%	0.0185%
Caterpillar Inc	CAT	61,866.23	0.31%	2.93%	8.50%	11.55%	0.0362%
Chubb Ltd	CB	66,521.74	0.34%	1.99%	7.50%	9.56%	0.0323%
CBRE Group Inc	CBG	11,622.90	0.06%	0.00%	7.00%	7.00%	0.0041%
CBOE Holdings Inc	CBOE	8,019.73	0.04%	1.16%	12.50%	13.73%	0.0056%
CBS Corp	CBS	25,071.20	0.13%	1.17%	12.00%	13.24%	0.0168%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Crown Castle International Corp	CCI	37,140.07	0.19%	3.90%	8.50%	12.57%	0.0237%
Carnival Corp	CCL	45,571.02	0.23%	2.55%	12.50%	15.21%	0.0351%
Celgene Corp	CELG	91,173.95	0.46%	0.00%	26.00%	26.00%	0.1202%
Cerner Corp	CERN	21,505.98	0.11%	0.00%	11.50%	11.50%	0.0125%
CF Industries Holdings Inc	CF	6,550.17	0.03%	4.38%	10.00%	14.60%	0.0048%
Citizens Financial Group Inc	CFG	17,912.38	N/A	1.68%	N/A	N/A	N/A
Church & Dwight Co Inc	CHD	12,897.07	0.07%	1.48%	7.00%	8.53%	0.0056%
Chesapeake Energy Corp	CHK	4,691.40	N/A	0.00%	N/A	N/A	N/A
CH Robinson Worldwide Inc	CHRW	9,586.45	0.05%	2.65%	6.50%	9.24%	0.0045%
Charter Communications Inc	CHTR	89,293.48	0.45%	0.00%	26.00%	26.00%	0.1177%
Cigna Corp	CI	41,552.45	0.21%	0.03%	11.50%	11.53%	0.0243%
Cincinnati Financial Corp	CINF	11,581.98	0.06%	2.84%	6.00%	8.93%	0.0052%
Colgate-Palmolive Co	CL	66,573.79	0.34%	2.15%	12.00%	14.28%	0.0482%
Clorox Co/The	CLX	17,402.18	0.09%	2.41%	7.50%	10.00%	0.0088%
Comerica Inc	CMA	12,255.23	0.06%	1.51%	10.50%	12.09%	0.0075%
Comcast Corp	CMCSA	191,679.70	0.97%	1.56%	11.00%	12.65%	0.1229%
CME Group Inc	CME	39,936.00	0.20%	2.24%	7.50%	9.82%	0.0199%
Chipotle Mexican Grill Inc	CMG	13,805.30	0.07%	0.00%	15.50%	15.50%	0.0109%
Cummins Inc	CMI	26,168.89	0.13%	2.63%	6.00%	8.71%	0.0116%
CMS Energy Corp	CMS	13,274.80	0.07%	2.85%	6.50%	9.44%	0.0064%
Centene Corp	CNC	12,963.39	0.07%	0.00%	17.00%	17.00%	0.0112%
CenterPoint Energy Inc	CNP	12,136.62	0.06%	3.83%	6.00%	9.94%	0.0061%
Capital One Financial Corp	COF	38,384.64	0.19%	2.01%	3.00%	5.04%	0.0098%
Cabot Oil & Gas Corp	COG	10,637.18	N/A	0.88%	N/A	N/A	N/A
Coach Inc	COH	12,950.28	0.07%	2.93%	9.00%	12.06%	0.0079%
Rockwell Collins Inc	COL	14,026.59	0.07%	1.24%	6.50%	7.78%	0.0055%
Cooper Cos Inc/The	COO	10,675.85	0.05%	0.03%	16.50%	16.53%	0.0089%
ConocoPhillips	COP	55,731.54	0.28%	2.40%	60.50%	63.63%	0.1798%
Costco Wholesale Corp	COST	76,696.16	0.39%	1.15%	9.00%	10.20%	0.0397%
Coty Inc	COTY	13,991.31	0.07%	2.67%	8.00%	10.78%	0.0076%
Campbell Soup Co	CPB	19,002.09	0.10%	2.38%	5.00%	7.44%	0.0072%
salesforce.com Inc	CRM	65,002.50	N/A	0.00%	N/A	N/A	N/A
Cisco Systems Inc	CSCO	157,137.10	0.80%	3.69%	7.00%	10.82%	0.0862%
CSRA Inc	CSRA	5,054.26	N/A	1.29%	N/A	N/A	N/A
CSX Corp	CSX	49,631.34	0.25%	1.49%	9.00%	10.56%	0.0266%
Cintas Corp	CTAS	13,206.73	0.07%	1.06%	9.50%	10.61%	0.0071%
CenturyLink Inc	CTL	13,682.71	0.07%	8.66%	10.50%	19.61%	0.0136%
Cognizant Technology Solutions Corp	CTSH	39,392.32	0.20%	0.90%	11.50%	12.45%	0.0249%
Citrix Systems Inc	CTXS	12,566.63	0.06%	0.00%	5.50%	5.50%	0.0035%
CVS Health Corp	CVS	78,000.65	0.40%	2.63%	9.50%	12.25%	0.0485%
Chevron Corp	CVX	199,136.90	1.01%	4.13%	15.50%	19.95%	0.2015%
Concho Resources Inc	CXO	19,031.47	0.10%	0.00%	27.00%	27.00%	0.0261%
Dominion Energy Inc	D	50,930.13	0.26%	3.88%	5.50%	9.49%	0.0245%
Delta Air Lines Inc	DAL	37,070.71	0.19%	2.20%	11.50%	13.83%	0.0260%
El du Pont de Nemours & Co	DD	67,089.08	0.34%	2.09%	8.00%	10.17%	0.0346%
Deere & Co	DE	38,967.39	0.20%	1.96%	5.50%	7.51%	0.0148%
Discover Financial Services	DFS	22,574.06	0.11%	2.03%	5.00%	7.08%	0.0081%
Dollar General Corp	DG	20,020.85	0.10%	1.55%	11.00%	12.64%	0.0128%
Quest Diagnostics Inc	DGX	14,815.18	0.08%	1.67%	9.00%	10.75%	0.0081%
DR Horton Inc	DHI	12,475.14	0.06%	1.23%	11.00%	12.30%	0.0078%
Danaher Corp	DHR	58,658.39	0.30%	0.66%	9.00%	9.69%	0.0288%
Walt Disney Co/The	DIS	171,632.00	0.87%	1.45%	7.50%	9.00%	0.0784%
Discovery Communications Inc	DISCA	13,900.80	0.07%	0.00%	13.50%	13.50%	0.0095%
DISH Network Corp	DISH	29,745.52	0.15%	0.00%	7.00%	7.00%	0.0106%
Delphi Automotive PLC	DLPH	23,205.32	0.12%	1.43%	14.00%	15.53%	0.0183%
Digital Realty Trust Inc	DLR	-	N/A	3.20%	N/A	N/A	N/A
Dollar Tree Inc	DLTR	18,596.80	0.09%	0.00%	16.50%	16.50%	0.0156%
Dover Corp	DOV	12,810.08	0.06%	2.14%	1.50%	3.66%	0.0024%
Dow Chemical Co/The	DOW	74,097.74	0.38%	3.36%	8.00%	11.49%	0.0432%
Dr Pepper Snapple Group Inc	DPS	17,148.07	0.09%	2.51%	7.00%	9.60%	0.0083%
Darden Restaurants Inc	DRI	10,954.27	0.06%	2.57%	14.50%	17.26%	0.0096%
DTE Energy Co	DTE	19,549.59	0.10%	3.14%	5.00%	8.22%	0.0081%
Duke Energy Corp	DUK	58,661.46	0.30%	4.16%	5.50%	9.77%	0.0291%
DaVita Inc	DVA	12,895.88	0.07%	0.00%	11.00%	11.00%	0.0072%
Devon Energy Corp	DVN	18,793.98	0.10%	0.67%	15.00%	15.72%	0.0150%
DXC Technology Co	DXC	11,087.06	0.06%	0.92%	14.00%	14.98%	0.0084%
Electronic Arts Inc	EA	34,945.81	0.18%	0.00%	13.50%	13.50%	0.0239%
eBay Inc	EBAY	37,967.16	0.19%	0.00%	9.50%	9.50%	0.0183%
Ecolab Inc	ECL	37,789.90	0.19%	1.14%	8.50%	9.69%	0.0186%
Consolidated Edison Inc	ED	25,022.20	0.13%	3.41%	2.50%	5.95%	0.0076%
Equifax Inc	EFX	16,483.03	0.08%	1.14%	10.00%	11.20%	0.0094%
Edison International	EIX	26,048.59	0.13%	2.81%	3.00%	5.85%	0.0077%
Estee Lauder Cos Inc/The	EL	34,807.15	0.18%	1.45%	8.50%	10.01%	0.0177%
Eastman Chemical Co	EMN	11,613.97	0.06%	2.56%	10.00%	12.69%	0.0075%
Emerson Electric Co	EMR	38,179.57	0.19%	3.26%	5.00%	8.34%	0.0161%
EOG Resources Inc	EOG	52,491.23	0.27%	0.78%	30.00%	30.90%	0.0822%
Equinix Inc	EQIX	34,668.50	0.18%	1.80%	23.00%	25.01%	0.0440%
Equity Residential	EQR	-	N/A	3.12%	N/A	N/A	N/A
EQT Corp	EQT	9,732.51	0.05%	0.21%	20.50%	20.73%	0.0102%
Eversource Energy	ES	19,596.17	0.10%	3.15%	6.50%	9.75%	0.0097%
Express Scripts Holding Co	ESRX	35,663.41	0.18%	0.00%	14.50%	14.50%	0.0262%
Essex Property Trust Inc	ESS	-	N/A	2.74%	N/A	N/A	N/A
E*TRADE Financial Corp	ETFC	9,640.76	0.05%	0.00%	14.00%	14.00%	0.0068%
Eaton Corp PLC	ETN	34,580.76	0.18%	3.10%	5.50%	8.69%	0.0152%
Entergy Corp	ETR	13,970.65	0.07%	4.52%	-2.50%	1.96%	0.0014%
Envision Healthcare Corp	EVHC	6,584.65	N/A	0.00%	N/A	N/A	N/A
Edwards Lifesciences Corp	EW	24,021.37	0.12%	0.00%	15.50%	15.50%	0.0189%
Exelon Corp	EXC	33,363.78	0.17%	3.61%	7.00%	10.74%	0.0182%
Expeditors International of Washington I	EXPD	9,582.75	0.05%	1.58%	8.00%	9.64%	0.0047%
Expedia Inc	EXPE	21,971.45	0.11%	0.77%	23.00%	23.86%	0.0266%
Extra Space Storage Inc	EXR	-	N/A	4.10%	N/A	N/A	N/A
Ford Motor Co	F	43,244.37	0.22%	5.53%	3.00%	8.61%	0.0189%
Fastenal Co	FAST	12,522.24	0.06%	2.96%	6.50%	9.56%	0.0061%
Facebook Inc	FB	440,380.10	2.23%	0.00%	29.00%	29.00%	0.6476%
Fortune Brands Home & Security Inc	FBHS	9,718.33	0.05%	1.14%	13.50%	14.72%	0.0073%
Freeport-McMoRan Inc	FCX	16,929.90	N/A	0.00%	N/A	N/A	N/A

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
FedEx Corp	FDX	52,087.32	0.26%	0.92%	12.50%	13.48%	0.0356%
FirstEnergy Corp	FE	12,806.34	0.06%	4.99%	9.00%	14.21%	0.0092%
F5 Networks Inc	FFIV	8,179.28	0.04%	0.00%	7.50%	7.50%	0.0031%
Fidelity National Information Services I	FIS	28,083.44	0.14%	1.36%	11.00%	12.43%	0.0177%
Fiserv Inc	FISV	26,510.31	0.13%	0.00%	9.00%	9.00%	0.0121%
Fifth Third Bancorp	FITB	18,356.05	0.09%	2.33%	3.00%	5.36%	0.0050%
Foot Locker Inc	FL	7,845.05	0.04%	2.08%	9.50%	11.68%	0.0046%
FLIR Systems Inc	FLIR	5,037.29	0.03%	1.71%	7.50%	9.27%	0.0024%
Fluor Corp	FLR	6,333.48	0.03%	1.85%	4.50%	6.39%	0.0021%
Flowserve Corp	FLS	6,236.14	0.03%	1.59%	2.50%	4.11%	0.0013%
FMC Corp	FMC	10,093.03	0.05%	0.89%	8.50%	9.43%	0.0048%
Twenty-First Century Fox Inc	FOXA	50,583.87	0.26%	1.32%	9.50%	10.88%	0.0279%
Federal Realty Investment Trust	FRT	-	N/A	3.19%	N/A	N/A	N/A
TechnipFMC PLC	FTI	N/A	N/A	0.00%	N/A	N/A	N/A
Fortive Corp	FTV	22,013.08	N/A	0.44%	N/A	N/A	N/A
General Dynamics Corp	GD	60,665.84	0.31%	1.67%	5.50%	7.22%	0.0222%
General Electric Co	GE	240,334.50	1.22%	3.49%	13.50%	17.23%	0.2099%
GGP Inc	GGP	-	N/A	3.93%	N/A	N/A	N/A
Gilead Sciences Inc	GILD	84,379.91	0.43%	3.22%	-3.50%	-0.34%	-0.0014%
General Mills Inc	GIS	32,739.76	0.17%	3.41%	5.00%	8.50%	0.0141%
Corning Inc	GLW	27,381.82	0.14%	2.10%	10.50%	12.71%	0.0176%
General Motors Co	GM	49,197.02	0.25%	4.79%	6.00%	10.93%	0.0273%
Alphabet Inc	GOOGL	N/A	N/A	0.00%	N/A	N/A	N/A
Genuine Parts Co	GPC	13,465.92	0.07%	2.96%	6.50%	9.56%	0.0065%
Global Payments Inc	GP	14,086.61	0.07%	0.04%	12.00%	12.04%	0.0086%
Gap Inc/The	GPS	8,785.98	0.04%	4.18%	0.50%	4.69%	0.0021%
Garmin Ltd	GRMN	9,799.17	0.05%	3.92%	5.00%	9.02%	0.0045%
Goldman Sachs Group Inc/The	GS	88,626.93	0.45%	1.35%	9.50%	10.91%	0.0490%
Goodyear Tire & Rubber Co/The	GT	8,069.04	0.04%	1.31%	10.00%	11.38%	0.0047%
VWV Grainger Inc	GWV	10,301.07	0.05%	2.90%	6.00%	8.99%	0.0047%
Halliburton Co	HAL	39,370.47	0.20%	1.59%	20.50%	22.25%	0.0444%
Hasbro Inc	HAS	13,022.19	0.07%	2.19%	10.50%	12.80%	0.0085%
Huntington Bancshares Inc/OH	HBAN	13,972.82	0.07%	2.56%	8.00%	10.66%	0.0076%
Hanesbrands Inc	HBI	7,392.16	0.04%	2.96%	9.50%	12.60%	0.0047%
HCA Healthcare Inc	HCA	30,642.24	0.16%	0.00%	10.00%	10.00%	0.0155%
Welltower Inc	HCN	-	N/A	4.77%	N/A	N/A	N/A
HCP Inc	HCP	-	N/A	4.72%	N/A	N/A	N/A
Home Depot Inc/The	HD	187,282.60	0.95%	2.28%	11.50%	13.91%	0.1321%
Hess Corp	HES	15,196.39	N/A	2.09%	N/A	N/A	N/A
Hartford Financial Services Group Inc/Th	HIG	18,876.10	0.10%	1.85%	10.00%	11.94%	0.0114%
Harley-Davidson Inc	HOG	9,077.47	0.05%	2.82%	8.00%	10.93%	0.0050%
Hologic Inc	HOLX	12,081.08	0.06%	0.00%	25.00%	25.00%	0.0153%
Honeywell International Inc	HON	101,962.70	0.52%	1.99%	8.00%	10.07%	0.0521%
Helmerich & Payne Inc	HP	5,839.77	0.03%	5.21%	8.00%	13.42%	0.0040%
Hewlett Packard Enterprise Co	HPE	31,330.92	0.16%	1.38%	1.50%	2.89%	0.0046%
HP Inc	HPQ	31,107.39	N/A	2.99%	N/A	N/A	N/A
H&R Block Inc	HRB	5,398.75	0.03%	3.38%	7.50%	11.01%	0.0030%
Hormel Foods Corp	HRL	17,519.28	0.09%	2.08%	10.50%	12.69%	0.0113%
Harris Corp	HRS	13,519.23	0.07%	1.96%	6.50%	8.52%	0.0058%
Henry Schein Inc	HSIC	14,563.31	0.07%	0.00%	8.50%	8.50%	0.0063%
Host Hotels & Resorts Inc	HST	-	N/A	4.42%	N/A	N/A	N/A
Hershey Co/The	HSY	24,532.32	0.12%	2.14%	6.50%	8.71%	0.0108%
Humana Inc	HUM	34,677.52	0.18%	0.69%	9.00%	9.72%	0.0171%
International Business Machines Corp	IBM	143,931.00	N/A	3.92%	N/A	N/A	N/A
Intercontinental Exchange Inc	ICE	35,961.80	0.18%	1.32%	12.00%	13.40%	0.0244%
IDEXX Laboratories Inc	IDXX	14,719.98	0.07%	0.00%	15.00%	15.00%	0.0112%
International Flavors & Fragrances Inc	IFF	10,927.19	0.06%	2.02%	7.50%	9.60%	0.0053%
Ilumina Inc	ILMN	25,403.02	0.13%	0.00%	17.00%	17.00%	0.0219%
Inclyte Corp	INCY	26,215.96	0.13%	0.00%	69.50%	69.50%	0.0924%
Intel Corp	INTC	170,748.30	0.87%	3.01%	8.00%	11.13%	0.0964%
Intuit Inc	INTU	35,455.30	0.18%	0.98%	13.00%	14.04%	0.0252%
International Paper Co	IP	21,536.81	0.11%	3.55%	17.50%	21.36%	0.0233%
Interpublic Group of Cos Inc/The	IPG	9,759.22	0.05%	2.92%	12.00%	15.10%	0.0075%
Ingersoll-Rand PLC	IR	22,988.39	0.12%	1.79%	8.00%	9.86%	0.0115%
Iron Mountain Inc	IRM	9,264.98	0.05%	6.27%	11.00%	17.61%	0.0083%
Intuitive Surgical Inc	ISRG	33,398.57	0.17%	0.00%	11.50%	11.50%	0.0195%
Gartner Inc	IT	9,786.28	0.05%	0.00%	15.50%	15.50%	0.0077%
Illinois Tool Works Inc	ITW	48,542.75	0.25%	1.85%	10.00%	11.94%	0.0294%
Invesco Ltd	IVZ	12,901.41	0.07%	3.63%	5.50%	9.23%	0.0060%
JB Hunt Transport Services Inc	JBHT	9,347.46	0.05%	1.08%	9.50%	10.63%	0.0050%
Johnson Controls International plc	JCI	39,550.68	0.20%	2.66%	2.00%	4.69%	0.0094%
Jacobs Engineering Group Inc	JEC	6,334.68	0.03%	1.18%	8.00%	9.23%	0.0030%
Johnson & Johnson	JNJ	343,681.80	1.74%	2.67%	9.50%	12.30%	0.2143%
Juniper Networks Inc	JNPR	11,260.80	0.06%	1.43%	8.00%	9.49%	0.0054%
JPMorgan Chase & Co	JPM	303,948.40	1.54%	2.37%	5.50%	7.94%	0.1223%
Nordstrom Inc	JWN	7,106.00	0.04%	3.54%	2.00%	5.58%	0.0020%
Kellogg Co	K	25,438.00	0.13%	2.89%	6.50%	9.48%	0.0122%
KeyCorp	KEY	19,908.27	0.10%	2.10%	11.50%	13.72%	0.0139%
Kraft Heinz Co/The	KHC	113,000.20	N/A	2.65%	N/A	N/A	N/A
Kimco Realty Corp	KIM	-	N/A	6.05%	N/A	N/A	N/A
KLA-Tencor Corp	KLAC	16,436.60	0.08%	2.06%	14.00%	16.20%	0.0135%
Kimberly-Clark Corp	KMB	45,927.68	0.23%	3.00%	10.00%	13.15%	0.0306%
Kinder Morgan Inc/DE	KMI	43,309.51	0.22%	2.58%	24.00%	26.89%	0.0591%
CarMax Inc	KMX	12,119.74	0.06%	0.00%	10.50%	10.50%	0.0065%
Coca-Cola Co/The	KO	194,037.00	0.98%	3.30%	4.50%	7.87%	0.0775%
Michael Kors Holdings Ltd	KORS	5,950.03	0.03%	0.00%	4.50%	4.50%	0.0014%
Kroger Co/The	KR	27,017.76	0.14%	1.81%	8.50%	10.39%	0.0142%
Kohl's Corp	KSS	6,763.38	0.03%	5.66%	7.00%	12.86%	0.0044%
Kansas City Southern	KSU	9,872.96	0.05%	1.42%	9.50%	10.99%	0.0055%
Loews Corp	L	15,737.03	0.08%	0.54%	14.50%	15.08%	0.0120%
L Brands Inc	LB	14,377.22	0.07%	4.77%	2.50%	7.33%	0.0053%
Leggett & Platt Inc	LEG	6,895.84	0.03%	2.76%	7.50%	10.36%	0.0036%
Lennar Corp	LEN	12,128.88	0.06%	0.31%	10.00%	10.33%	0.0064%
Laboratory Corp of America Holdings	LH	14,548.68	0.07%	0.00%	9.00%	9.00%	0.0066%
LKQ Corp	LKQ	9,714.03	0.05%	0.00%	12.50%	12.50%	0.0062%
L3 Technologies Inc	LLL	12,974.20	0.07%	1.79%	10.00%	11.88%	0.0078%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Eli Lilly & Co	LLY	86,439.49	0.44%	2.66%	11.00%	13.81%	0.0605%
Lockheed Martin Corp	LMT	81,640.29	0.41%	2.64%	8.50%	11.25%	0.0466%
Lincoln National Corp	LNC	14,836.26	0.08%	1.83%	7.00%	8.89%	0.0067%
Alliant Energy Corp	LNT	9,468.32	0.05%	3.03%	6.50%	9.63%	0.0046%
Lowe's Cos Inc	LOW	70,431.78	0.36%	1.91%	14.50%	16.55%	0.0591%
Lam Research Corp	LRCX	25,234.83	0.13%	1.24%	19.50%	20.86%	0.0267%
Leucadia National Corp	LUK	8,887.46	0.05%	1.01%	31.00%	32.17%	0.0145%
Southwest Airlines Co	LUV	36,836.07	0.19%	0.82%	11.00%	11.87%	0.0222%
Level 3 Communications Inc	LVT	21,532.28	0.11%	0.00%	14.50%	14.50%	0.0158%
LyondellBasell Industries NV	LYB	32,492.34	0.16%	4.46%	4.00%	8.55%	0.0141%
Macy's Inc	M	7,102.91	0.04%	6.46%	2.50%	9.04%	0.0033%
Mastercard Inc	MA	128,747.50	0.65%	0.72%	12.00%	12.76%	0.0833%
Mid-America Apartment Communities Inc	MAA	N/A	N/A	0.00%	N/A	N/A	N/A
Macerich Co/The	MAC	-	N/A	4.82%	N/A	N/A	N/A
Marriott International Inc/MD	MAR	40,587.93	0.21%	1.24%	13.50%	14.82%	0.0305%
Masco Corp	MAS	11,736.79	0.06%	1.08%	11.50%	12.64%	0.0075%
Mattel Inc	MAT	7,598.87	0.04%	6.85%	12.50%	19.78%	0.0076%
McDonald's Corp	MCD	122,081.20	0.62%	2.56%	9.00%	11.68%	0.0723%
Microchip Technology Inc	MCHP	17,697.48	0.09%	1.77%	12.00%	13.88%	0.0125%
McKesson Corp	MCK	34,428.92	0.17%	0.69%	11.00%	11.73%	0.0205%
Moody's Corp	MCO	22,295.03	0.11%	1.30%	7.00%	8.35%	0.0094%
Mondelez International Inc	MDLZ	70,768.17	0.36%	1.76%	10.00%	11.85%	0.0425%
Medtronic PLC	MDT	117,149.20	0.59%	2.06%	6.00%	8.12%	0.0482%
MetLife Inc	MET	56,079.62	0.28%	3.36%	7.00%	10.48%	0.0298%
Mohawk Industries Inc	MHK	17,608.09	0.09%	0.00%	7.50%	7.50%	0.0067%
Mead Johnson Nutrition Co	MJN	16,357.45	0.08%	1.85%	5.50%	7.40%	0.0061%
McCormick & Co Inc/MD	MKC	12,988.95	0.07%	1.81%	6.50%	8.37%	0.0055%
Martin Marietta Materials Inc	MLM	14,409.43	0.07%	0.73%	17.50%	18.29%	0.0134%
Marsh & McLennan Cos Inc	MMC	39,414.79	0.20%	1.96%	8.00%	10.04%	0.0201%
3M Co	MMM	119,173.30	0.60%	2.36%	8.00%	10.45%	0.0632%
Mallinckrodt PLC	MNK	4,075.52	0.02%	0.00%	53.00%	53.00%	0.0110%
Monster Beverage Corp	MNST	28,819.96	0.15%	0.00%	12.00%	12.00%	0.0175%
Altria Group Inc	MO	143,471.70	0.73%	3.29%	9.50%	12.95%	0.0942%
Monsanto Co	MON	51,122.99	0.26%	1.85%	8.00%	9.92%	0.0257%
Mosaic Co/The	MOS	8,038.29	0.04%	2.62%	3.50%	6.17%	0.0025%
Marathon Petroleum Corp	MPC	27,221.55	0.14%	3.05%	5.50%	8.63%	0.0119%
Merck & Co Inc	MRK	178,237.90	0.90%	2.89%	5.50%	8.47%	0.0765%
Marathon Oil Corp	MRO	11,475.00	N/A	1.48%	N/A	N/A	N/A
Morgan Stanley	MS	79,554.56	0.40%	1.88%	12.00%	13.99%	0.0564%
Microsoft Corp	MSFT	537,675.30	2.73%	2.24%	8.00%	10.33%	0.2816%
Motorola Solutions Inc	MSI	13,451.15	0.07%	2.29%	10.50%	12.91%	0.0088%
M&T Bank Corp	MTB	24,789.50	0.13%	1.86%	8.00%	9.93%	0.0125%
Mettler-Toledo International Inc	MTD	14,901.88	0.08%	0.00%	11.00%	11.00%	0.0083%
Micron Technology Inc	MU	32,549.58	0.17%	0.00%	18.00%	18.00%	0.0297%
Murphy Oil Corp	MUR	4,905.66	N/A	3.98%	N/A	N/A	N/A
Mylan NV	MYL	21,398.19	0.11%	0.00%	16.50%	16.50%	0.0179%
Navient Corp	NAVI	4,360.17	N/A	4.45%	N/A	N/A	N/A
Noble Energy Inc	NBL	12,932.55	N/A	1.35%	N/A	N/A	N/A
Nasdaq Inc	NDQA	11,262.88	0.06%	2.23%	8.50%	10.82%	0.0062%
NextEra Energy Inc	NEE	65,847.61	0.33%	2.89%	6.50%	9.48%	0.0317%
Newmont Mining Corp	NEM	17,825.98	0.09%	0.60%	0.50%	1.10%	0.0010%
Netflix Inc	NFLX	70,273.41	0.36%	0.00%	43.00%	43.00%	0.1532%
Newfield Exploration Co	NFX	6,491.31	0.03%	0.00%	18.00%	18.00%	0.0059%
NiSource Inc	NI	8,283.82	0.04%	2.74%	5.50%	8.32%	0.0035%
NIKE Inc	NKE	86,482.20	0.44%	1.38%	15.00%	16.48%	0.0723%
Nielsen Holdings PLC	NLSN	13,720.40	N/A	3.54%	N/A	N/A	N/A
Northrop Grumman Corp	NOC	44,807.89	0.23%	1.56%	8.00%	9.62%	0.0219%
National Oilwell Varco Inc	NOV	12,343.57	0.06%	0.61%	3.00%	3.62%	0.0023%
NRG Energy Inc	NRG	5,199.53	N/A	0.73%	N/A	N/A	N/A
Norfolk Southern Corp	NSC	34,707.31	0.18%	2.04%	8.00%	10.12%	0.0178%
NetApp Inc	NTAP	11,100.16	0.06%	1.86%	9.00%	10.94%	0.0062%
Northern Trust Corp	NTRS	20,267.85	0.10%	1.72%	8.00%	9.79%	0.0101%
Nucor Corp	NUE	18,623.07	0.09%	2.59%	20.50%	23.36%	0.0221%
NVIDIA Corp	NVDA	82,264.70	0.42%	0.41%	14.50%	14.94%	0.0623%
Newell Brands Inc	NWL	25,707.60	0.13%	1.73%	18.00%	19.89%	0.0259%
News Corp	NWSA	7,680.36	0.04%	1.51%	47.00%	48.86%	0.0190%
Realty Income Corp	O	-	N/A	4.62%	N/A	N/A	N/A
ONEOK Inc	OKE	10,895.41	0.06%	4.88%	14.50%	19.73%	0.0109%
Omnicom Group Inc	OMC	19,457.40	0.10%	2.75%	7.50%	10.35%	0.0102%
Oracle Corp	ORCL	185,998.00	0.94%	1.68%	4.00%	5.71%	0.0539%
O'Reilly Automotive Inc	ORLY	22,268.63	0.11%	0.00%	11.00%	11.00%	0.0124%
Occidental Petroleum Corp	OXY	46,417.77	0.24%	5.06%	25.00%	30.69%	0.0722%
Paychex Inc	PAYX	21,232.31	0.11%	3.38%	9.00%	12.53%	0.0135%
People's United Financial Inc	PBCT	5,348.19	0.03%	4.10%	10.50%	14.82%	0.0040%
PACCAR Inc	PCAR	22,023.00	0.11%	2.62%	5.50%	8.19%	0.0091%
PG&E Corp	PCG	34,358.94	0.17%	3.15%	9.50%	12.80%	0.0223%
Priceline Group Inc/The	PCLN	91,495.95	0.46%	0.00%	15.50%	15.50%	0.0719%
Patterson Cos Inc	PDCO	4,346.75	0.02%	2.39%	10.50%	13.02%	0.0029%
Public Service Enterprise Group Inc	PEG	22,492.70	0.11%	3.91%	2.50%	6.46%	0.0074%
PepsiCo Inc	PEP	168,067.90	0.85%	2.74%	7.00%	9.84%	0.0838%
Pfizer Inc	PFE	191,925.90	0.97%	3.98%	11.00%	15.20%	0.1479%
Principal Financial Group Inc	PRG	18,027.28	0.09%	2.94%	5.00%	8.01%	0.0073%
Procter & Gamble Co/The	PG	222,154.40	1.13%	3.18%	7.50%	10.80%	0.1217%
Progressive Corp/The	PGR	24,512.37	0.12%	1.61%	7.50%	9.17%	0.0114%
Parker-Hannifin Corp	PH	21,181.43	0.11%	1.66%	7.50%	9.22%	0.0099%
PulteGroup Inc	PHM	7,233.97	0.04%	1.62%	16.50%	18.25%	0.0067%
PerkinElmer Inc	PKI	6,899.15	0.03%	0.45%	8.00%	8.47%	0.0030%
Prologis Inc	PLD	-	N/A	3.15%	N/A	N/A	N/A
Philip Morris International Inc	PM	185,569.30	0.94%	3.48%	7.50%	11.11%	0.1045%
PNC Financial Services Group Inc/The	PNC	58,903.25	0.30%	1.81%	5.50%	7.36%	0.0220%
Pentair PLC	PNR	12,125.41	0.06%	2.07%	11.00%	13.18%	0.0081%
Pinnacle West Capital Corp	PNW	9,756.86	0.05%	3.10%	5.50%	8.69%	0.0043%
PPG Industries Inc	PPG	27,390.02	0.14%	1.50%	10.50%	12.08%	0.0168%
PPL Corp	PPL	27,228.84	0.14%	4.04%	1.50%	5.57%	0.0077%
Perrigo Co PLC	PRGO	10,301.42	N/A	0.89%	N/A	N/A	N/A
Prudential Financial Inc	PRU	45,543.44	0.23%	2.83%	5.50%	8.41%	0.0194%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Public Storage	PSA	-	N/A	3.75%	N/A	N/A	N/A
Phillips 66	PSX	39,956.30	0.20%	3.71%	5.00%	8.80%	0.0178%
PVH Corp	PVH	8,403.39	0.04%	0.14%	7.00%	7.14%	0.0030%
Quanta Services Inc	PWR	4,592.86	0.02%	0.00%	10.50%	10.50%	0.0024%
Praxair Inc	PX	37,646.75	0.19%	2.49%	8.00%	10.59%	0.0202%
Pioneer Natural Resources Co	PXD	28,618.86	0.15%	0.05%	38.50%	38.56%	0.0560%
PayPal Holdings Inc	PYPL	61,472.51	N/A	0.00%	N/A	N/A	N/A
QUALCOMM Inc	QCOM	86,330.65	0.44%	3.97%	6.00%	10.09%	0.0442%
Qorvo Inc	QRVO	9,958.67	N/A	0.00%	N/A	N/A	N/A
Ryder System Inc	R	3,580.49	0.02%	2.63%	7.50%	10.23%	0.0019%
Reynolds American Inc	RAI	95,255.77	0.48%	3.06%	13.50%	16.77%	0.0810%
Royal Caribbean Cruises Ltd	RCL	23,712.51	0.12%	1.74%	12.50%	14.35%	0.0173%
Regency Centers Corp	REG	N/A	N/A	0.00%	N/A	N/A	N/A
Regeneron Pharmaceuticals Inc	REGN	47,553.66	0.24%	0.00%	22.00%	22.00%	0.0530%
Regions Financial Corp	RF	17,209.10	0.09%	2.03%	8.50%	10.62%	0.0093%
Robert Half International Inc	RHI	5,868.04	0.03%	2.08%	6.00%	8.14%	0.0024%
Red Hat Inc	RHT	15,703.50	0.08%	0.00%	16.50%	16.50%	0.0131%
Transocean Ltd	RIG	3,772.47	0.02%	0.00%	-18.50%	-18.50%	-0.0035%
Raymond James Financial Inc	RJF	10,570.51	0.05%	1.20%	10.50%	11.76%	0.0063%
Ralph Lauren Corp	RL	5,467.94	0.03%	3.01%	1.00%	4.03%	0.0011%
Rockwell Automation Inc	ROK	20,518.26	0.10%	1.91%	4.00%	5.95%	0.0062%
Roper Technologies Inc	ROP	23,135.76	0.12%	0.62%	6.50%	7.14%	0.0084%
Ross Stores Inc	ROST	24,829.56	0.13%	1.03%	9.00%	10.08%	0.0127%
Range Resources Corp	RRC	5,888.91	0.03%	0.34%	29.00%	29.39%	0.0088%
Republic Services Inc	RSG	21,290.19	0.11%	2.13%	8.50%	10.72%	0.0116%
Raytheon Co	RTN	47,465.01	0.24%	1.96%	8.00%	10.04%	0.0242%
Starbucks Corp	SBUX	91,060.33	0.46%	1.83%	15.00%	16.97%	0.0783%
SCANA Corp	SCG	9,695.77	0.05%	3.67%	4.00%	7.74%	0.0038%
Charles Schwab Corp/The	SCHW	52,685.54	0.27%	0.81%	14.50%	15.37%	0.0411%
Sealed Air Corp	SEE	8,659.34	0.04%	1.45%	12.00%	13.54%	0.0059%
Sherwin-Williams Co/The	SHW	31,113.14	0.16%	1.02%	8.50%	9.56%	0.0151%
Signet Jewelers Ltd	SIG	3,435.49	0.02%	2.47%	7.00%	9.56%	0.0017%
JM Smucker Co/The	SJM	14,904.70	0.08%	2.34%	7.00%	9.42%	0.0071%
Schlumberger Ltd	SLB	96,415.80	0.49%	2.88%	17.50%	20.63%	0.1009%
SL Green Realty Corp	SLG	N/A	N/A	3.02%	N/A	N/A	N/A
Snap-on Inc	SNA	9,283.43	0.05%	1.77%	9.50%	11.35%	0.0053%
Scripps Networks Interactive Inc	SNI	8,720.90	0.04%	1.79%	6.50%	8.35%	0.0037%
Synopsys Inc	SNPS	11,069.87	0.06%	0.00%	9.00%	9.00%	0.0051%
Southern Co/The	SO	50,202.05	0.25%	4.63%	3.50%	8.21%	0.0209%
Simon Property Group Inc	SPG	-	N/A	4.36%	N/A	N/A	N/A
S&P Global Inc	SPGI	36,269.88	0.18%	1.17%	12.00%	13.24%	0.0244%
Staples Inc	SPLS	5,917.68	0.03%	5.30%	1.50%	6.84%	0.0021%
Stericycle Inc	SRCL	7,106.59	0.04%	0.00%	5.50%	5.50%	0.0020%
Sempra Energy	SRE	28,752.05	0.15%	2.93%	8.00%	11.05%	0.0161%
SunTrust Banks Inc	STI	26,490.73	0.13%	2.04%	6.50%	8.61%	0.0116%
State Street Corp	STT	30,914.13	0.16%	2.05%	7.50%	9.63%	0.0151%
Seagate Technology PLC	STX	12,786.47	0.06%	5.85%	4.50%	10.48%	0.0068%
Constellation Brands Inc	STZ	35,852.91	0.18%	1.17%	14.50%	15.75%	0.0286%
Stanley Black & Decker Inc	SWK	20,857.87	0.11%	1.70%	9.00%	10.78%	0.0114%
Skyworks Solutions Inc	SWKS	19,564.38	0.10%	1.06%	12.50%	13.63%	0.0135%
Synchrony Financial	SYF	22,078.22	0.11%	1.91%	6.50%	8.47%	0.0095%
Stryker Corp	SYK	52,677.90	0.27%	1.21%	14.50%	15.80%	0.0422%
Symantec Corp	SYMC	18,525.12	0.09%	1.00%	6.50%	7.53%	0.0071%
Sysco Corp	SYI	29,099.45	0.15%	2.51%	11.50%	14.15%	0.0209%
AT&T Inc	T	235,018.60	1.19%	5.15%	5.50%	10.79%	0.1286%
Molson Coors Brewing Co	TAP	20,380.30	0.10%	1.85%	3.50%	5.38%	0.0056%
Teradata Corp	TDC	3,738.96	0.02%	0.00%	-0.50%	-0.50%	-0.0001%
TransDigm Group Inc	TDG	13,889.03	0.07%	0.00%	12.00%	12.00%	0.0085%
TE Connectivity Ltd	TEL	27,774.50	0.14%	2.05%	7.50%	9.63%	0.0136%
TEGNA Inc	TGNA	5,092.67	0.03%	2.36%	1.00%	3.37%	0.0009%
Target Corp	TGT	29,899.86	0.15%	4.43%	4.50%	9.03%	0.0137%
Tiffany & Co	TIF	10,701.75	0.05%	2.33%	8.00%	10.42%	0.0057%
TJX Cos Inc/The	TJX	49,133.77	0.25%	1.66%	10.00%	11.74%	0.0293%
Torchmark Corp	TMK	8,929.04	0.05%	0.79%	7.50%	8.32%	0.0038%
Thermo Fisher Scientific Inc	TMO	71,997.98	0.37%	0.35%	9.00%	9.37%	0.0342%
TripAdvisor Inc	TRIP	5,622.31	0.03%	0.00%	12.50%	12.50%	0.0036%
T Rowe Price Group Inc	TROW	16,806.17	0.09%	3.32%	7.00%	10.44%	0.0089%
Travelers Cos Inc/The	TRV	34,592.11	0.18%	2.33%	1.50%	3.85%	0.0067%
Tractor Supply Co	TSCO	7,034.00	0.04%	1.99%	10.50%	12.59%	0.0045%
Tyson Foods Inc	TSN	20,799.80	0.11%	1.65%	9.00%	10.72%	0.0113%
Tesoro Corp	TSO	9,884.83	0.05%	2.61%	6.50%	9.19%	0.0046%
Total System Services Inc	TSS	10,976.21	0.06%	0.67%	10.50%	11.21%	0.0062%
Time Warner Inc	TWX	77,011.74	0.39%	1.62%	9.50%	11.20%	0.0437%
Texas Instruments Inc	TXN	80,606.60	0.41%	2.48%	8.00%	10.58%	0.0432%
Textron Inc	TXT	12,895.93	0.07%	0.17%	12.00%	12.18%	0.0080%
Under Armour Inc	UAA	8,539.60	0.04%	0.00%	15.50%	15.50%	0.0067%
United Continental Holdings Inc	UAL	25,329.09	0.13%	0.00%	6.00%	6.00%	0.0077%
UDR Inc	UDR	-	N/A	3.24%	N/A	N/A	N/A
Universal Health Services Inc	UHS	11,342.70	0.06%	0.34%	10.50%	10.86%	0.0062%
Ulta Beauty Inc	ULTA	18,261.08	0.09%	0.00%	22.00%	22.00%	0.0204%
UnitedHealth Group Inc	UNH	171,818.20	0.87%	1.40%	12.50%	13.99%	0.1219%
Unum Group	UNM	10,433.96	0.05%	2.03%	10.50%	12.64%	0.0067%
Union Pacific Corp	UNP	88,765.84	0.45%	2.21%	8.00%	10.30%	0.0464%
United Parcel Service Inc	UPS	91,955.92	0.47%	3.13%	10.00%	13.29%	0.0620%
United Rentals Inc	URI	9,414.08	0.05%	0.00%	8.00%	8.00%	0.0038%
US Bancorp	USB	87,583.13	0.44%	2.20%	4.00%	6.24%	0.0277%
United Technologies Corp	UTX	97,950.13	0.50%	2.16%	7.50%	9.74%	0.0484%
Visa Inc	V	200,154.20	1.01%	0.76%	12.00%	12.81%	0.1300%
Varian Medical Systems Inc	VAR	8,970.70	0.05%	0.00%	7.00%	7.00%	0.0032%
VF Corp	VFC	21,646.42	0.11%	3.16%	8.50%	11.79%	0.0129%
Viacom Inc	VIAB	14,009.90	0.07%	2.29%	1.00%	3.30%	0.0023%
Valero Energy Corp	VLO	28,256.23	0.14%	4.43%	5.00%	9.54%	0.0137%
Vulcan Materials Co	VMC	16,891.36	0.09%	0.78%	20.50%	21.36%	0.0183%
Vornado Realty Trust	VNO	17,599.43	0.09%	3.06%	19.50%	22.86%	0.0204%
Verisk Analytics Inc	VRSK	13,467.11	0.07%	0.00%	10.50%	10.50%	0.0072%
VeriSign Inc	VRSN	9,234.11	0.05%	0.00%	10.50%	10.50%	0.0049%

Company	Ticker	Market Capitalization	Weight in Index	Estimated Dividend Yield	Long-Term Growth Est.	DCF Result	Weighted DCF Result
Vertex Pharmaceuticals Inc	VRTX	29,448.38	N/A	0.00%	N/A	N/A	N/A
Ventas Inc	VTR	-	N/A	4.76%	N/A	N/A	N/A
Verizon Communications Inc	VZ	184,836.20	0.94%	5.10%	3.00%	8.18%	0.0766%
Waters Corp	WAT	14,288.18	0.07%	0.00%	6.00%	6.00%	0.0043%
Walgreens Boots Alliance Inc	WBA	87,266.12	0.44%	1.86%	11.00%	12.96%	0.0574%
Western Digital Corp	WDC	25,977.57	0.13%	2.24%	7.50%	9.82%	0.0129%
WEC Energy Group Inc	WEC	19,717.38	0.10%	3.38%	6.00%	9.48%	0.0095%
Wells Fargo & Co	WFC	263,727.70	1.34%	3.07%	4.50%	7.64%	0.1022%
Whole Foods Market Inc	WFM	11,260.02	0.06%	2.04%	3.50%	5.58%	0.0032%
Whirlpool Corp	WHR	13,349.60	0.07%	2.44%	9.50%	12.06%	0.0082%
Willis Towers Watson PLC	WLTW	19,733.20	N/A	1.46%	N/A	N/A	N/A
Waste Management Inc	WM	31,627.22	0.16%	2.38%	7.00%	9.46%	0.0152%
Williams Cos Inc/The	WMB	22,395.00	0.11%	4.02%	18.50%	22.89%	0.0260%
Wal-Mart Stores Inc	WMT	238,688.90	1.21%	2.61%	4.00%	6.66%	0.0806%
WestRock Co	WRK	13,877.79	N/A	2.89%	N/A	N/A	N/A
Western Union Co/The	WU	9,114.32	0.05%	3.63%	5.50%	9.23%	0.0043%
Weyerhaeuser Co	WY	24,924.30	0.13%	3.74%	12.50%	16.47%	0.0208%
Wyndham Worldwide Corp	WYN	10,330.28	0.05%	2.34%	6.50%	8.92%	0.0047%
Wynn Resorts Ltd	WYNN	12,722.12	0.06%	1.61%	14.00%	15.72%	0.0101%
Cimarex Energy Co	XEC	10,556.08	0.05%	0.29%	31.00%	31.33%	0.0168%
Xcel Energy Inc	XEL	23,996.88	0.12%	3.09%	4.50%	7.66%	0.0093%
XL Group Ltd	XL	11,572.31	0.06%	2.03%	8.00%	10.11%	0.0059%
Xilinx Inc	XLNX	16,287.82	0.08%	2.14%	6.50%	8.71%	0.0072%
Exxon Mobil Corp	XOM	346,374.80	1.76%	3.77%	11.50%	15.49%	0.2720%
DENTSPLY SIRONA Inc	XRAY	14,499.79	0.07%	0.56%	8.00%	8.58%	0.0063%
Xerox Corp	XRX	7,105.92	0.04%	3.58%	0.50%	4.09%	0.0015%
Xylem Inc/NY	XYL	9,367.76	0.05%	1.38%	12.00%	13.46%	0.0064%
Yahoo! Inc	YHOO	48,456.63	N/A	0.00%	N/A	N/A	N/A
Yum! Brands Inc	YUM	25,245.50	0.13%	1.71%	6.00%	7.76%	0.0099%
Zimmer Biomet Holdings Inc	ZBH	24,050.88	0.12%	0.87%	11.00%	11.92%	0.0145%
Zions Bancorporation	ZION	8,282.08	0.04%	0.86%	12.50%	13.41%	0.0056%
Zoetis Inc	ZTS	30,747.31	0.16%	0.67%	11.50%	12.21%	0.0190%
Total Market Capitalization:		19,720,779.23					13.79%

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

Bloomberg and Value Line Beta Coefficients

Company	Ticker	[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.677	0.800
Alliant Energy Corporation	LNT	0.529	0.700
Ameren Corporation	AEE	0.525	0.700
Avista Corporation	AVA	0.621	0.700
Black Hills Corporation	BKH	0.506	0.850
CMS Energy Corporation	CMS	0.473	0.650
DTE Energy Company	DTE	0.538	0.650
El Paso Electric Company	EE	0.723	0.750
IDACORP, Inc.	IDA	0.693	0.750
NorthWestern Corporation	NWE	0.588	0.650
OGE Energy Corp.	OGE	0.691	0.950
Otter Tail Corporation	OTTR	0.830	0.850
Pinnacle West Capital Corporation	PNW	0.573	0.700
PNM Resources, Inc.	PNM	0.629	0.700
Portland General Electric Company	POR	0.584	0.700
SCANA Corporation	SCG	0.512	0.650
WEC Energy Group, Inc.	WEC	0.471	0.600
Xcel Energy Inc.	XEL	0.441	0.600
Mean		0.589	0.719

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line

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

	[1]	[2]	[3]	[4]	[5]	[6]
					CAPM	
	Risk-Free Rate	Average Beta Coefficient	Bloomberg Market DCF Derived	Value Line Market DCF Derived	Bloomberg MRP	Value Line MRP
PROXY GROUP AVERAGE BLOOMBERG BETA COEFFICIENT						
Current 30-Year Treasury [7]	2.95%	0.589	10.70%	10.84%	9.26%	9.34%
Near-Term Projected 30-Year Treasury [8]	3.40%	0.589	10.70%	10.84%	9.70%	9.78%
Mean					9.48%	9.56%
PROXY GROUP AVERAGE VALUE LINE AVERAGE BETA COEFFICIENT						
Current 30-Year Treasury [7]	2.95%	0.719	10.70%	10.84%	10.65%	10.75%
Near-Term Projected 30-Year Treasury [8]	3.40%	0.719	10.70%	10.84%	11.10%	11.20%
Mean					10.87%	10.97%

Notes:

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

[2] Source: RBH-5

[3] Source: RBH-4

[4] Source: RBH-4

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

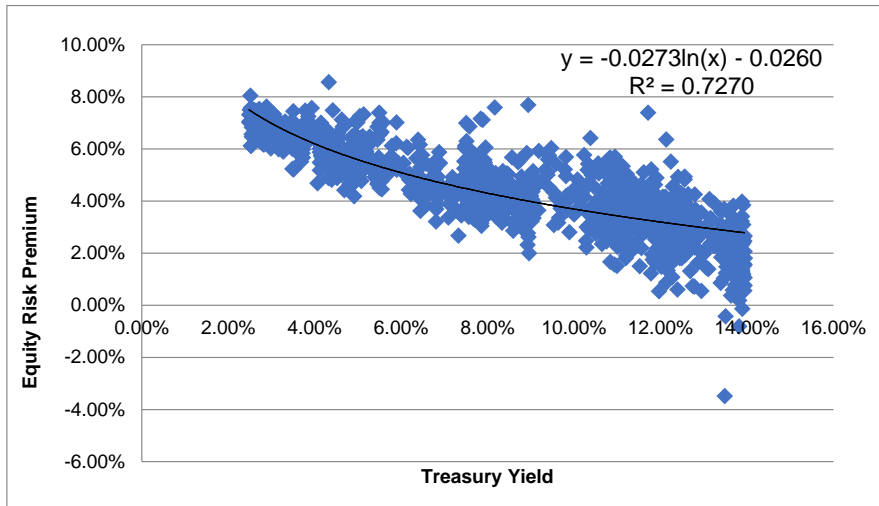
[6] Equals Col. [1] + (Col. [2] x Col. [4])

[7] Source: Bloomberg Professional

[8] Source: Blue Chip Financial Forecasts, Vol. 36, No. 6, June 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
-2.60%	-2.73%			
Current 30-Year Treasury		2.95%	7.03%	9.98%
Near-Term Projected 30-Year Treasury		3.40%	6.64%	10.04%
Long-Term Projected 30-Year Treasury		4.40%	5.94%	10.34%



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. 6, June 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%	9.38%	5.12%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
8/8/1980	14.00%	10.78%	3.22%
8/8/1980	15.45%	10.78%	4.67%
8/11/1980	14.85%	10.78%	4.07%
8/14/1980	14.00%	10.79%	3.21%
8/14/1980	16.25%	10.79%	5.46%
8/25/1980	13.75%	10.82%	2.93%
8/27/1980	13.80%	10.83%	2.97%
8/29/1980	12.50%	10.84%	1.66%
9/15/1980	13.50%	10.88%	2.62%
9/15/1980	13.93%	10.88%	3.05%
9/15/1980	15.80%	10.88%	4.92%
9/24/1980	12.50%	10.93%	1.57%
9/24/1980	15.00%	10.93%	4.07%
9/26/1980	13.75%	10.94%	2.81%
9/30/1980	14.10%	10.96%	3.14%
9/30/1980	14.20%	10.96%	3.24%
10/1/1980	13.90%	10.97%	2.93%
10/3/1980	15.50%	10.98%	4.52%
10/7/1980	12.50%	10.99%	1.51%
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%	11.14%	3.86%
11/5/1980	13.75%	11.12%	2.63%
11/5/1980	14.00%	11.12%	2.88%
11/8/1980	13.75%	11.17%	2.58%
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%	11.35%	2.12%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%	11.92%	2.18%
4/21/1981	14.00%	11.90%	2.10%
4/21/1981	16.80%	11.90%	4.90%
4/24/1981	16.00%	11.95%	4.05%
4/27/1981	12.50%	11.97%	0.53%
4/27/1981	13.61%	11.97%	1.64%
4/29/1981	13.65%	12.00%	1.65%
4/30/1981	13.50%	12.02%	1.48%
5/4/1981	16.22%	12.05%	4.17%
5/5/1981	14.40%	12.07%	2.33%
5/7/1981	16.25%	12.11%	4.14%
5/7/1981	16.27%	12.11%	4.16%
5/8/1981	13.00%	12.13%	0.87%
5/8/1981	16.00%	12.13%	3.87%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%	13.56%	1.61%
11/5/1981	16.60%	13.55%	3.05%
11/6/1981	15.17%	13.56%	1.61%
11/24/1981	15.50%	13.61%	1.89%
11/25/1981	15.25%	13.61%	1.64%
11/25/1981	15.35%	13.61%	1.74%
11/25/1981	16.10%	13.61%	2.49%
11/25/1981	16.10%	13.61%	2.49%
12/1/1981	15.70%	13.61%	2.09%
12/1/1981	16.00%	13.61%	2.39%
12/1/1981	16.49%	13.61%	2.88%
12/1/1981	16.50%	13.61%	2.89%
12/4/1981	16.00%	13.61%	2.39%
12/11/1981	16.25%	13.63%	2.62%
12/14/1981	14.00%	13.63%	0.37%
12/15/1981	15.81%	13.63%	2.18%
12/15/1981	16.00%	13.63%	2.37%
12/16/1981	15.25%	13.63%	1.62%
12/17/1981	16.50%	13.63%	2.87%
12/18/1981	15.45%	13.63%	1.82%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/4/1982	15.50%	13.71%	1.79%
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%	13.90%	1.50%
3/30/1982	15.50%	13.90%	1.60%
3/31/1982	17.00%	13.91%	3.09%
4/1/1982	14.70%	13.91%	0.79%
4/1/1982	16.50%	13.91%	2.59%
4/2/1982	15.50%	13.91%	1.59%
4/5/1982	15.50%	13.92%	1.58%
4/8/1982	16.40%	13.93%	2.47%
4/13/1982	14.50%	13.94%	0.56%
4/23/1982	15.75%	13.94%	1.81%
4/27/1982	15.00%	13.94%	1.06%
4/28/1982	15.75%	13.94%	1.81%
4/30/1982	14.70%	13.94%	0.76%
4/30/1982	15.50%	13.94%	1.56%
5/3/1982	16.60%	13.94%	2.66%
5/4/1982	16.00%	13.94%	2.06%
5/14/1982	15.50%	13.92%	1.58%
5/18/1982	15.42%	13.92%	1.50%
5/19/1982	14.69%	13.92%	0.77%
5/20/1982	15.00%	13.91%	1.09%
5/20/1982	15.10%	13.91%	1.19%
5/20/1982	15.50%	13.91%	1.59%
5/20/1982	16.30%	13.91%	2.39%
5/21/1982	17.75%	13.91%	3.84%
5/27/1982	15.00%	13.89%	1.11%
5/28/1982	15.50%	13.89%	1.61%
5/28/1982	17.00%	13.89%	3.11%
6/1/1982	13.75%	13.89%	-0.14%
6/1/1982	16.60%	13.89%	2.71%
6/9/1982	17.86%	13.88%	3.98%
6/14/1982	15.75%	13.88%	1.87%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/22/1982	16.25%	12.54%	3.71%
12/22/1982	16.58%	12.54%	4.04%
12/22/1982	16.75%	12.54%	4.21%
12/29/1982	14.90%	12.48%	2.42%
12/29/1982	16.25%	12.48%	3.77%
12/30/1982	16.00%	12.47%	3.53%
12/30/1982	16.35%	12.47%	3.88%
12/30/1982	16.77%	12.47%	4.30%
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%	11.94%	3.56%
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%	11.13%	3.37%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%	10.79%	5.55%
8/3/1983	16.50%	10.83%	5.67%
8/19/1983	15.00%	10.80%	4.20%
8/22/1983	15.50%	10.80%	4.70%
8/22/1983	16.40%	10.80%	5.60%
8/31/1983	14.75%	10.84%	3.91%
9/7/1983	15.00%	10.86%	4.14%
9/14/1983	15.78%	10.89%	4.89%
9/16/1983	15.00%	10.90%	4.10%
9/19/1983	14.50%	10.91%	3.59%
9/20/1983	16.50%	10.91%	5.59%
9/28/1983	14.50%	10.94%	3.56%
9/29/1983	15.50%	10.95%	4.55%
9/30/1983	15.25%	10.95%	4.30%
9/30/1983	16.15%	10.95%	5.20%
10/4/1983	14.80%	10.96%	3.84%
10/7/1983	16.00%	10.97%	5.03%
10/13/1983	15.52%	10.99%	4.53%
10/17/1983	15.50%	11.00%	4.50%
10/18/1983	14.50%	11.00%	3.50%
10/19/1983	16.25%	11.01%	5.24%
10/19/1983	16.50%	11.01%	5.49%
10/26/1983	15.00%	11.04%	3.96%
10/27/1983	15.20%	11.04%	4.16%
11/1/1983	16.00%	11.06%	4.94%
11/9/1983	14.90%	11.09%	3.81%
11/10/1983	14.35%	11.10%	3.25%
11/23/1983	16.00%	11.13%	4.87%
11/23/1983	16.15%	11.13%	5.02%
11/30/1983	15.00%	11.14%	3.86%
12/5/1983	15.25%	11.15%	4.10%
12/6/1983	15.07%	11.15%	3.92%
12/8/1983	15.90%	11.16%	4.74%
12/9/1983	14.75%	11.17%	3.58%
12/12/1983	14.50%	11.17%	3.33%
12/15/1983	15.56%	11.19%	4.37%
12/19/1983	14.80%	11.21%	3.59%
12/20/1983	14.69%	11.22%	3.47%
12/20/1983	16.00%	11.22%	4.78%
12/20/1983	16.25%	11.22%	5.03%
12/22/1983	14.75%	11.23%	3.52%
12/22/1983	15.75%	11.23%	4.52%
1/3/1984	14.75%	11.27%	3.48%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
2/15/1984	15.70%	11.44%	4.26%
2/20/1984	15.00%	11.54%	3.46%
2/20/1984	15.00%	11.61%	3.39%
2/22/1984	14.75%	11.47%	3.28%
2/28/1984	14.50%	11.51%	2.99%
3/2/1984	14.25%	11.54%	2.71%
3/20/1984	16.00%	11.64%	4.36%
3/23/1984	15.50%	11.67%	3.83%
3/26/1984	14.71%	11.68%	3.03%
4/2/1984	15.50%	11.71%	3.79%
4/6/1984	14.74%	11.75%	2.99%
4/11/1984	15.72%	11.78%	3.94%
4/17/1984	15.00%	11.81%	3.19%
4/18/1984	16.20%	11.82%	4.38%
4/25/1984	14.64%	11.85%	2.79%
4/30/1984	14.40%	11.87%	2.53%
5/16/1984	14.69%	11.98%	2.71%
5/16/1984	15.00%	11.98%	3.02%
5/22/1984	14.40%	12.02%	2.38%
5/29/1984	15.10%	12.06%	3.04%
6/13/1984	15.25%	12.15%	3.10%
6/15/1984	15.60%	12.17%	3.43%
6/22/1984	16.25%	12.21%	4.04%
6/29/1984	15.25%	12.26%	2.99%
7/2/1984	13.35%	12.27%	1.08%
7/10/1984	16.00%	12.31%	3.69%
7/12/1984	16.50%	12.32%	4.18%
7/13/1984	16.25%	12.33%	3.92%
7/17/1984	14.14%	12.35%	1.79%
7/18/1984	15.30%	12.36%	2.94%
7/18/1984	15.50%	12.36%	3.14%
7/19/1984	14.30%	12.37%	1.93%
7/24/1984	16.79%	12.39%	4.40%
7/31/1984	16.00%	12.43%	3.57%
8/3/1984	14.25%	12.44%	1.81%
8/17/1984	14.30%	12.49%	1.81%
8/20/1984	15.00%	12.49%	2.51%
8/27/1984	16.30%	12.51%	3.79%
8/31/1984	15.55%	12.52%	3.03%
9/6/1984	16.00%	12.53%	3.47%
9/10/1984	14.75%	12.54%	2.21%
9/13/1984	15.00%	12.55%	2.45%
9/17/1984	17.38%	12.56%	4.82%
9/26/1984	14.50%	12.57%	1.93%
9/28/1984	15.00%	12.57%	2.43%
9/28/1984	16.25%	12.57%	3.68%
10/9/1984	14.75%	12.58%	2.17%
10/12/1984	15.60%	12.59%	3.01%
10/22/1984	15.00%	12.59%	2.41%
10/26/1984	16.40%	12.58%	3.82%
10/31/1984	16.25%	12.58%	3.67%
11/7/1984	15.60%	12.58%	3.02%
11/9/1984	16.00%	12.58%	3.42%
11/14/1984	15.75%	12.58%	3.17%
11/20/1984	15.25%	12.58%	2.67%
11/20/1984	15.92%	12.58%	3.34%
11/23/1984	15.00%	12.58%	2.42%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%	12.24%	1.60%
3/8/1985	16.85%	12.28%	4.57%
3/14/1985	15.50%	12.25%	3.25%
3/15/1985	15.62%	12.14%	3.48%
3/29/1985	15.62%	12.17%	3.45%
4/3/1985	14.60%	12.14%	2.46%
4/9/1985	15.50%	12.11%	3.39%
4/16/1985	15.70%	12.06%	3.64%
4/22/1985	14.00%	12.02%	1.98%
4/26/1985	15.50%	11.98%	3.52%
4/29/1985	15.00%	11.97%	3.03%
5/2/1985	14.68%	11.94%	2.74%
5/8/1985	15.62%	11.89%	3.73%
5/10/1985	16.50%	11.87%	4.63%
5/29/1985	14.61%	11.73%	2.88%
5/31/1985	16.00%	11.71%	4.29%
6/14/1985	15.50%	11.61%	3.89%
7/9/1985	15.00%	11.45%	3.55%
7/16/1985	14.50%	11.39%	3.11%
7/26/1985	14.50%	11.33%	3.17%
8/2/1985	14.80%	11.29%	3.51%
8/7/1985	15.00%	11.27%	3.73%
8/28/1985	14.25%	11.15%	3.10%
8/28/1985	15.50%	11.15%	4.35%
8/29/1985	14.50%	11.15%	3.35%
9/9/1985	14.60%	11.11%	3.49%
9/9/1985	14.90%	11.11%	3.79%
9/17/1985	14.90%	11.08%	3.82%
9/23/1985	15.00%	11.06%	3.94%
9/27/1985	15.50%	11.05%	4.45%
9/27/1985	15.80%	11.05%	4.75%
10/2/1985	14.00%	11.03%	2.97%
10/2/1985	14.75%	11.03%	3.72%
10/3/1985	15.25%	11.03%	4.22%
10/24/1985	15.40%	10.96%	4.44%
10/24/1985	15.82%	10.96%	4.86%
10/24/1985	15.85%	10.96%	4.89%
10/28/1985	16.00%	10.95%	5.05%
10/29/1985	16.65%	10.94%	5.71%
10/31/1985	15.06%	10.93%	4.13%

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

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

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
4/1/1988	12.50%	8.96%	3.54%
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%	8.23%	4.63%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
5/31/1990	12.00%	8.30%	3.70%
6/4/1990	12.90%	8.30%	4.60%
6/6/1990	12.25%	8.31%	3.94%
6/15/1990	13.20%	8.32%	4.88%
6/20/1990	12.92%	8.32%	4.60%
6/27/1990	12.90%	8.33%	4.57%
6/29/1990	12.50%	8.33%	4.17%
7/6/1990	12.10%	8.34%	3.76%
7/6/1990	12.35%	8.34%	4.01%
8/10/1990	12.55%	8.41%	4.14%
8/16/1990	13.21%	8.43%	4.78%
8/22/1990	13.10%	8.45%	4.65%
8/24/1990	13.00%	8.46%	4.54%
9/26/1990	11.45%	8.59%	2.86%
10/2/1990	13.00%	8.61%	4.39%
10/5/1990	12.84%	8.62%	4.22%
10/19/1990	13.00%	8.67%	4.33%
10/25/1990	12.30%	8.68%	3.62%
11/21/1990	12.70%	8.69%	4.01%
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%	8.62%	4.48%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
11/5/1991	12.25%	8.19%	4.06%
11/12/1991	12.50%	8.18%	4.32%
11/12/1991	13.25%	8.18%	5.07%
11/25/1991	12.40%	8.18%	4.22%
11/26/1991	11.60%	8.18%	3.42%
11/26/1991	12.50%	8.18%	4.32%
11/27/1991	12.10%	8.18%	3.92%
12/18/1991	12.25%	8.15%	4.10%
12/19/1991	12.60%	8.15%	4.45%
12/19/1991	12.80%	8.15%	4.65%
12/20/1991	12.65%	8.14%	4.51%
1/9/1992	12.80%	8.09%	4.71%
1/16/1992	12.75%	8.07%	4.68%
1/21/1992	12.00%	8.06%	3.94%
1/22/1992	13.00%	8.06%	4.94%
1/27/1992	12.65%	8.05%	4.60%
1/31/1992	12.00%	8.04%	3.96%
2/11/1992	12.40%	8.03%	4.37%
2/25/1992	12.50%	8.01%	4.49%
3/16/1992	11.43%	7.98%	3.45%
3/18/1992	12.28%	7.98%	4.30%
4/2/1992	12.10%	7.95%	4.15%
4/9/1992	11.45%	7.94%	3.51%
4/10/1992	11.50%	7.93%	3.57%
4/14/1992	11.50%	7.93%	3.57%
5/5/1992	11.50%	7.89%	3.61%
5/12/1992	11.87%	7.88%	3.99%
5/12/1992	12.46%	7.88%	4.58%
6/1/1992	12.30%	7.87%	4.43%
6/12/1992	10.90%	7.86%	3.04%
6/26/1992	12.35%	7.85%	4.50%
6/29/1992	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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
1/21/1993	11.25%	7.59%	3.66%
2/2/1993	11.40%	7.56%	3.84%
2/15/1993	12.30%	7.52%	4.78%
2/24/1993	11.90%	7.49%	4.41%
2/26/1993	11.80%	7.48%	4.32%
2/26/1993	12.20%	7.48%	4.72%
4/23/1993	11.75%	7.29%	4.46%
5/11/1993	11.75%	7.25%	4.50%
5/14/1993	11.50%	7.24%	4.26%
5/25/1993	11.50%	7.23%	4.27%
5/28/1993	11.00%	7.22%	3.78%
6/3/1993	12.00%	7.21%	4.79%
6/16/1993	11.50%	7.19%	4.31%
6/18/1993	12.10%	7.18%	4.92%
6/25/1993	11.67%	7.17%	4.50%
7/21/1993	11.38%	7.10%	4.28%
7/23/1993	10.46%	7.09%	3.37%
8/24/1993	11.50%	6.96%	4.54%
9/21/1993	10.50%	6.81%	3.69%
9/29/1993	11.47%	6.77%	4.70%
9/30/1993	11.60%	6.76%	4.84%
11/2/1993	10.80%	6.60%	4.20%
11/12/1993	12.00%	6.57%	5.43%
11/26/1993	11.00%	6.52%	4.48%
12/14/1993	10.55%	6.48%	4.07%
12/16/1993	10.60%	6.48%	4.12%
12/21/1993	11.30%	6.47%	4.83%
1/4/1994	10.07%	6.44%	3.63%
1/13/1994	11.00%	6.42%	4.58%
1/21/1994	11.00%	6.40%	4.60%
1/28/1994	11.35%	6.39%	4.96%
2/3/1994	11.40%	6.38%	5.02%
2/17/1994	10.60%	6.36%	4.24%
2/25/1994	11.25%	6.35%	4.90%
2/25/1994	12.00%	6.35%	5.65%
3/1/1994	11.00%	6.35%	4.65%
3/4/1994	11.00%	6.35%	4.65%
4/25/1994	11.00%	6.41%	4.59%
5/10/1994	11.75%	6.45%	5.30%
5/13/1994	10.50%	6.46%	4.04%
6/3/1994	11.00%	6.54%	4.46%
6/27/1994	11.40%	6.65%	4.75%
8/5/1994	12.75%	6.88%	5.87%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
2/10/1995	12.60%	7.70%	4.90%
2/17/1995	11.90%	7.70%	4.20%
3/9/1995	11.50%	7.71%	3.79%
3/20/1995	12.00%	7.72%	4.28%
3/23/1995	12.81%	7.72%	5.09%
3/29/1995	11.60%	7.72%	3.88%
4/6/1995	11.10%	7.71%	3.39%
4/7/1995	11.00%	7.71%	3.29%
4/19/1995	11.00%	7.70%	3.30%
5/12/1995	11.63%	7.68%	3.95%
5/25/1995	11.20%	7.65%	3.55%
6/9/1995	11.25%	7.60%	3.65%
6/21/1995	12.25%	7.56%	4.69%
6/30/1995	11.10%	7.52%	3.58%
9/11/1995	11.30%	7.20%	4.10%
9/27/1995	11.30%	7.12%	4.18%
9/27/1995	11.50%	7.12%	4.38%
9/27/1995	11.75%	7.12%	4.63%
9/29/1995	11.00%	7.11%	3.89%
11/9/1995	11.38%	6.90%	4.48%
11/9/1995	12.36%	6.90%	5.46%
11/17/1995	11.00%	6.86%	4.14%
12/4/1995	11.35%	6.78%	4.57%
12/11/1995	11.40%	6.74%	4.66%
12/20/1995	11.60%	6.70%	4.90%
12/27/1995	12.00%	6.66%	5.34%
2/5/1996	12.25%	6.48%	5.77%
3/29/1996	10.67%	6.42%	4.25%
4/8/1996	11.00%	6.42%	4.58%
4/11/1996	12.59%	6.43%	6.16%
4/11/1996	12.59%	6.43%	6.16%
4/24/1996	11.25%	6.43%	4.82%
4/30/1996	11.00%	6.43%	4.57%
5/13/1996	11.00%	6.44%	4.56%
5/23/1996	11.25%	6.43%	4.82%
6/25/1996	11.25%	6.48%	4.77%
6/27/1996	11.20%	6.48%	4.72%
8/12/1996	10.40%	6.57%	3.83%
9/27/1996	11.00%	6.71%	4.29%
10/16/1996	12.25%	6.76%	5.49%
11/5/1996	11.00%	6.81%	4.19%
11/26/1996	11.30%	6.83%	4.47%
12/18/1996	11.75%	6.83%	4.92%
12/31/1996	11.50%	6.83%	4.67%
1/3/1997	10.70%	6.83%	3.87%
2/13/1997	11.80%	6.82%	4.98%
2/20/1997	11.80%	6.82%	4.98%
3/31/1997	10.02%	6.80%	3.22%
4/2/1997	11.65%	6.80%	4.85%
4/28/1997	11.50%	6.81%	4.69%
4/29/1997	11.70%	6.81%	4.89%
7/17/1997	12.00%	6.77%	5.23%
12/12/1997	11.00%	6.60%	4.40%
12/23/1997	11.12%	6.57%	4.55%
2/2/1998	12.75%	6.39%	6.36%
3/2/1998	11.25%	6.29%	4.96%
3/6/1998	10.75%	6.27%	4.48%

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

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/28/2005	10.00%	4.54%	5.46%
12/28/2005	10.00%	4.54%	5.46%
1/5/2006	11.00%	4.53%	6.47%
1/27/2006	9.75%	4.52%	5.23%
3/3/2006	10.39%	4.53%	5.86%
4/17/2006	10.20%	4.61%	5.59%
4/26/2006	10.60%	4.64%	5.96%
5/17/2006	11.60%	4.69%	6.91%
6/6/2006	10.00%	4.74%	5.26%
6/27/2006	10.75%	4.80%	5.95%
7/6/2006	10.20%	4.83%	5.37%
7/24/2006	9.60%	4.86%	4.74%
7/26/2006	10.50%	4.86%	5.64%
7/28/2006	10.05%	4.86%	5.19%
8/23/2006	9.55%	4.89%	4.66%
9/1/2006	10.54%	4.90%	5.64%
9/14/2006	10.00%	4.91%	5.09%
10/6/2006	9.67%	4.92%	4.75%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.08%	4.95%	5.13%
11/21/2006	10.12%	4.95%	5.17%
12/1/2006	10.25%	4.95%	5.30%
12/1/2006	10.50%	4.95%	5.55%
12/7/2006	10.75%	4.95%	5.80%
12/21/2006	10.90%	4.95%	5.95%
12/21/2006	11.25%	4.95%	6.30%
12/22/2006	10.25%	4.95%	5.30%
1/5/2007	10.00%	4.95%	5.05%
1/11/2007	10.10%	4.95%	5.15%
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%	4.88%	5.52%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/14/2007	10.70%	4.86%	5.84%
12/14/2007	10.80%	4.86%	5.94%
12/19/2007	10.20%	4.86%	5.34%
12/20/2007	10.20%	4.85%	5.35%
12/20/2007	11.00%	4.85%	6.15%
12/28/2007	10.25%	4.85%	5.40%
12/31/2007	11.25%	4.85%	6.40%
1/8/2008	10.75%	4.83%	5.92%
1/17/2008	10.75%	4.81%	5.94%
1/28/2008	9.40%	4.80%	4.60%
1/30/2008	10.00%	4.79%	5.21%
1/31/2008	10.71%	4.79%	5.92%
2/29/2008	10.25%	4.75%	5.50%
3/12/2008	10.25%	4.73%	5.52%
3/25/2008	9.10%	4.68%	4.42%
4/22/2008	10.25%	4.60%	5.65%
4/24/2008	10.10%	4.60%	5.50%
5/1/2008	10.70%	4.59%	6.11%
5/19/2008	11.00%	4.56%	6.44%
5/27/2008	10.00%	4.55%	5.45%
6/10/2008	10.70%	4.54%	6.16%
6/27/2008	10.50%	4.54%	5.96%
6/27/2008	11.04%	4.54%	6.50%
7/10/2008	10.43%	4.52%	5.91%
7/16/2008	9.40%	4.52%	4.88%
7/30/2008	10.80%	4.51%	6.29%
7/31/2008	10.70%	4.51%	6.19%
8/11/2008	10.25%	4.51%	5.74%
8/26/2008	10.18%	4.50%	5.68%
9/10/2008	10.30%	4.50%	5.80%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/24/2008	10.65%	4.48%	6.17%
9/30/2008	10.20%	4.48%	5.72%
10/8/2008	10.15%	4.46%	5.69%
11/13/2008	10.55%	4.45%	6.10%
11/17/2008	10.20%	4.44%	5.76%
12/1/2008	10.25%	4.40%	5.85%
12/23/2008	11.00%	4.27%	6.73%
12/29/2008	10.00%	4.24%	5.76%
12/29/2008	10.20%	4.24%	5.96%
12/31/2008	10.75%	4.22%	6.53%
1/14/2009	10.50%	4.15%	6.35%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
1/21/2009	10.50%	4.12%	6.38%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
5/28/2009	10.50%	3.74%	6.76%
6/22/2009	10.00%	3.76%	6.24%
6/24/2009	10.80%	3.77%	7.03%
7/8/2009	10.63%	3.77%	6.86%
7/17/2009	10.50%	3.78%	6.72%
8/31/2009	10.25%	3.82%	6.43%
10/14/2009	10.70%	4.01%	6.69%
10/23/2009	10.88%	4.06%	6.82%
11/2/2009	10.70%	4.09%	6.61%
11/3/2009	10.70%	4.10%	6.60%
11/24/2009	10.25%	4.15%	6.10%
11/25/2009	10.75%	4.16%	6.59%
11/30/2009	10.35%	4.17%	6.18%
12/3/2009	10.50%	4.18%	6.32%
12/7/2009	10.70%	4.18%	6.52%
12/16/2009	10.90%	4.21%	6.69%
12/16/2009	11.00%	4.21%	6.79%
12/18/2009	10.40%	4.22%	6.18%
12/18/2009	10.40%	4.22%	6.18%
12/22/2009	10.20%	4.23%	5.97%
12/22/2009	10.40%	4.23%	6.17%
12/22/2009	10.40%	4.23%	6.17%
12/30/2009	10.00%	4.26%	5.74%
1/4/2010	10.80%	4.28%	6.52%
1/11/2010	11.00%	4.30%	6.70%
1/26/2010	10.13%	4.35%	5.78%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.40%	4.35%	6.05%
1/27/2010	10.70%	4.35%	6.35%
2/9/2010	9.80%	4.38%	5.42%
2/18/2010	10.60%	4.40%	6.20%
2/24/2010	10.18%	4.41%	5.77%
3/2/2010	9.63%	4.41%	5.22%
3/4/2010	10.50%	4.41%	6.09%
3/5/2010	10.50%	4.41%	6.09%
3/11/2010	11.90%	4.42%	7.48%
3/17/2010	10.00%	4.41%	5.59%
3/25/2010	10.15%	4.42%	5.73%
4/2/2010	10.10%	4.43%	5.67%
4/27/2010	10.00%	4.46%	5.54%
4/29/2010	9.90%	4.46%	5.44%
4/29/2010	10.06%	4.46%	5.60%
4/29/2010	10.26%	4.46%	5.80%
5/12/2010	10.30%	4.45%	5.85%
5/12/2010	10.30%	4.45%	5.85%
5/28/2010	10.10%	4.44%	5.66%
5/28/2010	10.20%	4.44%	5.76%
6/7/2010	10.30%	4.44%	5.86%
6/16/2010	10.00%	4.44%	5.56%
6/28/2010	9.67%	4.43%	5.24%
6/28/2010	10.50%	4.43%	6.07%
6/30/2010	9.40%	4.43%	4.97%
7/1/2010	10.25%	4.43%	5.82%
7/15/2010	10.53%	4.43%	6.10%
7/15/2010	10.70%	4.43%	6.27%
7/30/2010	10.70%	4.41%	6.29%
8/4/2010	10.50%	4.41%	6.09%

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

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
2/20/2014	9.20%	3.68%	5.52%
2/26/2014	9.75%	3.69%	6.06%
3/17/2014	9.55%	3.72%	5.83%
3/26/2014	9.40%	3.73%	5.67%
3/26/2014	9.96%	3.73%	6.23%
4/2/2014	9.70%	3.73%	5.97%
5/16/2014	9.80%	3.70%	6.10%
5/30/2014	9.70%	3.68%	6.02%
6/6/2014	10.40%	3.67%	6.73%
6/30/2014	9.55%	3.64%	5.91%
7/2/2014	9.62%	3.64%	5.98%
7/10/2014	9.95%	3.63%	6.32%
7/23/2014	9.75%	3.61%	6.14%
7/29/2014	9.45%	3.60%	5.85%
7/31/2014	9.90%	3.60%	6.30%
8/20/2014	9.75%	3.57%	6.18%
8/25/2014	9.60%	3.56%	6.04%
8/29/2014	9.80%	3.54%	6.26%
9/11/2014	9.60%	3.51%	6.09%
9/15/2014	10.25%	3.51%	6.74%
10/9/2014	9.80%	3.45%	6.35%
11/6/2014	9.56%	3.37%	6.19%
11/6/2014	10.20%	3.37%	6.83%
11/14/2014	10.20%	3.35%	6.85%
11/26/2014	9.70%	3.33%	6.37%
11/26/2014	10.20%	3.33%	6.87%
12/4/2014	9.68%	3.31%	6.37%
12/10/2014	9.25%	3.29%	5.96%
12/10/2014	9.25%	3.29%	5.96%
12/11/2014	10.07%	3.29%	6.78%
12/12/2014	10.20%	3.28%	6.92%
12/17/2014	9.17%	3.27%	5.90%
12/18/2014	9.83%	3.26%	6.57%
1/23/2015	9.50%	3.14%	6.36%
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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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
12/9/2015	9.14%	2.90%	6.24%
12/11/2015	10.30%	2.90%	7.40%
12/15/2015	9.60%	2.91%	6.69%
12/17/2015	9.70%	2.91%	6.79%
12/18/2015	9.50%	2.91%	6.59%
12/30/2015	9.50%	2.93%	6.57%
1/6/2016	9.50%	2.94%	6.56%
2/23/2016	9.75%	2.94%	6.81%
3/16/2016	9.85%	2.91%	6.94%
4/29/2016	9.80%	2.83%	6.97%
6/3/2016	9.75%	2.80%	6.95%
6/8/2016	9.48%	2.80%	6.68%
6/15/2016	9.00%	2.78%	6.22%
6/15/2016	9.00%	2.78%	6.22%
7/18/2016	9.98%	2.71%	7.27%
8/9/2016	9.85%	2.66%	7.19%
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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%

Date of Electric Rate Case	Return on Equity	30-Year Treasury Yield	Risk Premium
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%

of Cases: 1515
Average: 4.57%

Change in Net Plant and Asset Turnover
Value Line Universe - Annual Average

Year	Average Revenue/Net Plant	Average Change in Net Plant	Cumulative Change in Net Plant
2003	68.63%	12.24%	12.24%
2004	69.31%	4.89%	17.73%
2005	75.13%	3.71%	22.09%
2006	69.89%	6.48%	30.01%
2007	67.71%	6.60%	38.59%
2008	65.02%	11.48%	54.51%
2009	53.51%	7.83%	66.60%
2010	52.39%	7.81%	79.61%
2011	50.10%	8.85%	95.51%
2012	44.48%	9.93%	114.91%
2013	44.89%	4.12%	123.78%
2014	43.77%	8.02%	141.73%
2015	37.92%	9.41%	164.47%
2016	35.56%	7.71%	184.87%
3-5 Year Projection	35.38%	32.62%	277.80%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
ALE	2002	NA	NA			
ALE	2003	NA	NA			
ALE	2004	\$ 751.40	\$ 883.10	85.09%		
ALE	2005	737.40	860.40	85.70%	-2.57%	0.73%
ALE	2006	767.10	921.60	83.24%	7.11%	-2.88%
ALE	2007	841.70	1,104.50	76.21%	19.85%	-8.44%
ALE	2008	801.00	1,387.30	57.74%	25.60%	-24.23%
ALE	2009	759.10	1,622.70	46.78%	16.97%	-18.98%
ALE	2010	907.00	1,805.60	50.23%	11.27%	7.38%
ALE	2011	928.20	1,982.70	46.81%	9.81%	-6.80%
ALE	2012	961.20	2,347.60	40.94%	18.40%	-12.54%
ALE	2013	1,018.40	2,576.50	39.53%	9.75%	-3.46%
ALE	2014	1,136.80	3,286.40	34.59%	27.55%	-12.49%
ALE	2015	1,486.40	3,669.10	40.51%	11.64%	17.11%
ALE	2016	1,339.70	3,741.20	35.81%	1.97%	-11.61%
ALE	3-5 Year	1,585.00	3,750.00	42.27%	2.20%	4.33%
LNT	2002	\$ 2,608.80	\$ 3,729.20	69.96%		
LNT	2003	3,128.20	4,432.60	70.57%	18.86%	0.88%
LNT	2004	2,958.70	5,284.60	55.99%	19.22%	-20.67%
LNT	2005	3,279.60	4,866.20	67.40%	-7.92%	20.38%
LNT	2006	3,359.40	4,944.90	67.94%	1.62%	0.80%
LNT	2007	3,437.60	4,679.90	73.45%	-5.36%	8.12%
LNT	2008	3,681.70	5,353.50	68.77%	14.39%	-6.38%
LNT	2009	3,432.80	6,203.00	55.34%	15.87%	-19.53%
LNT	2010	3,416.10	6,730.60	50.75%	8.51%	-8.29%
LNT	2011	3,665.30	7,037.10	52.09%	4.55%	2.62%
LNT	2012	3,094.50	7,838.00	39.48%	11.38%	-24.20%
LNT	2013	3,276.80	7,147.30	45.85%	-8.81%	16.12%
LNT	2014	3,350.30	6,442.00	52.01%	-9.87%	13.44%
LNT	2015	3,253.60	8,970.20	36.27%	39.25%	-30.26%
LNT	2016	3,320.00	9,700.00	34.23%	8.14%	-5.64%
LNT	3-5 Year	4,050.00	11,000.00	36.82%	22.63%	1.51%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
AEE	2002	\$ 3,841.00	\$ 8,914.00	43.09%		
AEE	2003	4,593.00	10,917.00	42.07%	22.47%	-2.36%
AEE	2004	5,160.00	13,297.00	38.81%	21.80%	-7.76%
AEE	2005	6,780.00	13,572.00	49.96%	2.07%	28.73%
AEE	2006	6,880.00	14,286.00	48.16%	5.26%	-3.60%
AEE	2007	7,546.00	15,069.00	50.08%	5.48%	3.98%
AEE	2008	7,839.00	16,567.00	47.32%	9.94%	-5.51%
AEE	2009	7,090.00	17,610.00	40.26%	6.30%	-14.91%
AEE	2010	7,638.00	17,853.00	42.78%	1.38%	6.26%
AEE	2011	7,531.00	18,127.00	41.55%	1.53%	-2.89%
AEE	2012	6,828.00	16,096.00	42.42%	-11.20%	2.11%
AEE	2013	5,838.00	16,205.00	36.03%	0.68%	-15.07%
AEE	2014	6,053.00	17,424.00	34.74%	7.52%	-3.57%
AEE	2015	6,098.00	18,799.00	32.44%	7.89%	-6.63%
AEE	2016	6,076.00	20,113.00	30.21%	6.99%	-6.87%
AEE	3-5 Year	7,050.00	25,700.00	27.43%	36.71%	-15.43%
AEP	2002	14,555.00	21,684.00	67.12%		
AEP	2003	14,545.00	22,029.00	66.03%	1.59%	-1.63%
AEP	2004	14,057.00	22,801.00	61.65%	3.50%	-6.63%
AEP	2005	12,111.00	24,284.00	49.87%	6.50%	-19.11%
AEP	2006	12,622.00	26,781.00	47.13%	10.28%	-5.50%
AEP	2007	13,380.00	29,870.00	44.79%	11.53%	-4.96%
AEP	2008	14,440.00	32,987.00	43.77%	10.44%	-2.28%
AEP	2009	13,489.00	34,344.00	39.28%	4.11%	-10.28%
AEP	2010	14,427.00	35,674.00	40.44%	3.87%	2.97%
AEP	2011	15,116.00	36,971.00	40.89%	3.64%	1.10%
AEP	2012	14,945.00	38,763.00	38.55%	4.85%	-5.70%
AEP	2013	15,357.00	40,997.00	37.46%	5.76%	-2.84%
AEP	2014	17,020.00	44,117.00	38.58%	7.61%	2.99%
AEP	2015	16,453.00	46,133.00	35.66%	4.57%	-7.56%
AEP	2016	16,380.00	45,639.00	35.89%	-1.07%	0.63%
AEP	3-5 Year	18,000.00	64,600.00	27.86%	40.03%	-21.87%
AVA	2002	\$ 980.40	\$ 1,563.70	62.70%		
AVA	2003	1,123.40	1,944.60	57.77%	24.36%	-7.86%
AVA	2004	1,151.60	1,956.10	58.87%	0.59%	1.91%
AVA	2005	1,359.60	2,126.40	63.94%	8.71%	8.61%
AVA	2006	1,506.30	2,215.00	68.00%	4.17%	6.36%
AVA	2007	1,417.80	2,351.30	60.30%	6.15%	-11.33%
AVA	2008	1,676.80	2,492.20	67.28%	5.99%	11.58%
AVA	2009	1,512.60	2,607.00	58.02%	4.61%	-13.76%
AVA	2010	1,558.70	2,714.20	57.43%	4.11%	-1.02%
AVA	2011	1,619.80	2,860.80	56.62%	5.40%	-1.41%
AVA	2012	1,547.00	3,023.70	51.16%	5.69%	-9.64%
AVA	2013	1,618.50	3,202.40	50.54%	5.91%	-1.22%
AVA	2014	1,472.60	3,620.00	40.68%	13.04%	-19.51%
AVA	2015	1,484.80	3,898.60	38.09%	7.70%	-6.38%
AVA	2016	1,442.50	4,147.50	34.78%	6.38%	-8.68%
AVA	3-5 Year	1,650.00	5,050.00	32.67%	29.53%	-14.21%
BKH	2002	\$ 423.90	\$ 1,476.30	28.71%		
BKH	2003	1,136.10	1,442.40	78.76%	-2.30%	174.31%
BKH	2004	1,121.70	1,445.70	77.59%	0.23%	-1.49%
BKH	2005	1,391.60	1,435.40	96.95%	-0.71%	24.95%
BKH	2006	656.90	1,646.40	39.90%	14.70%	-58.85%
BKH	2007	695.90	1,823.50	38.16%	10.76%	-4.35%
BKH	2008	1,005.80	2,022.20	49.74%	10.90%	30.33%
BKH	2009	1,269.60	2,160.70	58.76%	6.85%	18.14%
BKH	2010	1,307.30	2,495.40	52.39%	15.49%	-10.84%
BKH	2011	1,272.20	2,789.60	45.61%	11.79%	-12.95%
BKH	2012	1,173.90	2,742.70	42.80%	-1.68%	-6.15%
BKH	2013	1,275.90	2,990.30	42.67%	9.03%	-0.31%
BKH	2014	1,393.60	3,239.40	43.02%	8.33%	0.83%
BKH	2015	1,304.60	3,259.10	40.03%	0.61%	-6.95%
BKH	2016	1,573.00	4,469.00	35.20%	37.12%	-12.07%
BKH	3-5 Year	2,100.00	5,000.00	42.00%	53.42%	4.92%
CNP	2002	\$ 7,922.50	\$ 11,409.00	69.44%		
CNP	2003	9,760.10	11,812.00	82.63%	3.53%	18.99%
CNP	2004	8,510.40	8,186.40	103.96%	-30.69%	25.81%
CNP	2005	9,722.00	8,492.00	114.48%	3.73%	10.13%
CNP	2006	9,319.00	9,204.00	101.25%	8.38%	-11.56%
CNP	2007	9,623.00	9,740.00	98.80%	5.82%	-2.42%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
CNP	2008	11,322.00	10,296.00	109.97%	5.71%	11.30%
CNP	2009	8,281.00	10,788.00	76.76%	4.78%	-30.19%
CNP	2010	8,785.00	11,732.00	74.88%	8.75%	-2.45%
CNP	2011	8,450.00	12,402.00	68.13%	5.71%	-9.01%
CNP	2012	7,452.00	13,597.00	54.81%	9.64%	-19.56%
CNP	2013	8,106.00	9,593.00	84.50%	-29.45%	54.18%
CNP	2014	9,226.00	10,502.00	87.85%	9.48%	3.97%
CNP	2015	7,386.00	11,537.00	64.02%	9.86%	-27.13%
CNP	2016	7,528.00	12,307.00	61.17%	6.67%	-4.45%
CNP	3-5 Year	8,800.00	14,100.00	62.41%	22.22%	-2.51%
CMS	2002	\$ 8,687.00	\$ 5,234.00	165.97%		
CMS	2003	5,513.00	6,944.00	79.39%	32.67%	-52.17%
CMS	2004	5,472.00	8,636.00	63.36%	24.37%	-20.19%
CMS	2005	6,288.00	7,845.00	80.15%	-9.16%	26.50%
CMS	2006	6,810.00	7,976.00	85.38%	1.67%	6.52%
CMS	2007	6,519.00	8,728.00	74.69%	9.43%	-12.52%
CMS	2008	6,821.00	9,190.00	74.22%	5.29%	-0.63%
CMS	2009	6,205.00	9,682.00	64.09%	5.35%	-13.65%
CMS	2010	6,432.00	10,069.00	63.88%	4.00%	-0.33%
CMS	2011	6,503.00	10,633.00	61.16%	5.60%	-4.26%
CMS	2012	6,312.00	11,551.00	54.64%	8.63%	-10.65%
CMS	2013	6,566.00	12,246.00	53.62%	6.02%	-1.88%
CMS	2014	7,179.00	13,412.00	53.53%	9.52%	-0.17%
CMS	2015	6,456.00	14,705.00	43.90%	9.64%	-17.98%
CMS	2016	6,399.00	15,715.00	40.72%	6.87%	-7.25%
CMS	3-5 Year	7,500.00	19,800.00	37.88%	34.65%	-13.72%
ED	2002	\$ 8,482.00	\$ 13,329.00	63.64%		
ED	2003	9,827.00	15,225.00	64.55%	14.22%	1.43%
ED	2004	9,758.00	16,106.00	60.59%	5.79%	-6.13%
ED	2005	11,690.00	17,112.00	68.31%	6.25%	12.76%
ED	2006	12,137.00	18,445.00	65.80%	7.79%	-3.68%
ED	2007	13,120.00	19,914.00	65.88%	7.96%	0.13%
ED	2008	13,583.00	20,874.00	65.07%	4.82%	-1.23%
ED	2009	13,032.00	22,464.00	58.01%	7.62%	-10.85%
ED	2010	13,325.00	23,863.00	55.84%	6.23%	-3.75%
ED	2011	12,938.00	25,093.00	51.56%	5.15%	-7.66%
ED	2012	12,188.00	26,939.00	45.24%	7.36%	-12.25%
ED	2013	12,381.00	28,436.00	43.54%	5.56%	-3.76%
ED	2014	12,919.00	29,827.00	43.31%	4.89%	-0.52%
ED	2015	12,554.00	32,209.00	38.98%	7.99%	-10.01%
ED	2016	12,075.00	35,216.00	34.29%	9.34%	-12.03%
ED	3-5 Year	14,000.00	46,000.00	30.43%	42.82%	-21.92%
D	2002	\$ 10,218.00	\$ 20,257.00	50.44%		
D	2003	12,078.00	25,850.00	46.72%	27.61%	-7.37%
D	2004	13,972.00	26,716.00	52.30%	3.35%	11.93%
D	2005	18,041.00	28,940.00	62.34%	8.32%	19.20%
D	2006	16,482.00	29,382.00	56.10%	1.53%	-10.02%
D	2007	15,674.00	21,352.00	73.41%	-27.33%	30.86%
D	2008	16,290.00	23,274.00	69.99%	9.00%	-4.65%
D	2009	15,131.00	25,592.00	59.12%	9.96%	-15.53%
D	2010	15,197.00	26,713.00	56.89%	4.38%	-3.78%
D	2011	14,379.00	29,670.00	48.46%	11.07%	-14.81%
D	2012	13,093.00	30,773.00	42.55%	3.72%	-12.21%
D	2013	13,120.00	32,628.00	40.21%	6.03%	-5.49%
D	2014	12,436.00	36,270.00	34.29%	11.16%	-14.73%
D	2015	11,683.00	41,554.00	28.12%	14.57%	-18.00%
D	2016	11,737.00	49,964.00	23.49%	20.24%	-16.45%
D	3-5 Year	13,850.00	64,300.00	21.54%	54.74%	-23.39%
DTE	2002	\$ 6,749.00	\$ 9,813.00	68.78%		
DTE	2003	7,041.00	10,324.00	68.20%	5.21%	-0.84%
DTE	2004	7,114.00	10,491.00	67.81%	1.62%	-0.57%
DTE	2005	9,022.00	10,830.00	83.31%	3.23%	22.85%
DTE	2006	9,022.00	11,451.00	78.79%	5.73%	-5.42%
DTE	2007	8,861.00	11,408.00	77.67%	-0.38%	-1.41%
DTE	2008	9,329.00	12,231.00	76.27%	7.21%	-1.80%
DTE	2009	8,014.00	12,431.00	64.47%	1.64%	-15.48%
DTE	2010	8,557.00	12,992.00	65.86%	4.51%	2.17%
DTE	2011	8,897.00	13,746.00	64.72%	5.80%	-1.73%
DTE	2012	8,791.00	14,684.00	59.87%	6.82%	-7.50%
DTE	2013	9,661.00	15,800.00	61.15%	7.60%	2.13%

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Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
DTE	2014	12,301.00	16,820.00	73.13%	6.46%	19.61%
DTE	2015	10,337.00	18,034.00	57.32%	7.22%	-21.62%
DTE	2016	10,630.00	19,730.00	53.88%	9.40%	-6.01%
DTE	3-5 Year	14,100.00	26,300.00	53.61%	45.84%	-6.47%
DUK	2002	NA	NA			
DUK	2003	NA	NA			
DUK	2004	NA	NA			
DUK	2005	NA	NA			
DUK	2006	\$ 10,607.00	\$ 41,447.00	25.59%		
DUK	2007	12,720.00	31,110.00	40.89%	-24.94%	59.77%
DUK	2008	13,207.00	34,036.00	38.80%	9.41%	-5.10%
DUK	2009	12,731.00	37,950.00	33.55%	11.50%	-13.55%
DUK	2010	14,272.00	40,344.00	35.38%	6.31%	5.45%
DUK	2011	14,529.00	42,661.00	34.06%	5.74%	-3.73%
DUK	2012	19,624.00	68,558.00	28.62%	60.70%	-15.95%
DUK	2013	24,598.00	69,490.00	35.40%	1.36%	23.67%
DUK	2014	23,925.00	70,046.00	34.16%	0.80%	-3.51%
DUK	2015	23,459.00	75,709.00	30.99%	8.08%	-9.28%
DUK	2016	22,743.00	82,520.00	27.56%	9.00%	-11.05%
DUK	3-5 Year	28,550.00	107,900.00	26.46%	42.52%	-14.61%
EIX	2002	\$ 11,488.00	\$ 8,247.00	139.30%		
EIX	2003	12,135.00	12,587.00	96.41%	52.63%	-30.79%
EIX	2004	10,199.00	13,475.00	75.69%	7.05%	-21.49%
EIX	2005	11,852.00	14,469.00	81.91%	7.38%	8.22%
EIX	2006	12,622.00	15,913.00	79.32%	9.98%	-3.17%
EIX	2007	13,113.00	17,403.00	75.35%	9.36%	-5.00%
EIX	2008	14,112.00	18,969.00	74.40%	9.00%	-1.27%
EIX	2009	12,374.00	21,966.00	56.33%	15.80%	-24.28%
EIX	2010	12,409.00	24,778.00	50.08%	12.80%	-11.10%
EIX	2011	12,760.00	32,116.00	39.73%	29.61%	-20.67%
EIX	2012	11,862.00	30,273.00	39.18%	-5.74%	-1.38%
EIX	2013	12,581.00	30,455.00	41.31%	0.60%	5.43%
EIX	2014	13,413.00	32,981.00	40.67%	8.29%	-1.55%
EIX	2015	11,524.00	35,085.00	32.85%	6.38%	-19.24%
EIX	2016	11,869.00	37,000.00	32.08%	5.46%	-2.34%
EIX	3-5 Year	14,800.00	49,800.00	29.72%	41.94%	-9.52%
ETR	2002	\$ 8,305.00	\$ 17,195.00	48.30%		
ETR	2003	9,195.00	18,299.00	50.25%	6.42%	4.04%
ETR	2004	10,124.00	18,696.00	54.15%	2.17%	7.77%
ETR	2005	10,106.00	19,197.00	52.64%	2.68%	-2.78%
ETR	2006	10,932.00	19,438.00	56.24%	1.26%	6.83%
ETR	2007	11,484.00	20,974.00	54.75%	7.90%	-2.64%
ETR	2008	13,094.00	22,429.00	58.38%	6.94%	6.62%
ETR	2009	10,746.00	23,389.00	45.94%	4.28%	-21.30%
ETR	2010	11,488.00	23,848.00	48.17%	1.96%	4.85%
ETR	2011	11,229.00	25,609.00	43.85%	7.38%	-8.98%
ETR	2012	10,302.00	27,299.00	37.74%	6.60%	-13.94%
ETR	2013	11,391.00	27,882.00	40.85%	2.14%	8.26%
ETR	2014	12,495.00	28,723.00	43.50%	3.02%	6.48%
ETR	2015	11,513.00	27,824.00	41.38%	-3.13%	-4.88%
ETR	2016	10,846.00	27,921.00	38.85%	0.35%	-6.12%
ETR	3-5 Year	10,500.00	34,300.00	30.61%	23.27%	-26.02%
EE	2002	690.10	\$ 1,345.00	51.31%		
EE	2003	664.40	1,298.00	51.19%	-3.49%	-0.24%
EE	2004	708.60	1,283.00	55.23%	-1.16%	7.90%
EE	2005	803.90	1,291.70	62.24%	0.68%	12.68%
EE	2006	816.50	1,332.20	61.29%	3.14%	-1.52%
EE	2007	877.40	1,450.60	60.49%	8.89%	-1.31%
EE	2008	1,038.90	1,595.60	65.11%	10.00%	7.65%
EE	2009	828.00	1,756.00	47.15%	10.05%	-27.58%
EE	2010	877.30	1,865.80	47.02%	6.25%	-0.28%
EE	2011	918.00	1,947.10	47.15%	4.36%	0.27%
EE	2012	852.90	2,102.30	40.57%	7.97%	-13.95%
EE	2013	890.40	2,257.50	39.44%	7.38%	-2.78%
EE	2014	917.50	2,488.40	36.87%	10.23%	-6.52%
EE	2015	849.90	2,695.50	31.53%	8.32%	-14.48%
EE	2016	886.90	2,821.20	31.44%	4.66%	-0.30%
EE	3-5 Year	1,000.00	3,325.00	30.08%	23.35%	-4.62%
EXC	2002	\$ 14,955.00	\$ 17,134.00	87.28%		
EXC	2003	15,812.00	20,630.00	76.65%	20.40%	-12.19%

Change in Net Plant and Asset Turnover
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Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
EXC	2004	14,515.00	21,482.00	67.57%	4.13%	-11.84%
EXC	2005	15,357.00	21,981.00	69.86%	2.32%	3.40%
EXC	2006	15,655.00	22,775.00	68.74%	3.61%	-1.61%
EXC	2007	18,916.00	24,153.00	78.32%	6.05%	13.94%
EXC	2008	18,859.00	25,813.00	73.06%	6.87%	-6.71%
EXC	2009	17,318.00	27,341.00	63.34%	5.92%	-13.30%
EXC	2010	18,644.00	29,941.00	62.27%	9.51%	-1.69%
EXC	2011	18,924.00	32,570.00	58.10%	8.78%	-6.69%
EXC	2012	23,489.00	45,186.00	51.98%	38.74%	-10.53%
EXC	2013	24,888.00	47,330.00	52.58%	4.74%	1.16%
EXC	2014	27,429.00	52,087.00	52.66%	10.05%	0.14%
EXC	2015	29,447.00	57,439.00	51.27%	10.28%	-2.65%
EXC	2016	31,360.00	71,555.00	43.83%	24.58%	-14.51%
EXC	3-5 Year	37,000.00	86,600.00	42.73%	50.77%	-16.66%
FE	2002	\$ 12,152.00	\$ 12,680.00	95.84%		
FE	2003	12,307.00	13,269.00	92.75%	4.65%	-3.22%
FE	2004	12,453.00	13,478.00	92.40%	1.58%	-0.38%
FE	2005	11,989.00	13,998.00	85.65%	3.86%	-7.30%
FE	2006	11,501.00	14,667.00	78.41%	4.78%	-8.45%
FE	2007	12,802.00	15,383.00	83.22%	4.88%	6.13%
FE	2008	13,627.00	17,723.00	76.89%	15.21%	-7.61%
FE	2009	12,712.00	19,164.00	66.33%	8.13%	-13.73%
FE	2010	13,339.00	19,788.00	67.41%	3.26%	1.62%
FE	2011	16,258.00	30,337.00	53.59%	53.31%	-20.50%
FE	2012	15,294.00	32,903.00	46.48%	8.46%	-13.27%
FE	2013	14,903.00	33,252.00	44.82%	1.06%	-3.58%
FE	2014	15,049.00	35,783.00	42.06%	7.61%	-6.16%
FE	2015	15,029.00	37,214.00	40.39%	4.00%	-3.97%
FE	2016	14,562.00	29,387.00	49.55%	-21.03%	22.70%
FE	3-5 Year	16,500.00	33,900.00	48.67%	-8.91%	20.52%
GXP	2002	\$ 1,861.90	\$ 2,604.10	71.50%		
GXP	2003	2,149.50	2,700.90	79.58%	3.72%	11.31%
GXP	2004	2,464.00	2,734.50	90.11%	1.24%	13.22%
GXP	2005	2,604.90	2,765.60	94.19%	1.14%	4.53%
GXP	2006	2,675.30	3,066.20	87.25%	10.87%	-7.37%
GXP	2007	3,267.10	3,444.50	94.85%	12.34%	8.71%
GXP	2008	1,670.10	6,081.30	27.46%	76.55%	-71.05%
GXP	2009	1,965.00	6,651.10	29.54%	9.37%	7.58%
GXP	2010	2,255.50	6,892.30	32.72%	3.63%	10.77%
GXP	2011	2,318.00	7,053.50	32.86%	2.34%	0.42%
GXP	2012	2,309.90	7,402.10	31.21%	4.94%	-5.04%
GXP	2013	2,446.30	7,746.40	31.58%	4.65%	1.20%
GXP	2014	2,568.20	8,279.60	31.02%	6.88%	-1.78%
GXP	2015	2,502.20	8,662.40	28.89%	4.62%	-6.88%
GXP	2016	2,676.00	8,956.70	29.88%	3.40%	3.43%
GXP	3-5 Year	3,200.00	8,900.00	35.96%	2.74%	24.47%
HE	2002	\$ 1,653.70	\$ 2,079.30	79.53%		
HE	2003	1,781.30	2,311.90	77.05%	11.19%	-3.12%
HE	2004	1,924.10	2,422.30	79.43%	4.78%	3.09%
HE	2005	2,215.60	2,542.80	87.13%	4.97%	9.69%
HE	2006	2,460.90	2,647.50	92.95%	4.12%	6.68%
HE	2007	2,536.40	2,743.40	92.45%	3.62%	-0.53%
HE	2008	3,218.90	2,907.40	110.71%	5.98%	19.75%
HE	2009	2,309.60	3,088.60	74.78%	6.23%	-32.46%
HE	2010	2,665.00	3,165.90	84.18%	2.50%	12.57%
HE	2011	3,242.30	3,334.50	97.23%	5.33%	15.51%
HE	2012	3,375.00	3,594.80	93.89%	7.81%	-3.44%
HE	2013	3,238.50	3,858.90	83.92%	7.35%	-10.61%
HE	2014	3,239.50	4,148.80	78.08%	7.51%	-6.96%
HE	2015	2,603.00	4,377.70	59.46%	5.52%	-23.85%
HE	2016	2,380.70	4,603.50	51.71%	5.16%	-13.03%
HE	3-5 Year	2,950.00	5,525.00	53.39%	26.21%	-10.20%
IDA	2002	\$ 928.80	\$ 1,906.50	48.72%		
IDA	2003	782.70	2,088.30	37.48%	9.54%	-23.07%
IDA	2004	844.50	2,209.50	38.22%	5.80%	1.98%
IDA	2005	859.50	2,314.30	37.14%	4.74%	-2.83%
IDA	2006	926.30	2,419.10	38.29%	4.53%	3.10%
IDA	2007	879.40	2,616.60	33.61%	8.16%	-12.23%
IDA	2008	960.40	2,758.20	34.82%	5.41%	3.60%
IDA	2009	1,049.80	2,917.00	35.99%	5.76%	3.36%

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Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
IDA	2010	1,036.00	3,161.40	32.77%	8.38%	-8.94%
IDA	2011	1,026.80	3,406.60	30.14%	7.76%	-8.02%
IDA	2012	1,080.70	3,536.00	30.56%	3.80%	1.40%
IDA	2013	1,246.20	3,665.00	34.00%	3.65%	11.26%
IDA	2014	1,282.50	3,833.50	33.46%	4.60%	-1.61%
IDA	2015	1,270.30	3,992.40	31.82%	4.15%	-4.89%
IDA	2016	1,262.00	4,172.00	30.25%	4.50%	-4.93%
IDA	3-5 Year	1,400.00	5,000.00	28.00%	25.24%	-12.00%
MGEE	2002	\$ 347.10	\$ 451.50	76.88%		
MGEE	2003	401.50	537.50	74.70%	19.05%	-2.83%
MGEE	2004	424.90	607.40	69.95%	13.00%	-6.35%
MGEE	2005	513.40	667.70	76.89%	9.93%	9.92%
MGEE	2006	507.50	728.40	69.67%	9.09%	-9.39%
MGEE	2007	537.60	844.00	63.70%	15.87%	-8.58%
MGEE	2008	596.00	901.20	66.13%	6.78%	3.83%
MGEE	2009	533.80	939.80	56.80%	4.28%	-14.11%
MGEE	2010	532.60	968.00	55.02%	3.00%	-3.13%
MGEE	2011	546.40	995.60	54.88%	2.85%	-0.25%
MGEE	2012	541.30	1,073.50	50.42%	7.82%	-8.12%
MGEE	2013	590.90	1,160.20	50.93%	8.08%	1.01%
MGEE	2014	619.90	1,208.10	51.31%	4.13%	0.75%
MGEE	2015	564.00	1,243.40	45.36%	2.92%	-11.60%
MGEE	2016	544.70	1,282.10	42.48%	3.11%	-6.34%
MGEE	3-5 Year	750.00	1,500.00	50.00%	20.64%	10.23%
NEE	2002	\$ 8,311.00	\$ 14,304.00	58.10%		
NEE	2003	9,630.00	20,297.00	47.45%	41.90%	-18.34%
NEE	2004	10,522.00	21,226.00	49.57%	4.58%	4.48%
NEE	2005	11,846.00	22,463.00	52.74%	5.83%	6.38%
NEE	2006	15,710.00	24,499.00	64.13%	9.06%	21.60%
NEE	2007	15,263.00	28,652.00	53.27%	16.95%	-16.93%
NEE	2008	16,410.00	32,411.00	50.63%	13.12%	-4.95%
NEE	2009	15,643.00	36,078.00	43.36%	11.31%	-14.36%
NEE	2010	15,317.00	39,075.00	39.20%	8.31%	-9.59%
NEE	2011	15,341.00	42,490.00	36.10%	8.74%	-7.89%
NEE	2012	14,256.00	49,413.00	28.85%	16.29%	-20.09%
NEE	2013	15,136.00	52,720.00	28.71%	6.69%	-0.49%
NEE	2014	17,021.00	55,705.00	30.56%	5.66%	6.43%
NEE	2015	17,486.00	61,386.00	28.49%	10.20%	-6.78%
NEE	2016	16,155.00	66,912.00	24.14%	9.00%	-15.24%
NEE	3-5 Year	20,000.00	87,600.00	22.83%	42.70%	-19.85%
ES	2002	\$ 5,216.30	\$ 4,728.40	110.32%		
ES	2003	6,069.20	5,429.90	111.77%	14.84%	1.32%
ES	2004	6,686.70	5,864.20	114.03%	8.00%	2.01%
ES	2005	5,507.30	6,417.20	85.82%	9.43%	-24.74%
ES	2006	6,884.40	6,242.20	110.29%	-2.73%	28.51%
ES	2007	5,822.20	7,229.90	80.53%	15.82%	-26.98%
ES	2008	5,800.10	8,207.90	70.66%	13.53%	-12.25%
ES	2009	5,439.40	8,840.00	61.53%	7.70%	-12.92%
ES	2010	4,898.20	9,567.70	51.20%	8.23%	-16.80%
ES	2011	4,465.70	10,403.00	42.93%	8.73%	-16.15%
ES	2012	6,273.80	16,605.00	37.78%	59.62%	-11.98%
ES	2013	7,301.20	17,576.00	41.54%	5.85%	9.95%
ES	2014	7,741.90	18,647.00	41.52%	6.09%	-0.05%
ES	2015	7,954.80	19,892.00	39.99%	6.68%	-3.68%
ES	2016	7,639.10	21,351.00	35.78%	7.33%	-10.53%
ES	3-5 Year	8,650.00	28,500.00	30.35%	43.27%	-24.10%
NWE	2002	NA	NA			
NWE	2003	NA	NA			
NWE	2004	\$ 1,039.00	\$ 1,379.10	75.34%		
NWE	2005	1,165.80	1,409.20	82.73%	2.18%	9.81%
NWE	2006	1,132.70	1,491.90	75.92%	5.87%	-8.23%
NWE	2007	1,200.10	1,770.90	67.77%	18.70%	-10.74%
NWE	2008	1,260.80	1,839.70	68.53%	3.89%	1.13%
NWE	2009	1,141.90	1,964.10	58.14%	6.76%	-15.17%
NWE	2010	1,110.70	2,118.00	52.44%	7.84%	-9.80%
NWE	2011	1,117.30	2,213.30	50.48%	4.50%	-3.74%
NWE	2012	1,070.30	2,435.60	43.94%	10.04%	-12.95%
NWE	2013	1,154.50	2,690.10	42.92%	10.45%	-2.34%
NWE	2014	1,204.90	3,758.00	32.06%	39.70%	-25.29%
NWE	2015	1,214.30	4,059.50	29.91%	8.02%	-6.70%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
NWE	2016	1,257.20	4,214.90	29.83%	3.83%	-0.28%
NWE	3-5 Year	1,575.00	4,900.00	32.14%	20.70%	7.46%
OGE	2002	\$ 3,023.90	\$ 3,204.30	94.37%		
OGE	2003	3,779.00	3,309.50	114.19%	3.28%	21.00%
OGE	2004	4,926.60	3,581.00	137.58%	8.20%	20.48%
OGE	2005	5,948.20	3,567.40	166.74%	-0.38%	21.20%
OGE	2006	4,005.60	3,867.50	103.57%	8.41%	-37.88%
OGE	2007	3,797.60	4,246.30	89.43%	9.79%	-13.65%
OGE	2008	4,070.70	5,249.80	77.54%	23.63%	-13.30%
OGE	2009	2,869.70	5,911.60	48.54%	12.61%	-37.40%
OGE	2010	3,716.90	6,464.40	57.50%	9.35%	18.45%
OGE	2011	3,915.90	7,474.00	52.39%	15.62%	-8.88%
OGE	2012	3,671.20	8,344.80	43.99%	11.65%	-16.03%
OGE	2013	2,867.70	6,672.80	42.98%	-20.04%	-2.31%
OGE	2014	2,453.10	6,979.90	35.15%	4.60%	-18.22%
OGE	2015	2,196.90	7,322.40	30.00%	4.91%	-14.63%
OGE	2016	2,259.20	7,696.20	29.35%	5.10%	-2.16%
OGE	3-5 Year	2,900.00	8,900.00	32.58%	21.54%	8.61%
OTTR	2002	\$ 710.10	\$ 587.90	120.79%		
OTTR	2003	753.20	633.30	118.93%	7.72%	-1.53%
OTTR	2004	882.30	682.10	129.35%	7.71%	8.76%
OTTR	2005	1,046.40	697.10	150.11%	2.20%	16.05%
OTTR	2006	1,105.00	718.60	153.77%	3.08%	2.44%
OTTR	2007	1,238.90	854.00	145.07%	18.84%	-5.66%
OTTR	2008	1,311.20	1,037.60	126.37%	21.50%	-12.89%
OTTR	2009	1,039.50	1,098.60	94.62%	5.88%	-25.12%
OTTR	2010	1,119.10	1,108.70	100.94%	0.92%	6.68%
OTTR	2011	1,077.90	1,077.50	100.04%	-2.81%	-0.89%
OTTR	2012	859.20	1,049.50	81.87%	-2.60%	-18.16%
OTTR	2013	893.30	1,167.00	76.55%	11.20%	-6.50%
OTTR	2014	799.30	1,268.50	63.01%	8.70%	-17.68%
OTTR	2015	779.80	1,387.80	56.19%	9.40%	-10.83%
OTTR	2016	803.50	1,477.20	54.39%	6.44%	-3.20%
OTTR	3-5 Year	1,100.00	1,950.00	56.41%	40.51%	0.39%
PCG	2002	\$ 12,495.00	\$ 16,928.00	73.81%		
PCG	2003	10,435.00	18,107.00	57.63%	6.96%	-21.92%
PCG	2004	11,080.00	18,989.00	58.35%	4.87%	1.25%
PCG	2005	11,703.00	19,955.00	58.65%	5.09%	0.51%
PCG	2006	12,539.00	21,785.00	57.56%	9.17%	-1.86%
PCG	2007	13,237.00	23,656.00	55.96%	8.59%	-2.78%
PCG	2008	14,628.00	26,261.00	55.70%	11.01%	-0.45%
PCG	2009	13,399.00	28,892.00	46.38%	10.02%	-16.74%
PCG	2010	13,841.00	31,449.00	44.01%	8.85%	-5.10%
PCG	2011	14,956.00	33,655.00	44.44%	7.01%	0.97%
PCG	2012	15,040.00	37,523.00	40.08%	11.49%	-9.80%
PCG	2013	15,598.00	41,252.00	37.81%	9.94%	-5.66%
PCG	2014	17,090.00	43,941.00	38.89%	6.52%	2.86%
PCG	2015	16,833.00	46,723.00	36.03%	6.33%	-7.37%
PCG	2016	17,666.00	50,581.00	34.93%	8.26%	-3.06%
PCG	3-5 Year	22,100.00	65,300.00	33.84%	39.76%	-6.06%
PNW	2002	\$ 2,637.30	\$ 6,479.40	40.70%		
PNW	2003	2,817.90	7,480.10	37.67%	15.44%	-7.45%
PNW	2004	2,899.70	7,535.50	38.48%	0.74%	2.15%
PNW	2005	2,988.00	7,577.10	39.43%	0.55%	2.48%
PNW	2006	3,401.70	7,881.90	43.16%	4.02%	9.44%
PNW	2007	3,523.60	8,436.40	41.77%	7.04%	-3.22%
PNW	2008	3,367.10	8,916.70	37.76%	5.69%	-9.59%
PNW	2009	3,297.10	9,257.80	35.61%	3.83%	-5.69%
PNW	2010	3,263.60	9,578.80	34.07%	3.47%	-4.33%
PNW	2011	3,241.40	9,962.30	32.54%	4.00%	-4.50%
PNW	2012	3,301.80	10,396.00	31.76%	4.35%	-2.39%
PNW	2013	3,454.60	10,889.00	31.73%	4.74%	-0.11%
PNW	2014	3,491.60	11,194.00	31.19%	2.80%	-1.68%
PNW	2015	3,495.40	11,809.00	29.60%	5.49%	-5.10%
PNW	2016	3,498.70	12,714.00	27.52%	7.66%	-7.03%
PNW	3-5 Year	4,500.00	15,100.00	29.80%	27.87%	0.68%
PNM	2002	\$ 1,169.00	\$ 1,867.30	62.60%		
PNM	2003	1,455.70	2,194.40	66.34%	17.52%	5.96%
PNM	2004	1,604.80	2,324.60	69.04%	5.93%	4.07%
PNM	2005	2,076.80	2,984.10	69.60%	28.37%	0.81%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
PNM	2006	2,471.70	3,761.90	65.70%	26.06%	-5.59%
PNM	2007	1,914.00	2,935.40	65.20%	-21.97%	-0.76%
PNM	2008	1,959.50	3,192.00	61.39%	8.74%	-5.85%
PNM	2009	1,647.70	3,332.40	49.44%	4.40%	-19.45%
PNM	2010	1,673.50	3,444.40	48.59%	3.36%	-1.74%
PNM	2011	1,700.60	3,627.10	46.89%	5.30%	-3.50%
PNM	2012	1,342.40	3,746.50	35.83%	3.29%	-23.58%
PNM	2013	1,387.90	3,933.90	35.28%	5.00%	-1.54%
PNM	2014	1,435.90	4,270.00	33.63%	8.54%	-4.68%
PNM	2015	1,439.10	4,535.40	31.73%	6.22%	-5.64%
PNM	2016	1,363.00	4,904.70	27.79%	8.14%	-12.42%
PNM	3-5 Year	1,625.00	5,270.00	30.83%	16.20%	-2.82%
POR	2002	NA	NA			
POR	2003	NA	NA			
POR	2004	1,454.00	2,275.00	63.91%		
POR	2005	1,446.00	2,436.00	59.36%	7.08%	-7.12%
POR	2006	1,520.00	2,718.00	55.92%	11.58%	-5.79%
POR	2007	1,743.00	3,066.00	56.85%	12.80%	1.66%
POR	2008	1,745.00	3,301.00	52.86%	7.66%	-7.01%
POR	2009	1,804.00	3,858.00	46.76%	16.87%	-11.54%
POR	2010	1,783.00	4,133.00	43.14%	7.13%	-7.74%
POR	2011	1,813.00	4,285.00	42.31%	3.68%	-1.92%
POR	2012	1,805.00	4,392.00	41.10%	2.50%	-2.87%
POR	2013	1,810.00	4,880.00	37.09%	11.11%	-9.75%
POR	2014	1,900.00	5,679.00	33.46%	16.37%	-9.80%
POR	2015	1,898.00	6,012.00	31.57%	5.86%	-5.64%
POR	2016	1,923.00	6,434.00	29.89%	7.02%	-5.33%
POR	3-5 Year	2,300.00	6,450.00	35.66%	7.29%	12.95%
PPL	2002	\$ 5,429.00	\$ 9,566.00	56.75%		
PPL	2003	5,587.00	10,446.00	53.48%	9.20%	-5.76%
PPL	2004	5,812.00	11,209.00	51.85%	7.30%	-3.05%
PPL	2005	6,219.00	10,916.00	56.97%	-2.61%	9.87%
PPL	2006	6,899.00	12,069.00	57.16%	10.56%	0.34%
PPL	2007	6,498.00	12,605.00	51.55%	4.44%	-9.82%
PPL	2008	8,044.00	12,416.00	64.79%	-1.50%	25.68%
PPL	2009	7,556.00	13,174.00	57.36%	6.11%	-11.47%
PPL	2010	8,521.00	20,858.00	40.85%	58.33%	-28.77%
PPL	2011	12,737.00	27,266.00	46.71%	30.72%	14.35%
PPL	2012	12,286.00	30,032.00	40.91%	10.14%	-12.42%
PPL	2013	11,860.00	33,087.00	35.84%	10.17%	-12.38%
PPL	2014	11,499.00	34,597.00	33.24%	4.56%	-7.28%
PPL	2015	7,669.00	30,382.00	25.24%	-12.18%	-24.05%
PPL	2016	7,517.00	30,074.00	25.00%	-1.01%	-0.98%
PPL	3-5 Year	7,750.00	40,000.00	19.38%	31.66%	-23.24%
PEG	2002	\$ 8,390.00	\$ 41,100.00	20.41%		
PEG	2003	11,116.00	12,422.00	89.49%	-69.78%	338.37%
PEG	2004	10,996.00	13,750.00	79.97%	10.69%	-10.63%
PEG	2005	12,430.00	13,336.00	93.21%	-3.01%	16.55%
PEG	2006	12,164.00	13,002.00	93.55%	-2.50%	0.37%
PEG	2007	12,853.00	13,275.00	96.82%	2.10%	3.49%
PEG	2008	14,139.00	14,433.00	97.96%	8.72%	1.18%
PEG	2009	12,431.00	15,440.00	80.51%	6.98%	-17.81%
PEG	2010	11,793.00	16,390.00	71.95%	6.15%	-10.63%
PEG	2011	11,343.00	17,849.00	63.55%	8.90%	-11.68%
PEG	2012	9,781.00	19,736.00	49.56%	10.57%	-22.02%
PEG	2013	9,968.00	21,645.00	46.05%	9.67%	-7.08%
PEG	2014	10,886.00	23,589.00	46.15%	8.98%	0.21%
PEG	2015	10,415.00	26,539.00	39.24%	12.51%	-14.96%
PEG	2016	9,198.00	29,286.00	31.41%	10.35%	-19.97%
PEG	3-5 Year	11,000.00	37,400.00	29.41%	40.92%	-25.05%
SCG	2002	\$ 2,954.00	\$ 5,474.00	53.96%		
SCG	2003	3,416.00	6,417.00	53.23%	17.23%	-1.35%
SCG	2004	3,885.00	6,762.00	57.45%	5.38%	7.93%
SCG	2005	4,777.00	6,734.00	70.94%	-0.41%	23.47%
SCG	2006	4,563.00	7,007.00	65.12%	4.05%	-8.20%
SCG	2007	4,621.00	7,538.00	61.30%	7.58%	-5.86%
SCG	2008	5,319.00	8,305.00	64.05%	10.18%	4.47%
SCG	2009	4,237.00	9,009.00	47.03%	8.48%	-26.57%
SCG	2010	4,601.00	9,662.00	47.62%	7.25%	1.25%
SCG	2011	4,409.00	10,047.00	43.88%	3.98%	-7.85%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
SCG	2012	4,176.00	10,896.00	38.33%	8.45%	-12.66%
SCG	2013	4,495.00	11,643.00	38.61%	6.86%	0.73%
SCG	2014	4,951.00	12,232.00	40.48%	5.06%	4.84%
SCG	2015	4,380.00	13,425.00	32.63%	9.75%	-19.39%
SCG	2016	4,227.00	14,324.00	29.51%	6.70%	-9.55%
SCG	3-5 Year	5,000.00	19,700.00	25.38%	46.74%	-22.21%
SRE	2002	\$ 6,020.00	\$ 6,832.00	88.11%		
SRE	2003	7,887.00	10,474.00	75.30%	53.31%	-14.54%
SRE	2004	9,410.00	11,086.00	84.88%	5.84%	12.72%
SRE	2005	11,737.00	12,101.00	96.99%	9.16%	14.27%
SRE	2006	11,761.00	13,175.00	89.27%	8.88%	-7.96%
SRE	2007	11,438.00	14,884.00	76.85%	12.97%	-13.91%
SRE	2008	10,758.00	16,865.00	63.79%	13.31%	-16.99%
SRE	2009	8,106.00	18,281.00	44.34%	8.40%	-30.49%
SRE	2010	9,003.00	19,876.00	45.30%	8.72%	2.15%
SRE	2011	10,036.00	23,572.00	42.58%	18.60%	-6.00%
SRE	2012	9,647.00	25,191.00	38.30%	6.87%	-10.05%
SRE	2013	10,557.00	25,460.00	41.47%	1.07%	8.28%
SRE	2014	11,035.00	25,902.00	42.60%	1.74%	2.74%
SRE	2015	10,231.00	28,039.00	36.49%	8.25%	-14.35%
SRE	2016	10,183.00	32,931.00	30.92%	17.45%	-15.25%
SRE	3-5 Year	12,450.00	39,100.00	31.84%	50.95%	-25.26%
SO	2002	\$ 10,549.00	\$ 24,642.00	42.81%		
SO	2003	11,251.00	27,534.00	40.86%	11.74%	-4.55%
SO	2004	11,902.00	28,361.00	41.97%	3.00%	2.70%
SO	2005	13,554.00	29,480.00	45.98%	3.95%	9.56%
SO	2006	14,356.00	31,092.00	46.17%	5.47%	0.43%
SO	2007	15,353.00	33,327.00	46.07%	7.19%	-0.23%
SO	2008	17,127.00	35,878.00	47.74%	7.65%	3.62%
SO	2009	15,743.00	39,230.00	40.13%	9.34%	-15.93%
SO	2010	17,456.00	42,002.00	41.56%	7.07%	3.56%
SO	2011	17,657.00	45,010.00	39.23%	7.16%	-5.61%
SO	2012	16,537.00	48,390.00	34.17%	7.51%	-12.88%
SO	2013	17,087.00	51,208.00	33.37%	5.82%	-2.36%
SO	2014	18,467.00	54,868.00	33.66%	7.15%	0.87%
SO	2015	17,489.00	61,114.00	28.62%	11.38%	-14.97%
SO	2016	19,896.00	78,446.00	25.36%	28.36%	-11.37%
SO	3-5 Year	26,200.00	100,000.00	26.20%	63.63%	-8.45%
VVC	2002	1,804.30	\$ 1,648.10	109.48%		
VVC	2003	1,587.60	2,003.70	79.23%	21.58%	-27.63%
VVC	2004	1,689.80	2,156.20	78.37%	7.61%	-1.09%
VVC	2005	2,028.00	2,251.90	90.06%	4.44%	14.91%
VVC	2006	2,041.60	2,385.50	85.58%	5.93%	-4.97%
VVC	2007	2,281.90	2,539.70	89.85%	6.46%	4.98%
VVC	2008	2,484.70	2,720.30	91.34%	7.11%	1.66%
VVC	2009	2,088.90	2,878.80	72.56%	5.83%	-20.56%
VVC	2010	2,129.50	2,955.40	72.05%	2.66%	-0.70%
VVC	2011	2,325.20	3,032.60	76.67%	2.61%	6.41%
VVC	2012	2,232.80	3,119.60	71.57%	2.87%	-6.65%
VVC	2013	2,491.20	3,224.30	77.26%	3.36%	7.95%
VVC	2014	2,611.70	3,439.00	75.94%	6.66%	-1.71%
VVC	2015	2,434.70	4,089.50	59.54%	18.92%	-21.61%
VVC	2016	2,448.30	4,406.80	55.56%	7.76%	-6.68%
VVC	3-5 Year	3,500.00	6,000.00	58.33%	46.72%	-2.02%
WR	2002	1,771.10	\$ 3,995.40	44.33%		
WR	2003	1,461.10	3,909.50	37.37%	-2.15%	-15.69%
WR	2004	1,464.50	3,911.00	37.45%	0.04%	0.19%
WR	2005	1,583.30	3,947.70	40.11%	0.94%	7.11%
WR	2006	1,605.70	4,071.60	39.44%	3.14%	-1.67%
WR	2007	1,726.80	4,803.70	35.95%	17.98%	-8.85%
WR	2008	1,839.00	5,533.50	33.23%	15.19%	-7.55%
WR	2009	1,858.20	5,771.70	32.20%	4.30%	-3.13%
WR	2010	2,056.20	6,309.50	32.59%	9.32%	1.22%
WR	2011	2,171.00	6,745.40	32.18%	6.91%	-1.24%
WR	2012	2,261.50	7,335.70	30.83%	8.75%	-4.21%
WR	2013	2,370.70	7,848.50	30.21%	6.99%	-2.02%
WR	2014	2,601.70	8,441.50	30.82%	7.56%	2.03%
WR	2015	2,459.20	8,793.10	27.97%	4.17%	-9.26%
WR	2016	2,562.10	9,506.30	26.95%	8.11%	-3.63%
WR	3-5 Year	3,020.00	10,500.00	28.76%	19.41%	2.84%

Change in Net Plant and Asset Turnover
Value Line Universe - Individual Company Results

Ticker	Year	Revenue	Net Plant	Revenue/Net Plant	Change in Net Plant	Change in Revenue/Net Plant
WEC	2002	3,736.20	\$ 4,398.80	84.94%		
WEC	2003	4,054.30	5,926.10	68.41%	34.72%	-19.45%
WEC	2004	3,431.10	5,903.10	58.12%	-0.39%	-15.04%
WEC	2005	3,815.50	6,362.90	59.96%	7.79%	3.17%
WEC	2006	3,996.40	7,052.50	56.67%	10.84%	-5.50%
WEC	2007	4,237.80	7,681.20	55.17%	8.91%	-2.64%
WEC	2008	4,431.00	8,517.00	52.03%	10.88%	-5.70%
WEC	2009	4,127.90	9,070.50	45.51%	6.50%	-12.53%
WEC	2010	4,202.50	9,601.50	43.77%	5.85%	-3.82%
WEC	2011	4,486.40	10,160.00	44.16%	5.82%	0.89%
WEC	2012	4,246.40	10,572.00	40.17%	4.06%	-9.04%
WEC	2013	4,519.00	10,907.00	41.43%	3.17%	3.15%
WEC	2014	4,997.10	11,258.00	44.39%	3.22%	7.13%
WEC	2015	5,926.10	19,190.00	30.88%	70.46%	-30.43%
WEC	2016	7,472.30	19,916.00	37.52%	3.78%	21.49%
WEC	3-5 Year	8,900.00	25,550.00	34.83%	33.14%	12.80%
XEL	2002	9,524.40	\$ 18,816.00	50.62%		
XEL	2003	7,937.50	13,667.00	58.08%	-27.37%	14.74%
XEL	2004	8,345.30	14,096.00	59.20%	3.14%	1.94%
XEL	2005	9,625.50	14,696.00	65.50%	4.26%	10.63%
XEL	2006	9,840.30	15,549.00	63.29%	5.80%	-3.38%
XEL	2007	10,034.00	16,676.00	60.17%	7.25%	-4.92%
XEL	2008	11,203.00	17,689.00	63.33%	6.07%	5.26%
XEL	2009	9,644.30	18,508.00	52.11%	4.63%	-17.72%
XEL	2010	10,311.00	20,663.00	49.90%	11.64%	-4.24%
XEL	2011	10,655.00	22,353.00	47.67%	8.18%	-4.48%
XEL	2012	10,128.00	23,809.00	42.54%	6.51%	-10.76%
XEL	2013	10,915.00	26,122.00	41.78%	9.71%	-1.77%
XEL	2014	11,686.00	28,757.00	40.64%	10.09%	-2.75%
XEL	2015	11,024.00	31,206.00	35.33%	8.52%	-13.07%
XEL	2016	11,107.00	32,842.00	33.82%	5.24%	-4.27%
XEL	3-5 Year	13,000.00	42,200.00	30.81%	46.75%	-24.19%

Source: Value Line

Change in Net Plant and Asset Turnover
Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.487019499
R Square	0.237187992
Adjusted R Square	0.235856732
Standard Error	0.178042676
Observations	575

<i>ANOVA</i>						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	5.647783345	5.647783345	178.1680391	1.3975E-35	
Residual	573	18.16363851	0.031699195			
Total	574	23.81142186				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.040014064	0.009261042	4.320687019	1.83366E-05	0.021824334	0.058203794
Change in Net Plant	-0.779794503	0.0584205	-13.34796011	1.3975E-35	-0.894538948	-0.665050058

Flotation Cost Adjustment

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

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Company	Date	Shares Issued	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds Per Share	Total Flotation Costs	Gross Equity Issue Before Costs	Net Proceeds	Flotation Cost Percentage
American Electric Power Company, Inc.	4/1/2009	69,000,000	\$24.50	\$0.7350	\$400,000	\$23.76	\$51,115,000	\$1,690,500,000	\$1,639,385,000	3.024%
American Electric Power Company, Inc.	2/27/2003	57,500,000	\$20.95	\$0.6285	\$550,000	\$20.31	\$36,688,750	\$1,204,625,000	\$1,167,936,250	3.046%
ALLETE, Inc.	2/27/2014	3,220,000	\$49.75	\$1.7413	\$450,000	\$47.87	\$6,056,825	\$160,195,000	\$154,138,175	3.781%
ALLETE, Inc.	5/25/2001	7,475,000	\$23.68	\$0.9472	\$350,000	\$22.69	\$7,430,320	\$177,008,000	\$169,577,680	4.198%
Alliant Energy Corporation	7/1/2003	17,250,000	\$19.25	\$0.7700	\$370,000	\$18.46	\$13,652,500	\$332,062,500	\$318,410,000	4.111%
Alliant Energy Corporation	11/8/2001	9,775,000	\$28.00	\$1.0500	\$425,000	\$26.91	\$10,688,750	\$273,700,000	\$263,011,250	3.905%
Ameren Corporation	9/9/2009	21,850,000	\$25.25	\$0.7575	\$450,000	\$24.47	\$17,001,375	\$551,712,500	\$534,711,125	3.082%
Ameren Corporation	6/30/2004	10,925,000	\$42.00	\$1.2600	\$400,000	\$40.70	\$14,165,500	\$458,850,000	\$444,684,500	3.087%
Avista Corporation	12/11/2006	3,162,500	\$25.05	\$0.4800	\$300,000	\$24.48	\$1,818,000	\$79,220,625	\$77,402,625	2.295%
Black Hills Corporation	11/19/2015	5,980,000	\$40.25	\$1.4088	\$1,200,000	\$38.64	\$9,624,325	\$240,695,000	\$231,070,675	3.999%
Black Hills Corporation	12/7/2010	4,600,000	\$29.75	\$1.0413	\$276,650	\$28.65	\$5,066,400	\$136,850,000	\$131,783,600	3.702%
CMS Energy Corporation	3/30/2005	23,000,000	\$12.25	\$0.4288	\$325,000	\$11.81	\$10,187,400	\$281,750,000	\$271,562,600	3.616%
CMS Energy Corporation	10/7/2004	32,775,000	\$9.10	\$0.3185	\$325,000	\$8.77	\$10,763,838	\$298,252,500	\$287,488,663	3.609%
DTE Energy Company	6/19/2002	6,325,000	\$43.25	\$1.4056	\$250,000	\$41.80	\$9,140,420	\$273,556,250	\$264,415,830	3.341%
IDACORP, Inc.	12/9/2004	4,025,000	\$30.00	\$1.2000	\$300,000	\$28.73	\$5,130,000	\$120,750,000	\$115,620,000	4.248%
NorthWestern Corporation	9/29/2015	1,100,000	\$51.81	\$1.3300	\$1,000,000	\$49.57	\$2,463,000	\$56,991,000	\$54,528,000	4.322%
NorthWestern Corporation	11/5/2014	7,766,990	\$51.50	\$1.8025	\$1,000,000	\$49.57	\$14,999,999	\$399,999,985	\$384,999,986	3.750%
OGE Energy Corp.	8/21/2003	5,324,074	\$21.60	\$0.7900	\$325,000	\$20.75	\$4,531,018	\$114,999,998	\$110,468,980	3.940%
Otter Tail Corporation	9/18/2008	5,175,000	\$30.00	\$1.0875	\$400,000	\$28.84	\$6,027,813	\$155,250,000	\$149,222,188	3.883%
Otter Tail Corporation	12/7/2004	3,335,000	\$25.45	\$0.9500	\$300,000	\$24.41	\$3,468,250	\$84,875,750	\$81,407,500	4.086%
Pinnacle West Capital Corporation	4/8/2010	6,900,000	\$38.00	\$1.3300	\$190,000	\$36.64	\$9,367,000	\$262,200,000	\$252,833,000	3.572%
Pinnacle West Capital Corporation	4/27/2005	6,095,000	\$42.00	\$1.3650	\$250,000	\$40.59	\$8,569,675	\$255,990,000	\$247,420,325	3.348%
PNM Resources, Inc.	12/6/2006	5,750,000	\$30.79	\$1.0780	\$250,000	\$29.67	\$6,448,500	\$177,042,500	\$170,594,000	3.642%
PNM Resources, Inc.	3/23/2005	3,910,000	\$26.76	\$0.8697	\$200,000	\$25.84	\$3,600,527	\$104,631,600	\$101,031,073	3.441%
Portland General Electric Company	6/11/2013	12,765,000	\$29.50	\$0.9588	\$600,000	\$28.49	\$12,838,444	\$376,567,500	\$363,729,056	3.409%
Portland General Electric Company	3/5/2009	12,477,500	\$14.10	\$0.4935	\$375,000	\$13.58	\$6,532,646	\$175,932,750	\$169,400,104	3.713%
SCANA Corporation	5/11/2010	8,222,500	\$37.00	\$1.2950	\$350,000	\$35.66	\$10,998,138	\$304,232,500	\$293,234,363	3.615%
SCANA Corporation	12/31/2008	2,875,000	\$35.50	\$0.5325	\$350,000	\$34.85	\$1,880,938	\$102,062,500	\$100,181,563	1.843%
Wisconsin Energy Corporation	11/16/2005	5,290,000	\$53.70	\$1.7450	\$0	\$51.96	\$9,231,050	\$284,073,000	\$274,841,950	3.250%
Wisconsin Energy Corporation	11/20/2003	4,025,000	\$43.00	\$1.5050	\$0	\$41.50	\$6,057,625	\$173,075,000	\$167,017,375	3.500%
Xcel Energy Inc.	8/3/2010	21,850,000	\$21.50	\$0.6450	\$600,000	\$20.83	\$14,693,250	\$469,775,000	\$455,081,750	3.128%
Xcel Energy Inc.	9/9/2008	17,250,000	\$20.25	\$0.1500	\$600,000	\$20.07	\$3,187,500	\$349,312,500	\$346,125,000	0.913%
Mean							\$10,419,524	\$316,460,592		
WEIGHTED AVERAGE FLOTATION COSTS:										3.293%

[10]

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

Company	Ticker	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]
		Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield Current	Adjusted for Flot. Costs	Zacks Earnings Growth	First Call Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	DCF k(e)	Flotation Adjusted DCF k(e)
ALLETE, Inc.	ALE	\$2.14	\$70.19	3.05%	3.13%	3.24%	6.10%	5.00%	5.00%	5.37%	8.50%	8.60%
Alliant Energy Corporation	LNT	\$1.26	\$40.01	3.15%	3.24%	3.35%	5.50%	6.35%	6.00%	5.95%	9.19%	9.30%
Ameren Corporation	AEE	\$1.76	\$55.15	3.19%	3.29%	3.40%	6.50%	6.05%	6.00%	6.18%	9.47%	9.59%
Avista Corporation	AVA	\$1.43	\$41.24	3.47%	3.54%	3.66%	NA	5.65%	2.50%	4.08%	7.61%	7.73%
Black Hills Corporation	BKH	\$1.78	\$68.30	2.61%	2.71%	2.80%	5.00%	12.00%	7.50%	8.17%	10.88%	10.97%
CMS Energy Corporation	CMS	\$1.33	\$45.76	2.91%	3.00%	3.11%	6.00%	7.52%	6.50%	6.67%	9.68%	9.78%
DTE Energy Company	DTE	\$3.30	\$105.47	3.13%	3.21%	3.32%	5.90%	4.58%	5.00%	5.16%	8.37%	8.48%
EI Paso Electric Company	EE	\$1.34	\$51.94	2.58%	2.66%	2.75%	7.90%	6.50%	5.00%	6.47%	9.13%	9.22%
IDACORP, Inc.	IDA	\$2.20	\$84.58	2.60%	2.65%	2.74%	4.00%	4.00%	3.50%	3.83%	6.48%	6.57%
NorthWestern Corporation	NWE	\$2.10	\$60.40	3.48%	3.54%	3.66%	3.30%	3.37%	4.50%	3.72%	7.27%	7.39%
OGE Energy Corp.	OGE	\$1.21	\$34.59	3.50%	3.60%	3.72%	5.30%	6.30%	5.50%	5.70%	9.30%	9.42%
Otter Tail Corporation	OTTR	\$1.28	\$38.63	3.31%	3.40%	3.51%	NA	5.20%	5.00%	5.10%	8.50%	8.61%
Pinnacle West Capital Corporation	PNW	\$2.62	\$85.38	3.07%	3.15%	3.26%	5.10%	6.05%	5.50%	5.55%	8.70%	8.81%
PNM Resources, Inc.	PNM	\$0.97	\$37.28	2.60%	2.70%	2.79%	6.50%	7.00%	9.00%	7.50%	10.20%	10.29%
Portland General Electric Company	POR	\$1.36	\$45.65	2.98%	3.06%	3.17%	5.30%	5.55%	6.00%	5.62%	8.68%	8.78%
SCANA Corporation	SCG	\$2.45	\$66.14	3.70%	3.80%	3.93%	5.30%	5.80%	4.00%	5.03%	8.83%	8.96%
WEC Energy Group, Inc.	WEC	\$2.08	\$61.08	3.41%	3.51%	3.62%	6.00%	5.61%	6.00%	5.87%	9.38%	9.49%
Xcel Energy Inc.	XEL	\$1.44	\$45.58	3.16%	3.24%	3.35%	5.40%	NA	4.50%	4.95%	8.19%	8.30%

PROXY GROUP MEAN

8.80% 8.91%

DCF Result Adjusted For Flotation Costs: 8.91%
 DCF Result Unadjusted For Flotation Costs: 8.80%
 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: SEC Form 424B

[2] Source: SEC Form 424B

[3] Source: SEC Form 424B

[4] Source: SEC Form 424B

[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 - 0.0329)

[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]

Summary of Adjustment Clauses & Alternative Regulation/Incentive Plans

Company	Parent	State	Adjustment Clauses							Alternative Regulation / Incentive Plans					
			Fuel/ Purchased Power	Decoupling (F/P) [1]	New Capital Investment [2]	Energy Efficiency [3]	Renewables & RPS [4]	Environmental [5]	Other [6]	Formula- Based Rates	Price Freeze/ Cap	Earnings Sharing	Formula- Based ROE	Service Quality/ Performance	Merger Savings
Ameren Illinois Company	AEE	Illinois	✓			✓	✓	✓	✓	✓		✓	✓	✓	
Union Electric Company	AEE	Missouri	✓	P	✓	✓		✓	✓						
ALLETE (Minnesota Power)	ALE	Minnesota	✓			✓	✓	✓							
Superior Water, Light and Power Company	ALE	Wisconsin	✓						✓						
Alaska Electric Light and Power Company	AVA	Alaska	✓						✓						
Avista Corporation	AVA	Idaho	✓	P		✓			✓		✓				
Avista Corporation	AVA	Washington	✓	F		✓			✓		✓				
Black Hills Colorado Electric	BKH	Colorado	✓		✓	✓	✓		✓						
Black Hills Power	BKH	South Dakota	✓	P	✓	✓		✓	✓						
Consumers Energy Company	CMS	Michigan	✓			✓	✓		✓						
DTE Electric Company	DTE	Michigan	✓			✓	✓	✓	✓						
EI Paso Electric Company	EE	Texas	✓		✓	✓			✓						
EI Paso Electric Company	EE	New Mexico	✓			✓			✓						
Idaho Power Co.	IDA	Idaho	✓	F		✓			✓			✓			
Idaho Power Co.	IDA	Oregon	✓			✓	✓		✓						
Interstate Power and Light Company	LNT	Iowa	✓			✓	✓	✓	✓		✓				
Wisconsin Power and Light Company	LNT	Wisconsin	✓						✓		✓	✓			
NorthWestern Energy	NWE	Montana	✓			✓			✓						
NorthWestern Energy	NWE	South Dakota	✓			✓			✓						
Oklahoma Gas and Electric Company	OGE	Arkansas	✓	P	✓	✓	✓		✓	✓					
Oklahoma Gas and Electric Company	OGE	Oklahoma	✓	P	✓	✓	✓	✓	✓						
Otter Tail Power Company	OTTR	Minnesota	✓			✓	✓		✓						
Otter Tail Power Company	OTTR	North Dakota	✓		✓	✓	✓		✓						
Arizona Public Service Company	PNW	Arizona	✓	P	✓	✓	✓	✓	✓		✓				
Public Service Company of New Mexico	PNM	New Mexico	✓		✓	✓	✓	✓	✓						
Texas-New Mexico Power Company	PNM	Texas	NA		✓	✓			✓						
Portland General Electric Company	POR	Oregon	✓	P	✓	✓	✓		✓						
South Carolina Electric & Gas Co.	SCG	South Carolina	✓	P	✓	✓		✓	✓		✓				
Wisconsin Electric Power Company	WEC	Michigan	✓			✓	✓								
Wisconsin Electric Power Company	WEC	Wisconsin	✓						✓		✓				
Wisconsin Public Service Corporation	WEC	Wisconsin	✓						✓						
Public Service Company of Colorado	XEL	Colorado	✓		✓	✓	✓	✓	✓		✓	✓			
Northern States Power Company - MN	XEL	Minnesota	✓	F		✓	✓	✓	✓						
Southwestern Public Service Company	XEL	New Mexico	✓			✓	✓		✓		✓				
Northern States Power Company - MN	XEL	North Dakota	✓		✓		✓		✓						
Northern States Power Company - MN	XEL	South Dakota	✓	P		✓		✓	✓		✓				
Southwestern Public Service Company	XEL	Texas	✓		✓	✓			✓		✓				
Northern States Power Company - WI	XEL	Wisconsin	✓						✓						

Notes:

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

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

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

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

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

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

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

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

Proxy Group Capital Structure

Company	Ticker	% Common Equity								Average
		2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	
ALLETE, Inc.	ALE	60.28%	59.02%	59.28%	59.08%	58.83%	58.04%	58.01%	58.93%	58.93%
Alliant Energy Corporation	LNT	50.84%	50.73%	50.68%	51.22%	51.65%	51.24%	51.27%	51.18%	51.10%
Ameren Corporation	AEE	52.77%	52.62%	53.99%	53.11%	52.82%	52.22%	53.40%	52.44%	52.92%
Avista Corporation	AVA	55.85%	55.29%	54.97%	55.46%	55.13%	54.30%	54.95%	54.98%	55.12%
Black Hills Corporation	BKH	53.20%	52.81%	52.73%	52.55%	52.57%	52.51%	52.06%	51.47%	52.49%
CMS Energy Corporation	CMS	52.10%	51.24%	51.30%	52.32%	51.42%	50.63%	51.44%	51.15%	51.45%
DTE Energy Company	DTE	50.50%	50.50%	50.13%	49.35%	50.53%	50.39%	50.32%	49.81%	50.19%
El Paso Electric Company	EE	47.48%	47.73%	47.73%	46.22%	45.95%	49.86%	49.94%	49.04%	47.99%
IDACORP, Inc.	IDA	53.22%	53.15%	53.15%	52.46%	50.70%	52.34%	52.25%	51.61%	52.36%
NorthWestern Corporation	NWE	48.61%	48.13%	47.72%	47.66%	47.54%	47.31%	46.01%	46.97%	47.49%
OGE Energy Corp.	OGE	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.38%	53.31%	54.81%
Otter Tail Corporation	OTTR	55.31%	55.06%	54.80%	54.15%	53.10%	52.75%	52.51%	52.32%	53.75%
Pinnacle West Capital Corporation	PNW	53.20%	54.59%	54.70%	53.13%	55.54%	55.50%	57.11%	55.72%	54.94%
PNM Resources, Inc.	PNM	46.38%	46.01%	46.07%	44.88%	45.35%	45.32%	44.76%	45.63%	45.55%
Portland General Electric Company	POR	50.28%	49.82%	49.72%	49.64%	50.89%	50.61%	50.31%	49.57%	50.10%
SCANA Corporation	SCG	52.14%	51.99%	51.44%	50.84%	52.77%	52.57%	52.55%	52.08%	52.05%
WEC Energy Group, Inc.	WEC	54.80%	56.26%	56.21%	55.88%	55.80%	55.39%	56.60%	55.65%	55.82%
Xcel Energy Inc.	XEL	54.94%	54.37%	53.45%	54.17%	54.68%	54.43%	53.02%	53.88%	54.12%
Mean		52.52%	52.52%	52.46%	52.09%	52.25%	52.21%	52.27%	51.99%	52.29%

Operating Company Capital Structure

Operating Company	Parent	% Common Equity								Average
		2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	
Union Electric Company	AEE	51.45%	51.80%	52.15%	51.10%	51.97%	51.03%	51.25%	50.21%	51.37%
Ameren Illinois Company	AEE	54.09%	53.44%	55.82%	55.11%	53.67%	53.42%	55.55%	54.67%	54.47%
ALLETE (Minnesota Power)	ALE	58.71%	56.92%	56.90%	56.63%	56.60%	55.86%	55.62%	57.67%	56.86%
Superior Water, Light and Power Company	ALE	61.85%	61.12%	61.65%	61.52%	61.06%	60.23%	60.40%	60.19%	61.00%
Alaska Electric Light and Power Company	AVA	60.23%	59.65%	59.29%	59.10%	58.86%	58.18%	58.09%	58.07%	58.93%
Avista Corporation	AVA	51.48%	50.93%	50.65%	51.82%	51.39%	50.41%	51.80%	51.90%	51.30%
Black Hills Power, Inc.	BKH	53.24%	52.88%	53.13%	53.13%	53.27%	53.35%	53.22%	53.20%	53.18%
Black Hills Colorado Electric Utility Company, LP	BKH	53.08%	52.20%	51.85%	51.39%	51.06%	50.85%	49.16%	48.72%	51.04%
Cheyenne Light, Fuel and Power Company	BKH	53.29%	53.35%	53.22%	53.14%	53.36%	53.32%	53.80%	52.47%	53.24%
Consumers Energy Company	CMS	52.10%	51.24%	51.30%	52.32%	51.42%	50.63%	51.44%	51.15%	51.45%
DTE Electric Company	DTE	50.50%	50.50%	50.13%	49.35%	50.53%	50.39%	50.32%	49.81%	50.19%
El Paso Electric Company	EE	47.48%	47.73%	47.73%	46.22%	45.95%	49.86%	49.94%	49.04%	47.99%
Idaho Power Co.	IDA	53.22%	53.15%	53.15%	52.46%	50.70%	52.34%	52.25%	51.61%	52.36%
Wisconsin Power and Light Company	LNT	51.45%	51.22%	52.38%	51.89%	51.78%	51.56%	51.63%	50.65%	51.57%
Interstate Power and Light Company	LNT	50.23%	50.24%	48.99%	50.54%	51.52%	50.91%	50.90%	51.72%	50.63%
NorthWestern Corporation	NWE	48.61%	48.13%	47.72%	47.66%	47.54%	47.31%	46.01%	46.97%	47.49%
Oklahoma Gas and Electric Company	OGE	53.46%	56.09%	56.23%	55.50%	55.17%	54.30%	54.38%	53.31%	54.81%
Otter Tail Power Company	OTTR	55.31%	55.06%	54.80%	54.15%	53.10%	52.75%	52.51%	52.32%	53.75%
Public Service Company of New Mexico	PNM	46.38%	46.01%	46.07%	44.88%	45.35%	45.32%	44.76%	45.63%	45.55%
Arizona Public Service Company	PNW	53.20%	54.59%	54.70%	53.13%	55.54%	55.50%	57.11%	55.72%	54.94%
Portland General Electric Company	POR	50.28%	49.82%	49.72%	49.64%	50.89%	50.61%	50.31%	49.57%	50.10%
South Carolina Electric & Gas Co.	SCG	52.14%	51.99%	51.44%	50.84%	52.77%	52.57%	52.55%	52.08%	52.05%
Wisconsin Public Service Corporation	WEC	54.02%	55.78%	55.15%	54.61%	54.65%	53.53%	56.36%	55.10%	54.90%
Wisconsin Electric Power Company	WEC	55.58%	56.74%	57.27%	57.15%	56.95%	57.25%	57.07%	56.76%	56.84%
Integrus Holding, Inc.	WEC	NA	NA	NA	NA	NA	NA	56.36%	55.10%	55.73%
Public Service Company of Colorado	XEL	57.00%	56.32%	56.37%	55.93%	56.49%	56.34%	56.00%	55.55%	56.25%
Northern States Power Company - MN	XEL	52.62%	52.31%	52.08%	51.86%	53.68%	53.26%	51.95%	53.34%	52.64%
Northern States Power Company - WI	XEL	55.66%	54.93%	54.89%	54.57%	54.43%	54.27%	52.92%	52.53%	54.28%
Southwestern Public Service Company	XEL	54.48%	53.93%	50.45%	54.30%	54.13%	53.83%	51.20%	54.08%	53.30%
Mean		53.21%	53.12%	53.14%	52.80%	52.95%	52.79%	52.99%	52.68%	53.03%
										61.00%

Source: SNL Financial

Proxy Group Capital Structure

Company	Ticker	% Long-Term Debt								Average
		2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	
ALLETE, Inc.	ALE	39.72%	40.98%	40.72%	40.92%	41.17%	41.96%	41.99%	41.07%	41.07%
Alliant Energy Corporation	LNT	49.16%	49.27%	49.32%	48.78%	48.35%	48.76%	48.73%	48.82%	48.90%
Ameren Corporation	AEE	47.23%	47.38%	46.01%	46.89%	47.18%	47.78%	46.60%	47.56%	47.08%
Avista Corporation	AVA	44.15%	44.71%	45.03%	44.54%	44.87%	45.70%	45.05%	45.02%	44.88%
Black Hills Corporation	BKH	46.80%	47.19%	47.27%	47.45%	47.43%	47.49%	47.94%	48.53%	47.51%
CMS Energy Corporation	CMS	47.90%	48.76%	48.70%	47.68%	48.58%	49.37%	48.56%	48.85%	48.55%
DTE Energy Company	DTE	49.50%	49.50%	49.87%	50.65%	49.47%	49.61%	49.68%	50.19%	49.81%
El Paso Electric Company	EE	52.52%	52.27%	52.27%	53.78%	54.05%	50.14%	50.06%	50.96%	52.01%
IDACORP, Inc.	IDA	46.78%	46.85%	46.85%	47.54%	49.30%	47.66%	47.75%	48.39%	47.64%
NorthWestern Corporation	NWE	51.39%	51.87%	52.28%	52.34%	52.46%	52.69%	53.99%	53.03%	52.51%
OGE Energy Corp.	OGE	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.62%	46.69%	45.19%
Otter Tail Corporation	OTTR	44.69%	44.94%	45.20%	45.85%	46.90%	47.25%	47.49%	47.68%	46.25%
Pinnacle West Capital Corporation	PNW	46.80%	45.41%	45.30%	46.87%	44.46%	44.50%	42.89%	44.28%	45.06%
PNM Resources, Inc.	PNM	53.62%	53.99%	53.93%	55.12%	54.65%	54.68%	55.24%	54.37%	54.45%
Portland General Electric Company	POR	49.72%	50.18%	50.28%	50.36%	49.11%	49.39%	49.69%	50.43%	49.90%
SCANA Corporation	SCG	47.86%	48.01%	48.56%	49.16%	47.23%	47.43%	47.45%	47.92%	47.95%
WEC Energy Group, Inc.	WEC	45.20%	43.74%	43.79%	44.12%	44.20%	44.61%	43.40%	44.35%	44.18%
Xcel Energy Inc.	XEL	45.06%	45.63%	46.55%	45.83%	45.32%	45.57%	46.98%	46.12%	45.88%
Mean		47.48%	47.48%	47.54%	47.91%	47.75%	47.79%	47.73%	48.01%	47.71%

Operating Company Capital Structure

Operating Company	Parent	% Long-Term Debt								Average
		2017Q1	2016Q4	2016Q3	2016Q2	2016Q1	2015Q4	2015Q3	2015Q2	
Union Electric Company	AEE	48.55%	48.20%	47.85%	48.90%	48.03%	48.97%	48.75%	49.79%	48.63%
Ameren Illinois Company	AEE	45.91%	46.56%	44.18%	44.89%	46.33%	46.58%	44.45%	45.33%	45.53%
ALLETE (Minnesota Power)	ALE	41.29%	43.08%	43.10%	43.37%	43.40%	44.14%	44.38%	42.33%	43.14%
Superior Water, Light and Power Company	ALE	38.15%	38.88%	38.35%	38.48%	38.94%	39.77%	39.60%	39.81%	39.00%
Alaska Electric Light and Power Company	AVA	39.77%	40.35%	40.71%	40.90%	41.14%	41.82%	41.91%	41.93%	41.07%
Avista Corporation	AVA	48.52%	49.07%	49.35%	48.18%	48.61%	49.59%	48.20%	48.10%	48.70%
Black Hills Power, Inc.	BKH	46.76%	47.12%	46.87%	46.87%	46.73%	46.65%	46.78%	46.80%	46.82%
Black Hills Colorado Electric Utility Company, LP	BKH	46.92%	47.80%	48.15%	48.61%	48.94%	49.15%	50.84%	51.28%	48.96%
Cheyenne Light, Fuel and Power Company	BKH	46.71%	46.65%	46.78%	46.86%	46.64%	46.68%	46.20%	47.53%	46.76%
Consumers Energy Company	CMS	47.90%	48.76%	48.70%	47.68%	48.58%	49.37%	48.56%	48.85%	48.55%
DTE Electric Company	DTE	49.50%	49.50%	49.87%	50.65%	49.47%	49.61%	49.68%	50.19%	49.81%
El Paso Electric Company	EE	52.52%	52.27%	52.27%	53.78%	54.05%	50.14%	50.06%	50.96%	52.01%
Idaho Power Co.	IDA	46.78%	46.85%	46.85%	47.54%	49.30%	47.66%	47.75%	48.39%	47.64%
Wisconsin Power and Light Company	LNT	48.55%	48.78%	47.62%	48.11%	48.22%	48.44%	48.37%	49.35%	48.43%
Interstate Power and Light Company	LNT	49.77%	49.76%	51.01%	49.46%	48.48%	49.09%	49.10%	48.28%	49.37%
NorthWestern Corporation	NWE	51.39%	51.87%	52.28%	52.34%	52.46%	52.69%	53.99%	53.03%	52.51%
Oklahoma Gas and Electric Company	OGE	46.54%	43.91%	43.77%	44.50%	44.83%	45.70%	45.62%	46.69%	45.19%
Otter Tail Power Company	OTTR	44.69%	44.94%	45.20%	45.85%	46.90%	47.25%	47.49%	47.68%	46.25%
Public Service Company of New Mexico	PNM	53.62%	53.99%	53.93%	55.12%	54.65%	54.68%	55.24%	54.37%	54.45%
Arizona Public Service Company	PNW	46.80%	45.41%	45.30%	46.87%	44.46%	44.50%	42.89%	44.28%	45.06%
Portland General Electric Company	POR	49.72%	50.18%	50.28%	50.36%	49.11%	49.39%	49.69%	50.43%	49.90%
South Carolina Electric & Gas Co.	SCG	47.86%	48.01%	48.56%	49.16%	47.23%	47.43%	47.45%	47.92%	47.95%
Wisconsin Public Service Corporation	WEC	45.98%	44.22%	44.85%	45.39%	45.35%	46.47%	43.64%	44.90%	45.10%
Wisconsin Electric Power Company	WEC	44.42%	43.26%	42.73%	42.85%	43.05%	42.75%	42.93%	43.24%	43.16%
Integrus Holding, Inc.	WEC	NA	NA	NA	NA	NA	NA	43.64%	44.90%	44.27%
Public Service Company of Colorado	XEL	43.00%	43.68%	43.63%	44.07%	43.51%	43.66%	44.00%	44.45%	43.75%
Northern States Power Company - MN	XEL	47.38%	47.69%	47.92%	48.14%	46.32%	46.74%	48.05%	46.66%	47.36%
Northern States Power Company - WI	XEL	44.34%	45.07%	45.11%	45.43%	45.57%	45.73%	47.08%	47.47%	45.72%
Southwestern Public Service Company	XEL	45.52%	46.07%	49.55%	45.70%	45.87%	46.17%	48.80%	45.92%	46.70%
Mean		46.79%	46.88%	46.86%	47.20%	47.05%	47.21%	47.01%	47.32%	46.97%

Cost of Long-Term Debt Comparison

Issue	Principal Outstanding	Date of Offering	Date of Maturity	Years to Maturity	Coupon	Premiums or Discounts	Original Issue Expense	Loss on Reacquired Debt	Net Proceeds	Yield	Bloomberg Fair Value Curve		
											BFV Term	Utility A-Rated	Utility BBB-Rated
Pollution Control Rev. Bonds													
Rockport 2002A	\$50,000,000	6/3/2002	6/1/2025	23	2.67%	(\$136,351)	\$ (415,236)	\$ -	\$ 49,448,413	2.73%	25	7.02%	7.63%
Rockport 2009A	\$50,000,000	3/18/2009	6/1/2025	16	1.75%	(\$467,500)	\$ (249,469)	\$ (2,677,532)	\$ 46,605,499	2.25%	16	6.20%	7.41%
Rockport 2009B	\$50,000,000	3/18/2009	6/1/2025	16	1.75%	(\$441,187)	\$ (249,469)	\$ (785,290)	\$ 48,524,054	1.96%	16	6.20%	7.41%
Rockpont Series D	\$40,000,000	4/25/2008	4/1/2025	17	2.05%	\$ -	\$ (352,589)	\$ -	\$ 39,647,411	2.11%	17	6.20%	7.41%
Lawrenceburg, 2008 Series H	\$52,000,000	5/20/2008	11/1/2021	13	1.06%	\$ -	\$ (289,591)	\$ (2,724,991)	\$ 48,985,418	1.54%	13	5.86%	6.49%
Lawrenceburg, 2008 Series I	\$25,000,000	5/22/2008	10/1/2019	11	1.06%	\$ -	\$ (200,008)	\$ (1,383,267)	\$ 23,416,725	1.67%	11	5.87%	6.51%
Senior Unsecured Notes													
I&M Series H	\$400,000,000	11/14/2006	3/15/2037	30	6.05%	\$ (2,272,000)	\$ (19,843,857)	\$ -	\$ 377,884,143	6.47%	30	5.67%	5.97%
I&M Series I	\$475,000,000	1/12/2009	3/15/2019	10	7.00%	\$ (3,201,500)	\$ (3,333,197)	\$ -	\$ 468,465,303	7.19%	10	5.33%	6.47%
I&M Series J	\$250,000,000	3/18/2013	3/15/2023	10	3.20%	\$ (402,500)	\$ (18,034,602)	\$ -	\$ 231,562,898	4.10%	10	2.84%	3.44%
I&M Series K	\$400,000,000	3/3/2016	3/15/2046	30	4.55%	\$ (1,372,000)	\$ (4,036,755)	\$ -	\$ 394,591,245	4.63%	30	4.08%	4.69%
I&M Series L	\$300,000,000	6/1/2017	6/1/2047	30	4.65%	\$ -	\$ (3,144,500)	\$ -	\$ 296,855,500	4.72%	30	4.08%	4.69%
Term Loan Facility													
3-year Term Loan	\$200,000,000	5/14/2015	5/14/2018	3	2.78%	\$ -	\$ (612,944)	\$ -	\$ 199,387,056	2.89%	3	1.68%	1.98%
Other Debt													
Fort Wayne Lease	\$14,411,585	3/1/2010	3/1/2025	15	6.00%	\$ -	\$ -	\$ -	\$ 14,411,585	6.00%	15	5.69%	5.75%
											Bloomberg Fair Value Curve		
											A-Rated BBB-Rated		
TOTAL	\$2,306,411,585	Weighted Averages:		4.71%							4.99%	4.53%	5.21%

Notes:

Sources: Exhibit A-7 Page 2 and Bloomberg Professional. Weighted average cost of debt does not include underwriting fees or other amortized costs. Bloomberg Fair Value Curve yields are 30-day averages.