

Direct Testimony and Schedules  
Ann E Bulkley

Before the North Dakota Public Service Commission

In the Matter of the Application of Northern States Power Company  
for Authority to Increase Rates for Electric Utility  
Service in North Dakota

Case No. PU-12- \_\_\_\_

Exhibit\_\_\_\_(AEB-1)

**Return on Equity  
Rate of Return**

December 18, 2012

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1                                   **I. INTRODUCTION AND QUALIFICATIONS**

2

3    Q. PLEASE STATE YOUR NAME, EMPLOYER, AND BUSINESS ADDRESS.

4    A. My name is Ann E. Bulkley. I am employed by Concentric Energy Advisors  
5       (Concentric) as a Vice President. My business address is 293 Boston Post  
6       Road West, Suite 500, Marlborough, Massachusetts 01752.

7

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

9    A. I am submitting this testimony on behalf of Northern States Power Company  
10       (NSPM or the Company). NSPM is a wholly-owned subsidiary of Xcel  
11       Energy Inc. (XEL).

12

13   Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

14   A. I have approximately 15 years of experience consulting to the energy industry.  
15       I have advised numerous energy and utility clients on a wide range of financial  
16       and economic issues with primary concentrations in valuation and utility rate  
17       matters. Many of those assignments have included the determination of the  
18       cost of capital for valuation purposes. I have included my résumé as Exhibit  
19       \_\_(AEB-1), Schedule 1, and a summary of testimony that I have filed in other  
20       proceedings as Exhibit \_\_(AEB-1), Schedule 2.

21

22   Q. PLEASE DESCRIBE CONCENTRIC'S ACTIVITIES IN ENERGY AND UTILITY  
23       ENGAGEMENTS.

24   A. Concentric provides financial and economic advisory services to many and  
25       various energy and utility clients across North America. Our regulatory,  
26       economic, and market analysis services include utility ratemaking and  
27       regulatory advisory services; energy market assessments; market entry and exit

1 analysis; corporate and business unit strategy development; demand  
2 forecasting; resource planning; and energy contract negotiations. Our  
3 financial advisory activities include both buy and sell-side merger, acquisition  
4 and divestiture assignments; due diligence and valuation assignments; project  
5 and corporate finance services; and transaction support services. In addition,  
6 we provide litigation support services on a wide range of financial and  
7 economic issues on behalf of clients throughout North America.

8  
9 **II. PURPOSE AND OVERVIEW OF TESTIMONY**

10  
11 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

12 A. The purpose of my Direct Testimony is to present evidence and provide a  
13 recommendation regarding the Company's return on equity (ROE), and to  
14 provide an assessment of the capital structure to be used for ratemaking  
15 purposes. My Direct Testimony also presents the calculation of the  
16 Company's overall rate of return (ROR). My analyses and recommendations  
17 are supported by the data presented in Exhibit \_\_ (AEB-1), Schedules 3  
18 through 10.

19  
20 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE COST OF  
21 EQUITY AND CAPITAL STRUCTURE FOR THE COMPANY?

22 A. My analyses indicate that the Company's Cost of Equity is currently within the  
23 range of 10.40 percent to 10.75 percent. I base my recommendation on the  
24 results of several quantitative methodologies and qualitative analyses discussed  
25 in my Direct Testimony. Considering the results of those analyses, I believe  
26 that a reasonable ROE for NSPM's electric utility operations in North Dakota  
27 is 10.60 percent. I also conclude that the Company's projected test year

1 capital structure (shown in Table 1 below), which includes 52.56 percent  
2 common equity, 44.96 percent long-term debt and 2.48 percent short-term  
3 debt and overall rate of return of 7.90 percent, are reasonable and should be  
4 approved by the North Dakota Public Service Commission :

5 **Table 1: Rate of Return**

	Percentage of Total Capitalization	Cost of Capital	Weighted Cost of Capital
Long Term Debt	44.96%	5.14%	2.31%
Short Term Debt	2.48%	0.75%	0.02%
Long Term and Short Term Debt	47.44%	4.91%	2.33%
Common Equity	52.56%	10.60%	5.57%
Total Capitalization	100.00%		7.90%

6  
7 Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSIS THAT LED TO YOUR  
8 CONCLUSIONS.

9 A. As discussed in detail in Section VI of my Direct Testimony, in developing my  
10 ROE recommendation, I applied the Constant Growth and Multi-Stage forms  
11 of the Discounted Cash Flow (DCF) model. I also considered the results of  
12 the Capital Asset Pricing Model (CAPM), and the Bond Yield plus Risk  
13 Premium approach.

14  
15 My recommendation takes into consideration flotation costs. Specifically, I  
16 am proposing a flotation cost adjustment to compensate investors for the  
17 costs associated with equity issuance. Finally, I considered the Company's  
18 proposed capital structure as compared to the capital structures of the proxy  
19 group companies.

1                                   **III. SUMMARY OF ANALYSIS AND CONCLUSIONS**

2  
3    Q.   PLEASE SUMMARIZE THE KEY FACTORS CONSIDERED IN YOUR ANALYSES AND  
4           UPON WHICH YOU BASE YOUR RECOMMENDED ROE.

5    A.   My analyses and recommendations considered the following:

- 6                   •   The *Hope* and *Bluefield* decisions<sup>1</sup> that established the standards for  
7                   determining a fair and reasonable allowed ROE including consistency  
8                   of the allowed return with other businesses having similar risk,  
9                   adequacy of the return to provide access to capital and support credit  
10                  quality, and that the end result must lead to just and reasonable rates.  
11                 •   The effect of current capital market conditions on investors' return  
12                  requirements.  
13                 •   The Company's extensive investment plan and need to access capital  
14                  markets, and the effect of the authorized ROE on investors.

15  
16   Q.   PLEASE SUMMARIZE THE ROE ESTIMATION MODELS THAT YOU CONSIDERED  
17           IN YOUR ANALYSES.

18   A.   As noted above, I considered the results of two forms of the DCF model: the  
19           Constant Growth and the Multi-Stage forms. In addition, I considered two  
20           risk premium approaches, the CAPM and a Bond Yield Plus Risk Premium  
21           methodology as a check of reasonableness of my DCF analyses. The results  
22           of my analyses are summarized in Table 2 below.

---

<sup>1</sup> *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

1

**Table 2: Summary of Analytical Results**

<b>Constant Growth DCF- Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	9.10%	10.71%	13.06%
90-Day Average Price	9.06%	10.67%	13.02%
180-Day Average Price	9.16%	10.78%	13.13%
<b>Multi-Stage DCF-Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	10.07%	10.54%	11.38%
90-Day Average Price	10.03%	10.50%	11.34%
180-Day Average Price	10.13%	10.61%	11.47%
<b>Capital Asset Pricing Model</b>			
	Current Risk-Free Rate (2.87%)	2012-2014 Projected Risk-Free Rate (3.15%)	2014-2018 Projected Risk-Free Rate (5.10%)
Bloomberg Beta	9.90%	9.98%	10.56%
Value Line Beta	10.01%	10.09%	10.64%
<b>Bond Yield Plus Risk Premium</b>			
	Low	Mean	High
Risk Premium	10.00%	10.11%	10.86%

2

3 Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

4 A. The remainder of my testimony is organized in six sections:

- 5 • Section IV reviews the regulatory guidelines and financial
- 6 considerations pertinent to the development of the ROE.
- 7 • Section V explains my selection of a proxy group of integrated electric
- 8 utilities.
- 9 • Section VI describes my analyses and the analytical basis for the
- 10 recommendation of the appropriate ROE for the Company.
- 11 • Section VII provides a discussion of the capital market environment
- 12 and factors that have direct bearing on the ROE to be authorized for

1 the Company in this case and the current capital market conditions  
2 and the effect of these conditions on the Company's Cost of Equity.

- 3 • Section VIII provides my assessment of the Company's proposed  
4 capital structure and cost of debt as compared with the proxy group.
- 5 • Section IX presents my conclusions and recommendations.

6  
7 **IV. REGULATORY GUIDELINES AND FINANCIAL**  
8 **CONSIDERATIONS**

9  
10 Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES TO BE USED IN ESTABLISHING THE  
11 ROE FOR A REGULATED UTILITY.

12 A. The United States Supreme Court's *Hope* and *Bluefield* cases established the  
13 standards for determining the fairness or reasonableness of a utility's allowed  
14 ROE. Among the standards established by the Court in those cases are: (1)  
15 consistency with other businesses having similar or comparable risks; (2)  
16 adequacy of the return to support financial soundness and access to capital;  
17 and (3) that the end result, as opposed to the methodology employed, is the  
18 controlling factor in arriving at just and reasonable rates.<sup>2</sup>

19  
20 Based on those widely-recognized standards, the Commission's order in this  
21 case should provide the Company with the opportunity to earn an ROE that  
22 is:

- 23 • Adequate to attract capital on reasonable terms, thereby enabling the  
24 Company to provide safe, reliable service;
- 25 • Sufficient to ensure the financial soundness of the Company's

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<sup>2</sup> *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923); *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 operations; and

- 2 • Commensurate with returns on investments in other businesses  
3 having comparable risks.

4

5 The allowed ROE, therefore, should enable the Company to finance capital  
6 expenditures on reasonable terms and optimize its financial flexibility over the  
7 period during which rates are expected to remain in effect.

8

9 Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY TO  
10 EARN AN ROE THAT MEETS THESE STANDARDS?

11 A. An ROE that is adequate to attract capital at reasonable terms enables the  
12 Company to provide safe, reliable service while maintaining its financial  
13 integrity. To the extent the Company is provided the opportunity to earn its  
14 market-based cost of capital, neither customers nor shareholders are  
15 disadvantaged. While the “capital attraction” and “financial integrity”  
16 standards are important principles in normal economic conditions, the  
17 practical implications of those standards are even more pronounced when  
18 considered in the context of the recent unsettled financial environment.

19

20 Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY GUIDELINES AND  
21 CAPITAL MARKET EXPECTATIONS?

22 A. It is important for the ROE authorized in this proceeding to take into  
23 consideration the capital market conditions with which the Company must  
24 contend, as well as investors’ expectations and requirements for both risks and  
25 returns. Further, in light of recent capital market conditions and the  
26 Company’s capital investment plans, it is critical that the Company be  
27 afforded the opportunity to maintain a financial profile that will enable it to

1 access the capital markets at reasonable rates.

2  
3 **V. SELECTION OF PROXY GROUP COMPANIES**  
4

5 Q. PLEASE EXPLAIN WHY YOU HAVE USED A GROUP OF PROXY COMPANIES TO  
6 DETERMINE THE COST OF EQUITY FOR THE COMPANY.

7 A. In this proceeding, we are focused on estimating the Cost of Equity for the  
8 Company's rate-regulated, electric utility operations in North Dakota. Since  
9 the ROE is a market-based concept, and given that the Company is not  
10 publicly-traded, it is necessary to establish a group of companies that are both  
11 publicly-traded and comparable to the Company in certain fundamental  
12 business and financial respects to serve as its "proxy" in the ROE estimation  
13 process.  
14

15 Even if the Company were a publicly-traded entity, it is possible that transitory  
16 events could bias its market value in one way or another over a given period  
17 of time. A significant benefit of using a proxy group, therefore, is that it  
18 moderates the effects of unusual events that may be associated with any one  
19 company. The proxy companies used in my analyses all possess a set of  
20 operating and risk characteristics that are substantially comparable to the  
21 Company, and thus provide a reasonable basis to derive and estimate the  
22 appropriate ROE for the Company.  
23

24 Q. PLEASE PROVIDE A BRIEF PROFILE OF NSPM.

25 A. NSPM generates, transmits and distributes electricity to approximately 1.4  
26 million customers in Minnesota, North Dakota, and South Dakota.<sup>3</sup> In terms

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<sup>3</sup> NSPM, SEC Form 10-K as of December 31, 2011, at 5.

1 of natural gas distribution service, NSPM serves approximately 500,000  
2 customers in Minnesota and North Dakota.<sup>4</sup> Specifically in North Dakota,  
3 the Company provides electric service to approximately 90,000 customers and  
4 natural gas to 48,000 customers. NSPM's earnings generally contribute 35 to  
5 45 percent of XEI's consolidated net income.<sup>5</sup> NSPM has investment grade  
6 credit ratings from Standard and Poor's (S&P) of A- (Outlook: Stable), from  
7 Moody's Investors Service (Moody's) of A3 (Outlook: Stable), and from Fitch  
8 Ratings of A- (Outlook: Stable).<sup>6</sup>  
9

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

11 A. I began with the group of 49 companies that Value Line classifies as "Electric  
12 Utilities" and simultaneously applied the following screening criteria:

- 13 • I excluded companies that do not pay consistent quarterly cash  
14 dividends, because such companies cannot be analyzed using the  
15 Constant Growth DCF model.
- 16 • I excluded companies that do not have positive long-term earnings  
17 growth forecasts from at least two equity analysts.
- 18 • I excluded companies that do not have investment grade long-term  
19 issuer ratings from both S&P and Moody's.
- 20 • I excluded companies that do not own regulated generation assets.
- 21 • I excluded companies that derive less than 60 percent of their total  
22 operating income from regulated operations.
- 23 • I excluded companies that derive less than 90 percent of their total  
24 regulated operating income from regulated electric operations.
- 25 • Finally, I excluded companies that were party to a merger or other

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<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> Source: SNL Financial, accessed November 27, 2012.

1 transformative transaction during the analytical period considered.

2

3 Q. DID YOU INCLUDE XCEL ENERGY INC. IN YOUR ANALYSIS?

4 A. No. In order to avoid the circular logic that otherwise would occur, I  
5 excluded XEI from the proxy group.

6

7 Q. HOW MANY COMPANIES MET YOUR SCREENING CRITERIA?

8 A. The criteria discussed above resulted in an initial proxy group of the following  
9 fifteen companies: ALLETE, Inc.; American Electric Power; Cleco Corp.;  
10 Edison International; Empire District Electric; FirstEnergy Corp.; Great  
11 Plains Energy Inc.; Hawaiian Electric; IDACORP, Inc.; Otter Tail Corp.;  
12 Integrys; Pinnacle West Capital; Portland General Electric Co.; Southern Co.;  
13 and Westar Energy, Inc.

14

15 Q. IS THIS YOUR FINAL PROXY GROUP?

16 A. No, it is not. I also considered the operating profile of each of the companies  
17 that met my initial screening criteria to be certain that each of the companies  
18 was consistent with my intent to produce a proxy group that is comparable to  
19 NSPM. Based on that review, I excluded two companies: Edison  
20 International and Integrys, which I discuss below.

21

22 *Edison International.* Edison International experienced significant losses in its  
23 unregulated operations in 2009 and 2011. In 2009, the operating losses were  
24 the result of a global tax settlement and payment to the Internal Revenue  
25 Service, which caused the company's unregulated marketing and trading  
26 segment to incur in excess of \$1 billion in payments to the IRS.<sup>7</sup> In 2011,

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<sup>7</sup> Edison International, 2009 SEC Form 10-K, at 129.

1 Edison International recorded a loss of \$1.09 billion in its competitive power  
2 generation business segment, Edison Mission Electric (EME), that related to  
3 the impairment of several power plants, wind-related charges and other  
4 expenses.<sup>8</sup>

5  
6 Furthermore, on November 1, 2012, Edison International reported to  
7 investors that EME will not be able to repay \$500 million in bonds that  
8 mature in June 2013, and will likely not be able to make the interest payments  
9 on those bonds, which were due November 15, 2012. Failure to meet the  
10 interest payment will likely result in EME filing for bankruptcy protection  
11 under Chapter 11 of the bankruptcy code. Due to the magnitude of the  
12 losses, and the likely bankruptcy of EME, it is not reasonable to include  
13 Edison International in the proxy group at this time.

14  
15 *Integrys*. Similarly, in 2009 Integrys experienced losses of \$114.6 million in the  
16 natural gas utility segment due to an impairment charge.<sup>9</sup> This charge has the  
17 effect of increasing the 2009 operating income from electric utility operations  
18 to 276 percent of total operating income, and artificially-increasing the three-  
19 year average operating income from that segment to meet my screening  
20 criteria. Further review of Integrys' operating results since 2009 reveals that  
21 the gas utility operations generally comprise approximately 50 percent of total  
22 regulated income. Therefore, since the company would not have met my  
23 screening criteria during the most recent two years, and there is some  
24 uncertainty about the contribution of the electric utility segment, I have  
25 excluded Integrys from the proxy group.

26  

---

<sup>8</sup> Edison International, 2011, SEC Form 10-K, at 54.

<sup>9</sup> Integrys 2009 SEC form 10-K, at 35.

1 Q. WHAT IS THE COMPOSITION OF THE FINAL PROXY GROUP THAT YOU RELIED  
2 ON?

3 A. My final proxy group consists of the thirteen companies presented in Table 3:

4

**Table 3: Final Proxy Group**

<b>Company</b>	<b>Ticker</b>
ALLETE, Inc.	ALE
American Electric Power	AEP
Cleco Corp.	CNL
Empire District Electric	EDE
FirstEnergy Corp.	FE
Great Plains Energy Inc.	GXP
Hawaiian Electric	HE
IDACORP, Inc.	IDA
Otter Tail Corp.	OTTR
Pinnacle West Capital	PNW
Portland General	POR
Southern Co.	SO
Westar Energy	WR

5

6 Q. DO YOU BELIEVE THAT A TOTAL OF THIRTEEN COMPANIES CONSTITUTES A  
7 SUFFICIENTLY LARGE PROXY GROUP?

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

1 **VI. COST OF EQUITY ESTIMATION**

2

3 Q. PLEASE BRIEFLY DESCRIBE THE EFFECT OF THE ROE IN THE CONTEXT OF THE  
4 REGULATED ROR.

5 A. The ROR for a regulated utility is based on its weighted average cost of  
6 capital, in which the costs of the individual sources of capital are weighted by  
7 their respective percentages of total capitalization of the regulated utility. The  
8 ROE is weighted by the percentage of common equity in the regulated utility's  
9 capital structure.

10

11 Q. HOW IS THE REQUIRED ROE DETERMINED?

12 A. While the cost of debt can be directly observed, the Cost of Equity and the  
13 required ROE are market-based and, therefore, must be estimated based on  
14 observable market information. The required ROE is estimated by using one  
15 or more analytical techniques that rely on market-based data to quantify  
16 investor expectations regarding the range of required equity returns.  
17 Informed judgment is applied, based on the results of those analyses, to  
18 determine where within the range of results the Cost of Equity for the  
19 Company falls.

20

21 The resulting adjusted Cost of Equity serves as the recommended ROE for  
22 ratemaking purposes. As a general proposition, the key consideration in  
23 determining the Cost of Equity is to ensure that the methodologies employed  
24 reasonably reflect investors' view of the financial markets, the proxy group  
25 companies, and the subject company's common stock.

1 Q. WHAT METHODS DID YOU USE TO DETERMINE THE COMPANY'S ROE?

2 A. I relied primarily on the results of the Constant Growth and Multi-Stage DCF  
3 models corroborated by the results of the CAPM and Risk Premium  
4 methodology.

5

6 **A. Constant Growth DCF Model**

7 Q. ARE DCF MODELS WIDELY USED TO DETERMINE THE ROE FOR REGULATED  
8 UTILITIES?

9 A. Yes. DCF models are widely used in regulatory proceedings and have sound  
10 theoretical bases, although neither the DCF model nor any other model can  
11 be applied without considerable judgment in the selection of data and the  
12 interpretation of results. The Commission has used the DCF model in prior  
13 cases.

14

15 Q. PLEASE DESCRIBE THE DCF APPROACH.

16 A. In its simplest form, the DCF model expresses the Cost of Equity as the sum  
17 of the expected dividend yield and long-term growth rate. The DCF approach  
18 is based on the theory that a stock's current price represents the present value  
19 of all expected future cash flows. In its most general form, the DCF model is  
20 expressed as follows:

21 
$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

22 Where  $P_0$  represents the current stock price,  $D_1 \dots D_\infty$  are all expected future  
23 dividends, and  $k$  is the discount rate, or required ROE. Equation [1] is a  
24 standard present value calculation that can be simplified and rearranged into  
25 the following form:

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

Equation [2] is often 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 growth rate.

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

A. The DCF model requires the following assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings multiple; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

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

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies’ current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended November 16, 2012.

Q. WHY DID YOU USE 30-, 90-, AND 180-DAY AVERAGING PERIODS?

A. It is important to use an average of recent trading days to calculate the term  $P_0$  in the DCF model to ensure that the calculated ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long term. In my view, the use of the 30-, 90-, and

1 180-day averaging periods reasonably balances those concerns.

2

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

5 A. Yes, I did. Since utility companies tend to increase their quarterly dividends at  
6 different times throughout the year, it is reasonable to assume that dividend  
7 increases will be evenly distributed over calendar quarters. Given that  
8 assumption, it is reasonable to apply one-half of the expected annual dividend  
9 growth for purposes of calculating the expected dividend yield component of  
10 the DCF model. This adjustment ensures that the expected dividend yield is,  
11 on average, representative of the coming twelve-month period, and does not  
12 overstate the aggregated dividends to be paid during that time.

13

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

16 A. Yes, it is. In its constant growth form, the DCF model (*i.e.*, equation [2])  
17 assumes a single growth estimate in perpetuity. In order to reduce the long-  
18 term growth rate to a single measure, one must assume a constant payout  
19 ratio, and that earnings per share, dividends per share and book value per  
20 share all grow at the same constant rate. Over the long run, however,  
21 dividend growth can only be sustained by earnings growth. It is therefore  
22 important to incorporate a variety of sources of long-term earnings growth  
23 into the constant growth DCF model.

24

25 Q. WHICH SOURCES OF LONG-TERM EARNINGS GROWTH DID YOU USE?

26 A. My Constant Growth DCF model incorporates three sources of long-term  
27 earnings growth rates: (1) Zacks; (2) Thomson First Call (provided by Yahoo!

1 Finance); and (3) Value Line.

2

3 Q. WHY IS LONG TERM EARNINGS GROWTH THE APPROPRIATE MEASURE OF LONG  
4 TERM GROWTH FOR A CONSTANT GROWTH DCF MODEL?

5 A. I have relied on long term earnings growth because earnings are the  
6 fundamental determinant of a company's ability to pay dividends. As noted  
7 by Brigham and Houston:

8 Growth in dividends occurs primarily as a result of growth  
9 in earnings per share (EPS). Earnings growth, in turn,  
10 results from a number of factors, including (1) inflation, (2)  
11 the amount of earnings the company retains and invests,  
12 and (3) the rate of return the company earns on its equity  
13 (ROE).<sup>10</sup>  
14

15 Investment analysts report predominant reliance on EPS growth projections.  
16 In a survey completed by 297 members of the Association for Investment  
17 Management and Research, respondents ranked earnings as the most  
18 important variable in valuing a security (more important than cash flow,  
19 dividends, or book value).<sup>11</sup> That survey found that 156 respondents (over 95  
20 percent) ranked earnings as most importance in valuing a security.

21

22 Academic research also supports the use of EPS growth estimates. For  
23 example, a 2002 study in the *Journal of Accounting Research*, examined "the  
24 valuation performance of a comprehensive list of value drivers" and found  
25 that "forward earnings explain stock prices remarkably well" and were  
26 generally superior to other value drivers analyzed, including book value.<sup>12</sup> A

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<sup>10</sup> Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, at 317 (Concise Fourth Edition, Thomson South-Western).

<sup>11</sup> Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).

<sup>12</sup> Liu, Jing, et al., "Equity Valuation Using Multiples," *Journal of Accounting Research*, Vol. 40 No. 1, March

1 2012 study from the journal *Contemporary Accounting Research*, found that the  
2 sell-side analysts with the most accurate stock price targets were those whom  
3 the researchers found to have more accurate earnings forecasts and to use  
4 DCF valuation.<sup>13</sup>

5  
6 **B. Multi-Stage DCF Model**

7 Q. WHAT OTHER FORMS OF THE DCF MODEL DID YOU CONSIDER?

8 A. I also considered the results of a Multi-Stage for of the DCF model. The  
9 Multi-Stage form, which is an extension of the Constant Growth form,  
10 enables the analyst to specify growth rates over multiple stages. As with the  
11 Constant Growth form of the DCF model, the Multi-Stage form defines the  
12 Cost of Equity as the discount rate that sets the current price equal to the  
13 discounted value of future cash flows. A Multi-Stage DCF model addresses  
14 the possibility that mean growth rates for some companies may be outliers.

15  
16 Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-STAGE DCF  
17 MODEL.

18 A. The Multi-Stage DCF model that I have used sets the subject company's  
19 current stock price equal to the present value of future cash flows received  
20 over three "stages". In all three stages, cash flows are equal to the annual  
21 dividend payments that stockholders receive. Stage one is a short-term  
22 growth period that consists of the first five years; stage two is a transition  
23 period from the short-term growth rate to the long-term growth rate which  
24 occurs over five years (*i.e.*, years six through 10); and stage three is a long-term  
25 growth period that begins in year 11 and continues through perpetuity (*i.e.*,

---

2002.

<sup>13</sup> Gleason, C.A., et al., "Valuation Model Use and the Price Target Performance of Sell-Side Equity Analysts," *Contemporary Accounting Research*, March 2012.

1 year 200). The ROE is then calculated as the rate of return that results from  
2 the initial stock investment and the dividend payments over the analytical  
3 period.

4

5 Q. PLEASE SUMMARIZE THE EARNINGS PER SHARE GROWTH RATES USED IN YOUR  
6 MULTI-STAGE DCF MODEL.

7 A. I began with the current annualized dividend as of November 16, 2012 for  
8 each proxy group company. In the first stage of the model, the current  
9 annualized dividend is escalated based on the average of the three- to five-year  
10 earnings growth estimates reported by First Call, Zacks, and Value Line. For  
11 the third stage of the model, I relied on long-term projected growth in Gross  
12 Domestic Product (GDP). The second stage growth rate is a transition from  
13 the first stage growth rate to the long-term growth rate on a geometric average  
14 basis.

15

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

17 A. The long-term growth rate of 5.55 percent is based on the real GDP growth  
18 rate of 3.24 percent from 1929 through 2011,<sup>14</sup> and a projected inflation rate  
19 of 2.24 percent. The rate of inflation of 2.24 percent is based on three  
20 measures: (1) the average long-term projected growth rate in the Consumer  
21 Price Index (CPI) of 2.40 percent, as reported by Blue Chip Financial  
22 Forecasts;<sup>15</sup> (2) the compound annual growth rate of the CPI for all urban  
23 consumers for 2022-2035 of 2.27 percent as projected by the Energy  
24 Information Administration (EIA) in the Annual Energy Outlook 2012; and  
25 (3) the compound annual growth rate of the GDP chain-type price index for

---

<sup>14</sup> U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, Table 1.1.1, September 27, 2012.

<sup>15</sup> Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

1 2022-2035 of 2.06 percent, also reported by the EIA in the Annual Energy  
2 Outlook 2012.<sup>16</sup>

3  
4 **C. Flotation Cost Recovery**

5 Q. WHAT ARE FLOTATION COSTS?

6 A. Flotation costs are the costs associated with the sale of new issues of common  
7 stock. These costs include underwriter discounts; audit, legal and listing fees;  
8 printing costs; and other direct issuance expenses.

9  
10 Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED  
11 ROE?

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

18  
19 Q. ARE FLOTATION COSTS LIMITED TO EQUITY ISSUANCES PLANNED FOR THE  
20 TEST YEAR?

21 A. No. Flotation costs are not expenses that flow through the income statement,  
22 but instead reduce the proceeds of the issuance, resulting in a net reduction to  
23 the common equity portion of the balance sheet. As noted previously, when  
24 common stock is issued to the public, the issuing corporation incurs several  
25 costs, including: underwriter discounts; audit, legal and listing fees; printing  
26 costs; and other direct expenses. Such flotation costs are similar to debt

---

<sup>16</sup> U.S. Energy Information Administration, Annual Energy Outlook 2012, Table 20, Macroeconomic Indicators.

1 issuance costs in that they are necessary for the issuance of the securities and  
2 they reduce the net proceeds available to the issuing company. As a result,  
3 flotation costs should be recovered through a return adjustment, regardless of  
4 whether an issuance occurs, or is planned for, during the test year. Recovery  
5 of investments is not limited to the year in which the investment is made, and  
6 neither should the recovery of legitimately incurred, direct flotation costs.

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

10 A. Flotation costs are part of the invested costs of the utility, which are properly  
11 reflected on the balance sheet under "paid in capital." As a result, the great  
12 majority of a utility's flotation costs are incurred prior to the test year, but  
13 remain part of the cost structure that exists during the test year and beyond,  
14 and as such, should be recognized for ratemaking purposes. Therefore, this  
15 adjustment is appropriate even if no new issuances are planned in the near  
16 future because failure to allow such an adjustment may deny the Company the  
17 opportunity to earn its required ROE in the future.

18  
19 Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE THE  
20 COMPANY IS A SUBSIDIARY OF XEI?

21 A. No. Although the Company is a subsidiary of XEI, it is appropriate to  
22 consider flotation costs because the source of capital used by the Company  
23 was the result of a public issuance by its parent organization, which led to the  
24 issuance costs. To deny recovery of issuance costs associated with the capital  
25 that is invested in the utility ultimately will penalize the investors that fund the  
26 utility operations, and will inhibit the utility's ability to obtain new equity  
27 capital at a reasonable cost.

1

2 Q. DOES THE DCF MODEL ALREADY INCORPORATE INVESTOR EXPECTATIONS OF  
3 AN ROE THAT COMPENSATES FOR FLOTATION COSTS?

4 A. No. All the models used to estimate the appropriate ROE assume no  
5 “friction” or transaction costs, as these costs are not reflected in the market  
6 price (in the case of the DCF model). Therefore, it is appropriate to consider  
7 flotation costs when estimating the Company’s ROE.

8

9 Q. IS THE NEED FOR A FLOTATION COST ADJUSTMENT RECOGNIZED BY THE  
10 ACADEMIC AND FINANCIAL COMMUNITIES?

11 A. Yes. The need to recover equity issuance costs is recognized by the academic  
12 and financial communities for the same fundamental reason that investors  
13 reasonably expect to recover the costs of debt issuances. This treatment is  
14 consistent with the philosophy of a fair rate of return. According to Dr.  
15 Shannon Pratt:

16 Flotation costs occur when new issues of stock or debt are  
17 sold to the public. The firm usually incurs several kinds of  
18 flotation or transaction costs, which reduce the actual  
19 proceeds received by the firm. Some of these are direct  
20 out-of-pocket outlays, such as fees paid to underwriters,  
21 legal expenses, and prospectus preparation costs. Because  
22 of this reduction in proceeds, the firm’s required returns on  
23 these proceeds equate to a higher return to compensate for  
24 the additional costs. Flotation costs can be accounted for  
25 either by amortizing the cost, thus reducing the cash flow  
26 to discount, or by incorporating the cost into the cost of  
27 capital. Because flotation costs are not typically applied to  
28 operating cash flow, one must incorporate them into the  
29 cost of capital.<sup>17</sup>

---

<sup>17</sup> Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

1 Q. HAS XEI RECENTLY ISSUED COMMON EQUITY?

2 A. XEI closed on an equity issuance of approximately \$483 million (21,850,000  
3 shares of common stock) on August 10, 2010. The Company will need to  
4 access the equity market in the next several years on a more regular basis than  
5 in the past in order to finance its capital investment plan.

6

7 Q. IS THE NEED FOR A FLOTATION COST ADJUSTMENT RECOGNIZED BY OTHER  
8 REGULATORY JURISDICTIONS?

9 A. Yes. The need to recover the cost of issuing equity capital is recognized by a  
10 number of state regulatory commissions. For example, the South Carolina  
11 Public Service Commission, in approving a 20 basis points flotation cost  
12 adjustment for South Carolina Electric & Gas Company (SCE&G), noted  
13 that:

14 [F]lotation costs are not an expense to be recovered during  
15 a particular period. Instead, they represent a difference in  
16 the amount of funds that investors have invested in the  
17 Company compared to the amount the Company actually  
18 receives.

19

\*\*\*

20 Accordingly, the Commission finds that the reliable,  
21 probative and substantial evidence on the record  
22 establishes that flotation adjustments are indeed  
23 appropriate in this case to reflect SCE&G's recent issuance  
24 of new equity and the fact that these costs are not  
25 otherwise recovered in setting rates.<sup>18</sup>

26

27 Similarly, the Connecticut Department of Public Utilities, in approving a 12  
28 basis points adjustment for Yankee Gas, stated:

29

---

<sup>18</sup> Public Service Commission of South Carolina, Docket No. 2002-223-E-Order No. 2003-38, January 31, 2003, at 72-73.

1 The Department recognizes that flotation costs are real.  
2 Therefore, it must be recognized for a utility that issues  
3 common stock or from a parent that issues common stock  
4 and then infuses those dollars as a capital contribution to a  
5 utility subsidiary. The Department allows issuance costs for  
6 debt offerings of utilities and expenses these costs over the  
7 life of the bond. The Department reasons that the costs of  
8 a common stock issuance should be included for as long as  
9 the stock is outstanding, which is permanently.<sup>19</sup>  
10

11 Q. HAVE YOU CALCULATED THE EFFECT OF FLOTATION COSTS ON THE ROE?

12 A. Yes. I modified the DCF calculation to provide a dividend yield that would  
13 reimburse investors for issuance costs. Based on the issuance costs provided  
14 in Exhibit\_\_(AEB-1), Schedule 4, an adjustment of 0.25 percent (*i.e.*, 25 basis  
15 points) is reflective of flotation costs for the Company. Table 4, below,  
16 presents the DCF results including flotation costs.  
17

18 **D. DCF Model Results**

19 Q. DID YOU CALCULATE THE RANGE OF RESULTS FOR THE CONSTANT GROWTH  
20 AND MULTI-STAGE DCF MODELS?

21 A. Yes. I calculated the low growth result for both DCF models using the  
22 minimum growth rate (*i.e.*, the lowest of the First Call, Zacks, and Value Line  
23 earnings growth rates) for each of the proxy group companies. I used a  
24 similar approach to calculate the high growth rate results, using the highest  
25 growth rate for each proxy group company.  
26

27 Q. PLEASE SUMMARIZE THE RESULTS OF YOUR DCF ANALYSES.

28 A. Table 4 below (*see* also Exhibit\_\_(AEB-1), Schedule 3 and Exhibit\_\_(AEB-1),  
29 Schedule 5) presents the results of the Constant Growth and Multi-Stage DCF

---

<sup>19</sup> Connecticut Department of Public Utility Control, *Application of Yankee Gas Services Company for Amended Rate Schedules*, Docket No. 10-12-02, June 29, 2011.

1 models. As shown in Exhibit\_\_(AEB-1), Schedule 3, there is a wide range of  
 2 results using the Constant Growth DCF model. For example, considering the  
 3 results based on the 30-day average stock price, the mean results for the proxy  
 4 group companies range from 6.88 percent for IDACORP, Inc. to 16.60  
 5 percent for Otter Tail Corporation,<sup>20</sup> based on average growth rates of 3.33  
 6 percent and 11.33 percent respectively.

7  
 8 Each of these results is affected by the use of the Value Line growth rates for  
 9 these companies as the constant growth assumption, which are inconsistent  
 10 with their respective consensus earnings growth estimates. Therefore, I have  
 11 also presented a Multi-Stage DCF model, which relies on analysts' forecasted  
 12 EPS growth rates for the first five years of the model, applies a transition  
 13 growth rate, and reverts to a long-term GDP growth rate in perpetuity.

14 **Table 4: DCF Analyses Results (Including Flotation Costs)**

<b>Constant Growth DCF- Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	9.10%	10.71%	13.06%
90-Day Average Price	9.06%	10.67%	13.02%
180-Day Average Price	9.16%	10.78%	13.13%
<b>Multi-Stage DCF-Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	10.07%	10.54%	11.38%
90-Day Average Price	10.03%	10.50%	11.34%
180-Day Average Price	10.13%	10.61%	11.47%

15

16 Q. DID YOU UNDERTAKE ANY ADDITIONAL ANALYSES TO SUPPORT YOUR DCF  
 17 MODEL RESULTS?

18 A. Yes. As noted earlier, I also used the CAPM and the Risk Premium approach

<sup>20</sup> Individual company ROE estimates are reported excluding flotation costs.

1 as a means of assessing the reasonableness of my Constant Growth and Multi-  
2 Stage DCF results.

3  
4 **E. CAPM Analysis**

5 Q. PLEASE BRIEFLY DESCRIBE THE CAPITAL ASSET PRICING MODEL.

6 A. The CAPM is a risk premium approach that estimates the Cost of Equity for a  
7 given security as a function of a risk-free return plus a risk premium (to  
8 compensate investors for the non-diversifiable or “systematic” risk of that  
9 security). This second component is the product of the market risk premium  
10 times the Beta coefficient, which measures the riskiness of the security being  
11 evaluated relative to the broader market.

12  
13 The CAPM is defined by four components, each of which must theoretically  
14 be a forward-looking estimate:

15 
$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

16 Where:

17  $K_e$  = the required market ROE;

18  $\beta$  = Beta coefficient of an individual security;

19  $r_f$  = the risk-free rate of return; and

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

21  
22 In this specification, the terms  $(r_m - r_f)$  represents the market risk premium.  
23 According to the theory underlying the CAPM, since unsystematic risk can be  
24 diversified away, investors should only be concerned with systematic or non-  
25 diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined  
26 as:

1

$$\beta = \frac{\text{Covariance}(r_s, r_m)}{\text{Variance}(r_m)} \quad [4]$$

2

3 The variance of the market return (*i.e.*,  $\text{Variance}(r_m)$ ) is a measure of the  
4 uncertainty of the general market, and the covariance between the return on a  
5 specific security and the general market (*i.e.*,  $\text{Covariance}(r_s, r_m)$ ) reflects the extent  
6 to which the return on that security will respond to a given change in the  
7 general market return. Thus, Beta represents the risk of the security relative to  
8 the general market.

9

10 Q. WHAT RISK-FREE RATE DID YOU USE IN YOUR CAPM ANALYSIS?

11 A. Since the CAPM assumes a long-term investment horizon, I relied on three  
12 estimates of the yield on U.S. Treasury bonds as my estimate of the risk-free  
13 rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds (*i.e.*,  
14 2.87 percent);<sup>21</sup> (2) the projected 30-year U.S. Treasury bond yield for 2012  
15 through 2014 of 3.15 percent;<sup>22</sup> and (3) the projected 30-year U.S. Treasury  
16 bond yield for 2014 through 2018 of 5.10 percent.<sup>23</sup>

17

18 Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?

19 A. I estimated the market risk premium based on the expected return on the S&P  
20 500 Index less the 30-year U.S. Treasury bond yield. The expected return on  
21 the S&P 500 Index is calculated using the Constant Growth DCF model  
22 discussed earlier in my Direct Testimony for the companies in the S&P 500  
23 Index for which long-term earnings projections are available. Based on an

---

<sup>21</sup> Bloomberg Professional Service.

<sup>22</sup> Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2.

<sup>23</sup> Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

1 estimated market capitalization-weighted dividend yield of 2.37 percent and a  
2 weighted long-term growth rate of 10.35 percent, the estimated required  
3 market return for the S&P 500 Index is 12.85 percent. The implied market  
4 risk premium over the current 30-day average of the 30-year U.S. Treasury  
5 bond yield, and the short- and longer-term projected yields on the 30-year  
6 U.S. Treasury bond range from 7.75 percent to 9.98 percent.

7  
8 Q. WHAT BETAS DID YOU USE IN THE CAPM ANALYSIS?

9 A. I considered the average Beta coefficients for the proxy group companies as  
10 reported by Bloomberg and Value Line. Bloomberg calculates Beta  
11 coefficients based on two years of weekly returns relative to the S&P 500  
12 Index. Value Line's calculation is based on five years of weekly returns  
13 relative to the New York Stock Exchange Composite Index.

14  
15 Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSES?

16 A. As shown in Table 5 below (*see* also Exhibit\_\_(AEB-1), Schedule 6), the  
17 results of my CAPM analysis using the average Bloomberg Beta coefficient  
18 suggest a mean ROE of 10.15 percent based on a range of returns from 9.90  
19 percent to 10.56 percent. My CAPM analysis using the average Value Line  
20 Beta coefficient produces a range of returns from 10.01 percent to 10.64  
21 percent and a mean of 10.25 percent.

1

Table 5: Forward-Looking CAPM Results

	Current 30- Year Treasury (2.87%)	Near Term Projected 30- Year Treasury (3.15%)	Projected 30- Year Treasury (5.10%)	Mean Result
Bloomberg Beta	9.90%	9.98%	10.56%	10.15%
Value Line Beta	10.01%	10.09%	10.64%	10.25%

2

3

My ROE recommendation of 10.60 percent is within the range of results from my CAPM analysis and corroborates my recommendation.

4

5

6

**F. Bond Yield Plus Risk Premium Analysis**

7

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

8

A. In general terms, this approach is based on the fundamental principal that equity investors bear the residual risk associated with ownership and therefore require a premium over the return they would have earned as a bondholder. That is, since returns to equity holders are more risky than returns to bondholders, equity investors must be compensated to bear that 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. In my analysis, I used actual authorized returns for electric utilities as the historical measure of the Cost of Equity to determine the risk premium.

9

10

11

12

13

14

15

16

17

18

Q. ARE THERE OTHER CONSIDERATIONS THAT SHOULD BE ADDRESSED IN CONDUCTING THIS ANALYSIS?

19

20

A. Yes. In addition, it is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases).

21

22

23

1           Consequently, it is important to develop an analysis that: (1) reflects the  
2           inverse relationship between interest rates and the equity risk premium; and  
3           (2) is based on more recent market conditions.

4  
5           Such an analysis can be developed based on a regression of the risk premium  
6           as a function of Treasury yields. If we let authorized electric utility ROEs  
7           serve as the measure of required equity returns and define the yield on the  
8           long-term Treasury bond as the relevant measure of interest rates, the risk  
9           premium simply would be the difference between those two points.<sup>24</sup>

10  
11       Q.   WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

12       A.   As shown on Chart 1 below, from January 1, 1992 through November 1,  
13           2012, there was, in fact, a strong negative relationship between risk premia and  
14           interest rates. To estimate that relationship, I conducted a regression analysis  
15           using the following equation:

16                        $RP = a + b(T) \quad [4]$

17       where:

18                       RP = Risk Premium (difference between allowed ROEs and the  
19                       yield on 30- year Treasuries)

20                       a = Intercept term

21                       b = Slope term

22                       T = 30-year Treasury Bond Yield

23

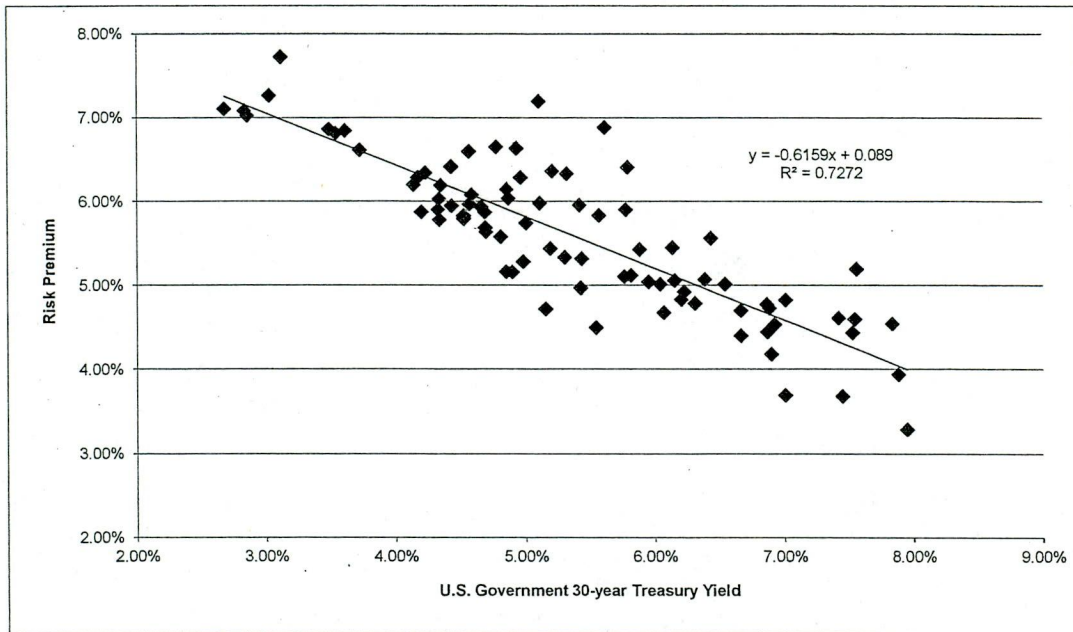
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<sup>24</sup> See e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

1 Data regarding allowed ROEs were derived from 556 rate cases from 1992  
2 through November 1, 2012 as reported by Regulatory Research Associates.  
3 This equation's coefficients were statistically significant at the 99.0 percent  
4 level.

5  
6

Chart 1: Risk Premium Results



7  
8

Reference period 1992 through November 1, 2012, as reported by Regulatory Research Associates.

9

10 As shown on Exhibit\_\_(AEB-1), Schedule 8, based on the current 30-day  
11 average of the 30-year U.S. Treasury bond yield (*i.e.*, 2.87 percent), the risk  
12 premium would be 7.13 percent, resulting in an estimated ROE of 10.00  
13 percent. Based on the near-term (2012-2013) projections of the 30-year U.S.  
14 Treasury bond yield (*i.e.*, 3.15 percent), the risk premium would be 6.96  
15 percent, resulting in an estimated ROE of 10.11 percent. Based on longer-  
16 term (2013-2017) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 5.10  
17 percent), the risk premium would be 5.76 percent, resulting in an estimated  
18 ROE of 10.86 percent. My ROE recommendation of 10.60 percent is also  
19 well within the range of results from my bond yield plus risk premium

1 approach and also corroborates my recommendation.

2  
3 **VII. CAPITAL MARKET ENVIRONMENT AND FACTORS**  
4 **AFFECTING THE COMPANY'S COST OF EQUITY AND**  
5 **APPROPRIATE ROE**  
6

7 Q. DO ECONOMIC CONDITIONS INFLUENCE THE REQUIRED COST OF CAPITAL  
8 AND REQUIRED ROE?

9 A. The required cost of capital, including the ROE, is a function of prevailing  
10 and expected economic and capital market conditions during the period that  
11 rates will be in effect. During times of capital market uncertainty, risk  
12 aversion increases, which causes investors to seek the relative safety of U.S.  
13 Treasury debt, resulting in lower U.S. Treasury bond yields. To the extent that  
14 observable measures of risk aversion, such as credit spreads and dividend yield  
15 spreads, remain elevated relative to historical norms, it would be incorrect to  
16 conclude that the Cost of Equity has materially decreased.

17  
18 Q. HOW SHOULD CURRENT ECONOMIC CONDITIONS BE TAKEN INTO  
19 CONSIDERATION IN THE ROE DETERMINATION IN THIS CASE?

20 A. Based on the continuing capital market uncertainty, it is important to assess  
21 the reasonableness of any financial model's results in the context of  
22 observable market data. To the extent that certain ROE estimates are  
23 incompatible with such metrics or inconsistent with basic financial principles,  
24 it is appropriate to consider whether alternative estimation techniques are  
25 likely to provide more meaningful and reliable results.

26  
27 Further, in my view, the authorized ROE in this proceeding will provide a

1 signal to the financial community concerning the Company's ability to meet its  
2 capital needs during a period in which its capital investments are increasing. If  
3 investors perceive a supportive regulatory environment, as evidenced by an  
4 allowed ROE that compensates NSPM at a level commensurate with its risk  
5 and reflective of the risks in the broader financial markets, the Company  
6 should be able to attract equity capital at a reasonable cost. Conversely, if  
7 investors perceive a lack of connection between the allowed ROE and current  
8 economic conditions, the regulatory environment would be seen as less  
9 supportive.

10

11 Q. PLEASE DESCRIBE THE CURRENT INTEREST RATE ENVIRONMENT.

12 A. Long-term Government Treasury interest rates are near the lowest level in the  
13 past 35 years. Consequently, the absolute level of utility bond yields are at  
14 their lowest levels in the past four business cycles. At the same time, however,  
15 credit spreads, or the difference between U.S. Treasury Bond yields and utility  
16 bond yields, have increased. Further, as discussed below, long-term interest  
17 rates on government bonds are projected to substantially increase over the  
18 next few years.

19

20 Q. DOES THE CURRENT LEVEL OF INTEREST RATES HAVE IMPLICATIONS FOR THE  
21 DCF AND CAPM ANALYSES?

22 A. Yes. The level of long-term interest rates has an effect on both the DCF and  
23 CAPM analyses. As such, the current level of interest rates and utility stock  
24 valuations could have a meaningful effect on the estimated ROE. In the case  
25 of the DCF model, for example, high stock valuations (associated with  
26 unusually low long-term interest rates) will tend to reduce dividend yields and,  
27 therefore, the estimated ROE. Similarly, unusually low long-term U.S.

1 Treasury Bond yields will reduce the risk-free rate component of the CAPM,  
2 again reducing the ROE result. In an economy with increasing interest rates,  
3 the prices for utility stocks would tend to decrease, thereby increasing  
4 dividend yields from current levels. Assuming constant growth, the result  
5 would be an increase in the ROE.

6  
7 Q. IS THERE A REASONABLE BASIS TO CONCLUDE THAT INTEREST RATES WILL BE  
8 INCREASING?

9 A. Yes. As noted earlier, the 30-day average yield on a 30-year U.S. Treasury  
10 bond is currently 2.87 percent. The consensus estimate provided by Blue  
11 Chip Financial Forecasts for the yield on the 30-year U.S. Treasury bond is  
12 3.15 percent through the end of 2013,<sup>25</sup> increasing to an average of 5.10  
13 percent for the period from 2014 through 2018.<sup>26</sup> Thus, the consensus  
14 forecasts project a substantial increase in U.S. Treasury bond yields over the  
15 next several years.

16  
17 Q. WHAT EFFECT DO RISING INTEREST RATES HAVE ON THE COST OF EQUITY?

18 A. The potential for rising interest rates would indicate that the calculated Cost of  
19 Equity for the proxy companies using current market data is likely to be  
20 conservative. Consequently, rising interest rates would support selection of an  
21 ROE toward the upper end of a reasonable range of equity cost rate estimates.

22  
23 Q. WHAT ADDITIONAL ANALYSIS HAVE YOU CONDUCTED TO ASSESS CURRENT  
24 CAPITAL MARKET CONDITIONS?

25 A. I considered two widely-recognized measures of investor risk sentiment: (1)  
26 incremental credit spreads; and (2) the relationship between the dividend

---

<sup>25</sup> Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2.

<sup>26</sup> Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.

1 yields of the proxy group companies and U.S. Treasury bond yields. I  
 2 compared current market conditions to the two-year period prior to the 2007-  
 3 2009 recession (*i.e.*, January 2006 through November 2007), and to the capital  
 4 market contraction period of 2002-2003. As shown in Table 6, those metrics  
 5 indicate that current levels of risk aversion are significantly higher than the  
 6 levels observed prior to the recent recession and the levels experienced during  
 7 the 2002-2003 capital market contraction.

8 **Table 6: Risk Sentiment Indicators<sup>27</sup>**  
 9

	<b>Current</b> (November 16, 2012) <sup>28</sup>	<b>Pre- recession</b> (Jan-2006 through Nov-2007)	<b>Contraction</b> (Jan-2002 through Dec-2003)
Credit Spreads (Moody's Utility Bond Index) Baa-rated bond to A-rated bond	0.82%	0.25%	0.46%
Dividend Yield Spreads 10-year U.S. Treasury Bond to Proxy Group Average Dividend Yield	-2.56%	0.57%	-1.88%

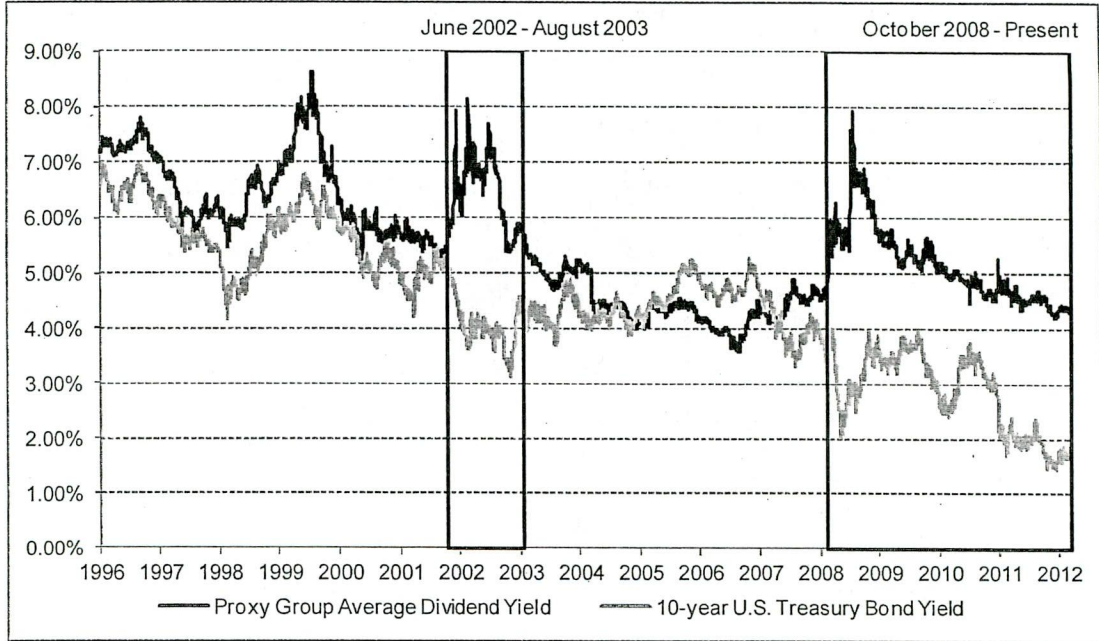
10  
 11 Chart 2 below demonstrates that the average dividend yield for the proxy  
 12 group has continued to exceed the ten-year U.S. Treasury bond yield since the  
 13 beginning of the financial crisis in late 2008.

<sup>27</sup> Bloomberg Professional Service.

<sup>28</sup> 90-trading day average as of November 16, 2012.

1  
2

Chart 2: Ten-year U.S. Treasury Bond Yield vs. Proxy Group Average Dividend Yield Inversion



3  
4

5 Q. WHAT CONCLUSIONS DO YOU DRAW FROM THOSE ANALYSES?

6 A. Those analyses clearly demonstrate that risk aversion, as measured by credit  
7 spreads and dividend yield spreads, is higher today than during either the pre-  
8 recession period or the 2002-2003 market dislocation that affected all market  
9 segments, including utilities. One outcome of the 2002-2003 market  
10 dislocation was a renewed emphasis on capital market access and the  
11 importance of maintaining a strong financial profile, both of which are equally  
12 important in the current market environment. The result of market  
13 uncertainty and risk aversion, of course, is an increased, not a decreased, Cost  
14 of Equity.

15

16 Q. PLEASE BRIEFLY SUMMARIZE THE COMPANY'S CAPITAL INVESTMENT PLANS.

17 A. The Company is projecting to invest approximately \$5.9 billion in its system

1 over the period from 2013–2017.<sup>29</sup> These capital investments will require  
2 ongoing access to both debt and equity markets.

3  
4 Q. HOW DOES THE COMPANY'S CAPITAL INVESTMENT PLAN AFFECT ITS NEED  
5 FOR ACCESS TO CAPITAL MARKETS?

6 A. The Company will be competing with other utilities for needed debt and  
7 equity capital, and investors are very attentive to the levels of regulatory  
8 support for investments.

9  
10 Q. HOW DOES THE ALLOWED ROE AFFECT THE COMPANY'S ABILITY TO OBTAIN  
11 NEEDED CAPITAL AT REASONABLE TERMS AND COSTS?

12 A. The financial community carefully monitors the current and expected financial  
13 condition of utility companies, as well as the regulatory environment in which  
14 they operate. In that respect, the regulatory environment is one of the most  
15 important factors considered in both debt and equity investors' assessments of  
16 risk. This is especially important during a period of significant capital  
17 spending when the Company may require access to capital markets. The  
18 allowed ROE should enable the Company to finance capital expenditures and  
19 working capital requirements at reasonable costs and maintain financial  
20 integrity during a variety of economic and capital market conditions. A ROE  
21 that is adequate to attract capital at reasonable costs enables the utility to  
22 provide safe, reliable service while maintaining its financial soundness.

23  
24 Q. HOW ARE RATEPAYERS AFFECTED BY THE TERMS AND COSTS BY WHICH THE  
25 COMPANY IS ABLE TO OBTAIN NEEDED CAPITAL?

26 A. To the extent the Company is provided the opportunity to earn its market-

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<sup>29</sup> Xcel Energy Inc. Q3 2012 Earnings Release, October 25, 2012, p. 10.

1 based cost of capital, neither customers nor shareholders should be  
2 disadvantaged. The ratemaking process is premised on the principle that, in  
3 order for investors and companies to commit the capital needed to provide  
4 safe and reliable utility services, the utility must have the opportunity to  
5 recover the return of, and the market-required return on, invested capital.  
6

7 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF THE COMPANY'S  
8 CAPITAL SPENDING PLANS?

9 A. It is clear that the Company's capital expenditure program is significant. It also  
10 is clear that the financial community recognizes the need for timely cost  
11 recovery for those capital expenditures. As such, the Commission's decision in  
12 this proceeding will have a direct bearing the Company's ability to maintain its  
13 credit profile, and its ability to access the capital market.  
14

## 15 VIII. CAPITAL STRUCTURE AND COST OF DEBT

16

### 17 A. Capital Structure

18 Q. WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

19 A. The Company's proposed capital structure consists of 52.56 percent common  
20 equity, 44.96 percent long-term debt, and 2.48 percent short-term debt.  
21

22 Q. PLEASE DISCUSS YOUR ANALYSIS OF THE CAPITAL STRUCTURES OF THE PROXY  
23 GROUP COMPANIES.

24 A. My analysis of the actual proxy group capital structures is provided in  
25 Exhibit\_\_(AEB-1), Schedule 9. As shown in that Schedule, the mean  
26 common equity ratio is 52.10 percent and the range is 47.01 percent to 59.90

1 percent over the most recent eight quarters<sup>30</sup> for each of the proxy group  
2 companies at the operating company level. The Company's proposed equity  
3 ratio of 52.56 percent is within the range of the proxy companies.  
4

5 Q. IS THE COMPANY'S CAPITAL STRUCTURE SEPARATE FROM THE XEI CAPITAL  
6 STRUCTURE?

7 A. Yes. As I noted earlier in my Direct Testimony, the Company is a separate  
8 subsidiary of XEI. It has separate credit ratings and files separate 10-K and  
9 10-Q statements with the Securities and Exchange Commission that reflect  
10 the Company's actual financial capital structure. The Company currently has  
11 approximately \$3.3 billion principal amount of separately-issued and publicly-  
12 traded long-term debt securities outstanding. Investors in the Company's  
13 publicly-traded debt securities and the credit rating agencies have relied on the  
14 Company's actual capital structure, as reflected in these SEC filings. The  
15 Company also has its own short-term debt.  
16

17 Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL  
18 STRUCTURE FOR NSPM?

19 A. Considering the actual capital structures of the proxy group and the  
20 Company's extensive capital investment program, I believe that the  
21 Company's proposed equity ratio of 52.56 percent is reasonable.  
22

### 23 **B. Cost of Debt**

24 Q. WHAT IS THE COMPANY'S PROPOSED COST OF LONG-TERM DEBT?

25 A. The Company is proposing to use its actual cost of long-term debt of 5.14  
26 percent. The calculation of the cost of long-term debt is provided on

---

<sup>30</sup> In this analysis, I calculated the average capital structure using the quarterly capital structures reported for the proxy group operating utility companies for the period from September 2010 through June 2012.

1 Exhibit\_\_(AEB-1), Schedule 10.  
2

3 Q. IS THE COMPANY'S COST OF DEBT REASONABLE?

4 A. Yes. The proposed cost of long-term debt reflects the Company's actual debt  
5 costs. The cost of long term debt has decreased by 0.93 percent<sup>31</sup> since the  
6 Company's last rate case, reflecting changes in the market costs of debt and  
7 the Company's A- credit rating. Furthermore, the Company's short-term cost  
8 of debt of 0.75 also declined by 1.31 percent since the Company's last rate  
9 case.<sup>32</sup>  
10

## 11 IX. SUMMARY AND CONCLUSIONS

12

13 Q. WHAT IS YOUR CONCLUSION REGARDING THE ROE AND CAPITAL STRUCTURE  
14 TO BE DETERMINED IN THIS CASE?

15 A. Based on the various quantitative and qualitative analyses presented in my  
16 Direct Testimony, I believe that the proxy group produces a range of ROE  
17 from approximately 10.40 percent to 10.75 percent. Further, in light this  
18 information and NSPM's significant investment plan, it is my view that an  
19 ROE of 10.60 percent is reasonable. It is my view that a 10.60 percent ROE  
20 would reasonably balance the interests of customers and shareholders by  
21 enabling the Company to maintain its financial integrity and therefore its  
22 ability to attract capital at reasonable rates under a variety of different  
23 economic and financial market conditions. As shown in Table 7, below, the  
24 range of results produced by my DCF analyses and is corroborated by my  
25 CAPM and Bond Yield Plus Risk Premium methodologies.

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<sup>31</sup> Case No. PU-10-657, Exhibit \_\_(AEH-1), Schedule 7 indicates that the long-term cost of debt was 6.07 percent and the cost of short-term debt was 2.06 percent.

<sup>32</sup> *Ibid.*

1

**Table 7: Summary of Analytical Results**

<b>Constant Growth DCF- Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	9.10%	10.71%	13.06%
90-Day Average Price	9.06%	10.67%	13.02%
180-Day Average Price	9.16%	10.78%	13.13%
<b>Multi-Stage DCF-Including Flotation Costs</b>			
	Mean (Low Growth)	Mean	Mean (High Growth)
30-Day Average Price	10.07%	10.54%	11.38%
90-Day Average Price	10.03%	10.50%	11.34%
180-Day Average Price	10.13%	10.61%	11.47%
<b>Capital Asset Pricing Model</b>			
	<b>Current Risk-Free Rate (2.87%)</b>	<b>2012-2014 Projected Risk-Free Rate (3.15%)</b>	<b>2014-2018 Projected Risk-Free Rate (5.10%)</b>
Bloomberg Beta	9.90%	9.98%	10.56%
Value Line Beta	10.01%	10.09%	10.64%
<b>Bond Yield Plus Risk Premium</b>			
	<b>Low</b>	<b>Mean</b>	<b>High</b>
Risk Premium	10.00%	10.11%	10.86%

2 I also conclude that the Company's proposed capital structure, which consists  
 3 of 52.56 percent common equity, 44.96 percent long-term debt and 2.48  
 4 percent short-term debt, and a ROR of 7.90 percent, as set forth in Table 8  
 5 below, are reasonable.

6

**Table 8: Weighted Cost of Capital**

	Percentage of Total Capitalization	Cost of Capital	Weighted Cost of Capital
Long Term Debt	44.96%	5.14%	2.31%
Short Term Debt	2.48%	0.75%	0.02%
Long Term and Short Term Debt	47.44%	4.91%	2.33%
Common Equity	52.56%	10.60%	5.57%
Total Capitalization	100%		7.90%

7

8 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

9 A. Yes, it does.

**Ann E. Bulkley**  
**Vice President**

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Ms. Bulkley has over two decades of management and economic consulting experience in the energy industry. Ms. Bulkley has extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity and capital structure issues. Ms. Bulkley has worked on acquisition teams with investors seeking to acquire utility assets, providing valuation services including an understanding of regulation, market expected returns, and the assessment of utility risk factors. In addition, Ms. Bulkley has over 15 years of valuation experience assisting clients with valuations of public utility and industrial properties for ratemaking, purchase and sale considerations, ad valorem tax assessments, and accounting and financial purposes.

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**REPRESENTATIVE PROJECT EXPERIENCE**

**Regulatory Analysis and Ratemaking**

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies; development of merchant function exit strategies; analysis and program development to address residual energy supply and/or provider of last resort obligations; stranded costs assessment and recovery; performance-based ratemaking analysis and design; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

***Cost of Capital***

Ms. Bulkley has been instrumental in developing Concentric's cost of capital practice including developing the analytical foundation, providing strategic advice to expert witnesses, counsel and company staff and providing expert testimony. Ms. Bulkley has prepared cost of capital testimony and supporting analysis for at least forty Federal and State regulatory proceedings over the past five years. Representative projects have included:

- Northern States Power Company: Before the North Dakota Public Service Commission, provided expert testimony on the cost of capital for the company's North Dakota electric utility operations.
- WE Energies: Before the Michigan Public Service Commission, provided expert testimony in support of the company's cost of capital for its electric utility operations.
- CenterPoint Energy: Provided analytical support and testimony development for Concentric expert witnesses in seven rate proceedings for electric and natural gas operations in Arkansas, Minnesota, Oklahoma and Texas.
- Ameren: Provided analytical support and testimony development for Concentric expert witnesses in four rate proceedings for electric and natural gas operations in Illinois and Missouri.
- Potomac Edison Power Company: Provided analytical support and testimony development for Concentric expert witnesses in six rate proceedings in Delaware, Maryland, New Jersey, and Washington DC.

- In addition to the specific cases listed above, Ms. Bulkley has provided testimony strategy as well as analytical support on cost of capital in several cases in the following states: Arizona, Colorado, Connecticut, Massachusetts, Minnesota, New Mexico, New York, North Carolina, South Carolina, South Dakota, Virginia, and Utah.
- Portland Natural Gas Transmission: Provided testimony strategy as well as analytical support for cost of capital testimony before the Federal Energy Regulatory Commission.

### *Valuation*

Ms. Bulkley has provided valuation services to utility clients, unregulated generators and private equity clients for a variety of purposes including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. In these assignments, Ms. Bulkley has relied on the traditional approaches to valuation including income, cost and comparable market transactions analyses as well as other simulation based valuation methodologies.

Representative projects/clients have included:

- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.
- Northern Indiana Fuel and Light: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Kokomo Gas: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.
- Prepared a valuation of numerous generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract. Assisted clients in implementing generation divestiture programs. Acted as a liaison between the bidders and the seller in the divestiture process. Provided documentation, detailed due diligence and marketing support. Participated in site tour development, training and implementation.
- Prepared a valuation of numerous purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and VAR for the selling utility.

- Prepared a valuation of several FirstEnergy generating facilities using the income, cost, and comparable sales approaches as well as risk analysis. Prepared an independent report.
- Prepared valuation of fossil generating assets to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

#### ***Rate-making***

Ms. Bulkley has assisted several clients across with analysis to support investor-owned and municipal utility clients in the preparation of rate cases.

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.
- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

#### **Strategic and Financial Advisory Services**

Ms. Bulkley has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed, and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support

of several merger cases and participated in the regulatory process to obtain approval for these mergers.

- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

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## PROFESSIONAL HISTORY

### **Concentric Energy Advisors, Inc. (2002 – Present)**

Vice President

Assistant Vice President

Project Manager

### **Navigant Consulting, Inc. (1995 – 2002)**

Project Manager

### **Cahners Publishing Company (1995)**

Economist

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## EDUCATION

M.A., Economics, Boston University, 1995

B.A., Economics and Finance, Simmons College, 1991

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EXPERT TESTIMONY OF ANN E. BULKLEY

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
<b>Indiana Utility Regulatory Commission</b>				
Kokomo Gas And Fuel Company	09/10	Kokomo Gas And Fuel Company	Docket No. 43942	Fair Value
Northern Indiana Fuel And Light Company, Inc.	09/10	Northern Indiana Fuel And Light Company, Inc.	Docket No. 43943	Fair Value
<b>Massachusetts Department of Public Utilities</b>				
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
<b>Michigan Public Service Commission</b>				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
<b>North Dakota Public Service Commission</b>				
Northern States Power Company-MN	12/10	Northern States Power Company-MN	C-PU-10-657	Return on Equity

30 DAY CONSTANT GROWTH DCF

Company		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	First Call EPS Growth	Zacks EPS Growth	Average Growth Rate	Low DCF ROE	Mean DCF ROE	High DCF ROE
ALLETE, Inc.	ALE	\$1.84	\$40.98	4.49%	4.64%	9.00%	6.00%	5.50%	6.83%	10.11%	11.48%	13.69%
American Electric Power Company, Inc.	AEP	\$1.88	\$43.59	4.31%	4.38%	3.00%	3.36%	3.48%	3.28%	7.38%	7.66%	7.87%
Cleco Corporation	CNL	\$1.35	\$41.51	3.25%	3.32%	6.50%	3.00%	3.00%	4.17%	6.30%	7.49%	9.86%
Empire District Electric Company	EDE	\$1.00	\$21.26	4.70%	4.89%	6.00%	10.20%	Zero	8.10%	10.85%	12.99%	15.14%
FirstEnergy Corporation	FE	\$2.20	\$44.25	4.97%	5.06%	5.00%	2.50%	2.50%	3.33%	7.53%	8.39%	10.10%
Great Plains Energy Inc.	GXP	\$0.85	\$21.92	3.88%	4.03%	5.50%	10.35%	8.17%	8.01%	9.48%	12.04%	14.43%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$25.75	4.81%	5.01%	9.00%	8.10%	7.05%	8.05%	12.03%	13.06%	14.03%
IDACORP, Inc.	IDA	\$1.52	\$43.62	3.48%	3.54%	2.00%	4.00%	4.00%	3.33%	5.52%	6.88%	7.55%
Otter Tail Corporation	OTTR	\$1.19	\$23.88	4.98%	5.27%	24.00%	5.00%	5.00%	11.33%	10.11%	16.60%	29.58%
Pinnacle West Capital Corporation	PNW	\$2.18	\$52.10	4.18%	4.30%	5.00%	5.07%	6.03%	5.37%	9.29%	9.66%	10.34%
Portland General Electric Company	POR	\$1.08	\$27.00	4.00%	4.08%	5.50%	2.67%	4.08%	4.08%	6.72%	8.16%	9.61%
Southern Company	SO	\$1.96	\$45.14	4.34%	4.45%	5.00%	5.18%	5.22%	5.13%	9.45%	9.59%	9.68%
Westar Energy, Inc.	WR	\$1.32	\$29.27	4.51%	4.68%	6.50%	10.00%	5.67%	7.39%	10.31%	12.07%	14.74%
		PROXY GROUP MEAN		4.30%	4.43%	7.08%	5.80%	4.98%	6.03%	8.85%	10.47%	12.82%
									Flotation Cost	0.25%	0.25%	0.25%
										9.10%	10.71%	13.06%

Notes

- [1] Source: Bloomberg
- [2] Source: Bloomberg. Based on indicated number of days historical average.
- [3] Equals Col. [1]/Col. [2]
- [4] Equals Col. [3] x (1 + 0.5 x Col. [8])
- [5] Source: Value Line
- [6] Source: First Call
- [7] Source: Zacks
- [8] Equals Avg (Col. [5], [6], [7])
- [9] Equals Col. [3] x (1 + 0.5 x (Minimum (Col. [5], [6], [7]))) + Minimum (Col. [5], [6], [7])
- [10] Equals Col. [4] + Col. [8]
- [11] Equals Col. [3] x (1 + 0.5 x (Maximum (Col. [5], [6], [7]))) + Maximum (Col. [5], [6], [7])

90 DAY CONSTANT GROWTH DCF

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]		
Company	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	First Call EPS Growth	Zacks EPS Growth	Average Growth Rate	Low DCF ROE	Mean DCF ROE	High DCF ROE	
ALLETE, Inc.	ALE	\$1.84	\$41.35	4.45%	4.60%	9.00%	6.00%	5.50%	6.83%	10.07%	11.44%	13.65%
American Electric Power Company, Inc.	AEP	\$1.88	\$43.14	4.36%	4.43%	3.00%	3.36%	3.48%	3.28%	7.42%	7.71%	7.91%
Cleco Corporation	CNL	\$1.35	\$42.05	3.21%	3.28%	6.50%	3.00%	3.00%	4.17%	6.26%	7.44%	9.81%
Empire District Electric Company	EDE	\$1.00	\$21.40	4.67%	4.86%	6.00%	10.20%	Zero	8.10%	10.81%	12.96%	15.11%
FirstEnergy Corporation	FE	\$2.20	\$45.49	4.84%	4.92%	5.00%	2.50%	2.50%	3.33%	7.40%	8.25%	9.96%
Great Plains Energy Inc.	GXP	\$0.85	\$21.98	3.87%	4.02%	5.50%	10.35%	8.17%	8.01%	9.47%	12.03%	14.42%
Hawaiian Electric Industries, Inc.	HE	\$1.24	\$26.97	4.60%	4.78%	9.00%	8.10%	7.05%	8.05%	11.81%	12.83%	13.80%
IDACORP, Inc.	IDA	\$1.52	\$42.91	3.54%	3.60%	2.00%	4.00%	4.00%	3.33%	5.58%	6.94%	7.61%
Otter Tail Corporation	OTTR	\$1.19	\$23.56	5.05%	5.34%	24.00%	5.00%	5.00%	11.33%	10.18%	16.67%	29.66%
Pinnacle West Capital Corporation	PNW	\$2.18	\$52.59	4.15%	4.26%	5.00%	5.07%	6.03%	5.37%	9.25%	9.62%	10.30%
Portland General Electric Company	POR	\$1.08	\$27.16	3.98%	4.06%	5.50%	2.67%	4.08%	4.08%	6.70%	8.14%	9.59%
Southern Company	SO	\$1.96	\$45.99	4.26%	4.37%	5.00%	5.18%	5.22%	5.13%	9.37%	9.50%	9.59%
Westar Energy, Inc.	WR	\$1.32	\$29.66	4.45%	4.61%	6.50%	10.00%	5.67%	7.39%	10.25%	12.00%	14.67%
PROXY GROUP MEAN			4.26%	4.39%	7.08%	5.80%	4.98%	6.03%	8.81%	10.43%	12.78%	
									Flotation Cost	0.25%	0.25%	0.25%
										9.06%	10.67%	13.02%

Notes

- [1] Source: Bloomberg
- [2] Source: Bloomberg. Based on indicated number of days historical average.
- [3] Equals Col. [1]/Col. [2]
- [4] Equals Col. [3] x (1 + 0.5 x Col. [8])
- [5] Source: Value Line
- [6] Source: First Call
- [7] Source: Zacks
- [8] Equals Avg (Col. [5], [6], [7])
- [9] Equals Col. [3] x (1 + 0.5 x (Minimum (Col. [5], [6], [7]))) + Minimum (Col. [5], [6], [7])
- [10] Equals Col. [4] + Col. [8]
- [11] Equals Col. [3] x (1 + 0.5 x (Maximum (Col. [5], [6], [7]))) + Maximum (Col. [5], [6], [7])

180 DAY CONSTANT GROWTH DCF

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Company	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	First Call EPS Growth	Zacks EPS Growth	Average Growth Rate	Low DCF ROE	Mean DCF ROE	High DCF ROE
ALLETE, Inc.	ALE \$1.84	\$41.00	4.49%	4.64%	9.00%	6.00%	5.50%	6.83%	10.11%	11.47%	13.69%
American Electric Power Company, Inc.	AEP \$1.88	\$40.92	4.59%	4.67%	3.00%	3.36%	3.48%	3.28%	7.66%	7.95%	8.15%
Cleco Corporation	CNL \$1.35	\$41.15	3.28%	3.35%	6.50%	3.00%	3.00%	4.17%	6.33%	7.52%	9.89%
Empire District Electric Company	EDE \$1.00	\$20.90	4.78%	4.98%	6.00%	10.20%	Zero	8.10%	10.93%	13.08%	15.23%
FirstEnergy Corporation	FE \$2.20	\$46.07	4.77%	4.85%	5.00%	2.50%	2.50%	3.33%	7.33%	8.19%	9.89%
Great Plains Energy Inc.	GXP \$0.85	\$21.12	4.02%	4.18%	5.50%	10.35%	8.17%	8.01%	9.63%	12.19%	14.58%
Hawaiian Electric Industries, Inc.	HE \$1.24	\$26.78	4.63%	4.82%	9.00%	8.10%	7.05%	8.05%	11.84%	12.87%	13.84%
IDACORP, Inc.	IDA \$1.52	\$41.61	3.65%	3.71%	2.00%	4.00%	4.00%	3.33%	5.69%	7.05%	7.73%
Otter Tail Corporation	OTTR \$1.19	\$22.69	5.24%	5.54%	24.00%	5.00%	5.00%	11.33%	10.38%	16.87%	29.87%
Pinnacle West Capital Corporation	PNW \$2.18	\$50.67	4.30%	4.42%	5.00%	5.07%	6.03%	5.37%	9.41%	9.78%	10.46%
Portland General Electric Company	POR \$1.08	\$26.27	4.11%	4.20%	5.50%	2.67%	4.08%	4.08%	6.84%	8.28%	9.72%
Southern Company	SO \$1.96	\$45.83	4.28%	4.39%	5.00%	5.18%	5.22%	5.13%	9.38%	9.52%	9.61%
Westar Energy, Inc.	WR \$1.32	\$29.05	4.54%	4.71%	6.50%	10.00%	5.67%	7.39%	10.34%	12.10%	14.77%
		PROXY GROUP MEAN	4.36%	4.50%	7.08%	5.80%	4.98%				
								Flotation Cost	6.03%	8.91%	10.53%
									0.25%	0.25%	0.25%
									9.16%	10.78%	13.13%

Notes

- [1] Source: Bloomberg
- [2] Source: Bloomberg. Based on indicated number of days historical average.
- [3] Equals Col. [1]/Col. [2]
- [4] Equals Col. [3] x (1 + 0.5 x Col. [8])
- [5] Source: Value Line
- [6] Source: First Call
- [7] Source: Zacks
- [8] Equals Avg (Col. [5], [6], [7])
- [9] Equals Col. [3] x (1 + 0.5 x (Minimum (Col. [5], [6], [7]))) + Minimum (Col. [5], [6], [7])
- [10] Equals Col. [4] + Col. [8]
- [11] Equals Col. [3] x (1 + 0.5 x (Maximum (Col. [5], [6], [7]))) + Maximum (Col. [5], [6], [7])

FLOTATION COST ADJUSTMENT

Flotation Costs from Inception to Date

Date	Shares Issued	Market Price	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds	Total Flotation Costs	Gross Equity Issue before Costs	Net Proceeds	Flotation Cost Percentage
11/16/1949	1,584,238	\$10.750	\$10.250	\$0.124	\$0.137	\$9,989	\$1,205,605	\$17,030,559	\$15,824,953	7.079%
6/4/1952	1,108,966	\$10.500	\$10.500	\$0.098	\$0.162	\$10,240	\$288,331	\$11,644,143	\$11,355,812	2.476%
4/14/1954	1,219,856	\$15.250	\$14.000	\$0.060	\$0.124	\$13,816	\$1,749,274	\$18,602,804	\$16,853,530	9.403%
2/29/1956	670,920	\$17.825	\$16.750	\$0.050	\$0.221	\$16,479	\$903,058	\$11,959,149	\$11,056,091	7.551%
7/22/1959	952,033	\$23.375	\$22.000	\$0.069	\$0.191	\$21,740	\$1,556,574	\$22,253,771	\$20,697,197	6.995%
7/28/1965	772,008	\$35.250	\$33.000	\$0.092	\$0.225	\$32,683	\$1,981,745	\$27,213,282	\$25,231,537	7.282%
1/22/1969	1,080,811	\$29.000	\$27.000	\$0.119	\$0.187	\$26,694	\$2,492,350	\$31,343,519	\$28,851,169	7.952%
10/21/1970	1,729,298	\$23.125	\$21.500	\$0.175	\$0.149	\$21,176	\$3,370,402	\$39,990,016	\$36,619,614	8.428%
7/26/1972	1,902,228	\$25.000	\$23.500	\$0.129	\$0.166	\$23,205	\$3,414,499	\$47,555,700	\$44,141,201	7.180%
10/10/1973	2,092,451	\$25.825	\$24.500	\$0.128	\$0.153	\$24,219	\$3,360,476	\$54,037,547	\$50,677,071	6.219%
11/20/1974	2,300,000	\$17.625	\$17.500	\$0.910	\$0.069	\$16,521	\$2,539,200	\$40,537,500	\$37,998,300	6.264%
8/14/1975	1,750,000	\$23.000	\$23.000	\$0.740	\$0.077	\$22,183	\$1,429,750	\$40,250,000	\$38,820,250	3.552%
6/3/1976	2,000,000	\$24.000	\$24.000	\$0.720	\$0.064	\$23,216	\$1,568,000	\$48,000,000	\$46,432,000	3.267%
5/31/1993	3,041,955	\$44.125	\$43.625	\$1.200	\$0.048	\$42,377	\$5,317,337	\$134,226,264	\$128,908,927	3.961%
9/23/1997	4,500,000	\$49.938	\$49.563	\$1.230	\$0.133	\$48,200	\$7,821,000	\$224,721,000	\$216,900,000	3.480%
9/29/1997	400,000	\$50.500	\$49.563	\$1.230	\$0.133	\$48,200	\$920,000	\$20,200,000	\$19,280,000	4.554%
2/25/2002	20,000,000	\$22.950	\$22.500	\$0.730	\$0.015	\$21,755	\$23,900,000	\$459,000,000	\$435,100,000	5.207%
9/9/2008	17,250,000	\$20.860	\$20.200	\$0.100	\$0.006	\$20,094	\$13,218,352	\$359,835,000	\$346,616,648	3.673%
8/3/2010	21,850,000	\$22.100	\$21.500	\$0.645	\$0.013	\$20,571	\$33,407,827	\$482,885,000	\$449,477,073	6.918%
<b>Weighted Average Flotation Costs</b>							<b>\$110,443,880</b>	<b>\$2,091,285,255</b>	<b>\$1,980,841,375</b>	<b>5.281%</b>

The flotation adjustment is derived by dividing the dividend yield by 1-F (where F = flotation costs expressed in percentage terms), or by 0.9472, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

Source: Company data.

[1] This issuance was structured as a forward equity sale. The spread between the initial forward sale price (i.e., \$20.855) and the actual forward settle price (i.e., \$20.584) is reflected in the net proceeds.

FLOTATION COST ADJUSTMENT

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Stock Price	Annualized Dividend	Dividend Yield	Expected Dividend Yield	Expected Dividend Yield Adjusted for Flotation Costs	Value Line EPS Growth	First Call EPS Growth	Zacks EPS Growth	Average Growth Estimate	DCF k(e)	Flotation Adjusted DCF k(e)
ALLETE, Inc.	ALE	\$40.98	\$1.84	4.49%	4.64%	4.90%	9.00%	6.00%	5.50%	6.83%	11.48%	11.74%
American Electric Power Company, Inc.	AEP	\$43.59	\$1.88	4.31%	4.38%	4.63%	3.00%	3.36%	3.48%	3.28%	7.66%	7.91%
Cleco Corporation	CNL	\$41.51	\$1.35	3.25%	3.32%	3.51%	6.50%	3.00%	3.00%	4.17%	7.49%	7.67%
Empire District Electric Company	EDE	\$21.26	\$1.00	4.70%	4.89%	5.17%	6.00%	10.20%	Zero	8.10%	12.99%	13.27%
FirstEnergy Corporation	FE	\$44.25	\$2.20	4.97%	5.06%	5.34%	5.00%	2.50%	2.50%	3.33%	8.39%	8.67%
Great Plains Energy Inc.	GXP	\$21.92	\$0.85	3.88%	4.03%	4.26%	5.50%	10.35%	8.17%	8.01%	12.04%	12.26%
Hawaiian Electric Industries, Inc.	HE	\$25.75	\$1.24	4.81%	5.01%	5.29%	9.00%	8.10%	7.05%	8.05%	13.06%	13.34%
IDACORP, Inc.	IDA	\$43.62	\$1.52	3.48%	3.54%	3.74%	2.00%	4.00%	4.00%	3.33%	6.88%	7.07%
Otter Tail Corporation	OTTR	\$23.88	\$1.19	4.98%	5.27%	5.56%	24.00%	5.00%	5.00%	11.33%	16.60%	16.89%
Pinnacle West Capital Corporation	PNW	\$52.10	\$2.18	4.18%	4.30%	4.54%	5.00%	5.07%	6.03%	5.37%	9.66%	9.90%
Portland General Electric Company	POR	\$27.00	\$1.08	4.00%	4.08%	4.31%	5.50%	2.67%	4.08%	4.08%	8.16%	8.39%
Southern Company	SO	\$45.14	\$1.96	4.34%	4.45%	4.70%	5.00%	5.18%	5.22%	5.13%	9.59%	9.83%
Westar Energy, Inc.	WR	\$29.27	\$1.32	4.51%	4.68%	4.94%	6.50%	10.00%	5.67%	7.39%	12.07%	12.33%
		PROXY GROUP MEAN		4.30%	4.43%	4.68%	7.08%	5.80%	4.98%	6.03%	10.47%	10.71%
MEAN												10.71%
UNADJUSTED CONSTANT GROWTH DCF MEAN												10.47%
DIFFERENCE (FLOTATION COST ADJUSTMENT)												[12] 0.25%

[1] Source: Bloomberg, 30 day average price  
 [2] Source: Bloomberg  
 [3] Equals Col. [1] / Col. [2]  
 [4] Equals Col. [3] x [1+ (.5 x Col. [9])]  
 [5] Equals [Expected Dividend Yield] / [1- Flotation Cost Percentage]  
 [6] Source: Value Line  
 [7] Source: First Call  
 [8] Source: Zacks  
 [9] Average of columns [6], [7], [8]  
 [10] = Column [4] + Column [9]  
 [11] = Column [5] + Column [9]  
 [12] = Col. [11] - Col. [10]

30-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
					Second Stage Growth					Third Stage Growth	ROE
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$40.98	\$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.67%
American Electric Power Company, Inc.	AEP	\$43.59	\$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.49%
Cleco Corporation	CNL	\$41.51	\$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.68%
Empire District Electric Company	EDE	\$21.26	\$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.33%
FirstEnergy Corporation	FE	\$44.25	\$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	10.12%
Great Plains Energy Inc.	GXP	\$21.92	\$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.31%
Hawaiian Electric Industries, Inc.	HE	\$25.75	\$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.44%
IDACORP, Inc.	IDA	\$43.62	\$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.73%
Otter Tail Corporation	OTTR	\$23.88	\$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	12.86%
Pinnacle West Capital Corporation	PNW	\$52.10	\$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	9.92%
Portland General Electric Company	POR	\$27.00	\$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.39%
Southern Company	SO	\$45.14	\$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	10.01%
Westar Energy, Inc.	WR	\$29.27	\$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.87%
MEAN											10.29%
FLOTATION COST											0.25%
											10.54%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

90-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
					Second Stage Growth					Third Stage	ROE
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Growth	
ALLETE, Inc.	ALE	\$41.35	\$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.63%
American Electric Power Company, Inc.	AEP	\$43.14	\$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.53%
Cleco Corporation	CNL	\$42.05	\$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.64%
Empire District Electric Company	EDE	\$21.40	\$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.29%
FirstEnergy Corporation	FE	\$45.49	\$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	10.00%
Great Plains Energy Inc.	GXP	\$21.98	\$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.29%
Hawaiian Electric Industries, Inc.	HE	\$26.97	\$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.18%
IDACORP, Inc.	IDA	\$42.91	\$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.78%
Otter Tail Corporation	OTTR	\$23.56	\$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	12.95%
Pinnacle West Capital Corporation	PNW	\$52.59	\$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	9.87%
Portland General Electric Company	POR	\$27.16	\$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.37%
Southern Company	SO	\$45.99	\$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	9.93%
Westar Energy, Inc.	WR	\$29.66	\$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.80%
MEAN											10.25%
FLOTATION COST											10.50%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

180-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
					Second Stage Growth					Third Stage	ROE
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Growth	
ALLETE, Inc.	ALE	\$41.00	\$1.84	6.83%	6.62%	6.41%	6.19%	5.98%	5.76%	5.55%	10.67%
American Electric Power Company, Inc.	AEP	\$40.92	\$1.88	3.28%	3.66%	4.04%	4.42%	4.79%	5.17%	5.55%	9.75%
Cleco Corporation	CNL	\$41.15	\$1.35	4.17%	4.40%	4.63%	4.86%	5.09%	5.32%	5.55%	8.71%
Empire District Electric Company	EDE	\$20.90	\$1.00	8.10%	7.68%	7.25%	6.83%	6.40%	5.98%	5.55%	11.42%
FirstEnergy Corporation	FE	\$46.07	\$2.20	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	9.94%
Great Plains Energy Inc.	GXP	\$21.12	\$0.85	8.01%	7.60%	7.19%	6.78%	6.37%	5.96%	5.55%	10.48%
Hawaiian Electric Industries, Inc.	HE	\$26.78	\$1.24	8.05%	7.63%	7.22%	6.80%	6.38%	5.97%	5.55%	11.22%
IDACORP, Inc.	IDA	\$41.61	\$1.52	3.33%	3.70%	4.07%	4.44%	4.81%	5.18%	5.55%	8.89%
Otter Tail Corporation	OTTR	\$22.69	\$1.19	11.33%	10.37%	9.41%	8.44%	7.48%	6.51%	5.55%	13.22%
Pinnacle West Capital Corporation	PNW	\$50.67	\$2.18	5.37%	5.40%	5.43%	5.46%	5.49%	5.52%	5.55%	10.04%
Portland General Electric Company	POR	\$26.27	\$1.08	4.08%	4.33%	4.57%	4.82%	5.06%	5.31%	5.55%	9.50%
Southern Company	SO	\$45.83	\$1.96	5.13%	5.20%	5.27%	5.34%	5.41%	5.48%	5.55%	9.95%
Westar Energy, Inc.	WR	\$29.05	\$1.32	7.39%	7.08%	6.78%	6.47%	6.16%	5.86%	5.55%	10.91%
MEAN											10.36%
FLOTATION COST											0.25%
											10.61%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

30-DAY MULTI-STAGE DCF – LOW GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
ALLETE, Inc.	ALE	\$40.98	\$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.27%
American Electric Power Company, Inc	AEP	\$43.59	\$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.42%
Cleco Corporation	CNL	\$41.51	\$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.44%
Empire District Electric Company	EDE	\$21.26	\$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.65%
FirstEnergy Corporation	FE	\$44.25	\$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.89%
Great Plains Energy Inc.	GXP	\$21.92	\$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.63%
Hawaiian Electric Industries, Inc.	HE	\$25.75	\$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	11.11%
IDACORP, Inc.	IDA	\$43.62	\$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.45%
Otter Tail Corporation	OTTR	\$23.88	\$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.64%
Pinnacle West Capital Corporation	PNW	\$52.10	\$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.82%
Portland General Electric Company	POR	\$27.00	\$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.06%
Southern Company	SO	\$45.14	\$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.98%
Westar Energy, Inc.	WR	\$29.27	\$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.34%
MEAN											9.82%
FLOTATION COST											0.25%
											10.07%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

90-DAY MULTI-STAGE DCF -- LOW GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
					Second Stage Growth					Third Stage	
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Growth	ROE
ALLETE, Inc.	ALE	\$41.35	\$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.23%
American Electric Power Company, Inc	AEP	\$43.14	\$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.46%
Cleco Corporation	CNL	\$42.05	\$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.40%
Empire District Electric Company	EDE	\$21.40	\$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.62%
FirstEnergy Corporation	FE	\$45.49	\$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.76%
Great Plains Energy Inc.	GXP	\$21.98	\$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.62%
Hawaiian Electric Industries, Inc.	HE	\$26.97	\$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	10.86%
IDACORP, Inc.	IDA	\$42.91	\$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.50%
Otter Tail Corporation	OTTR	\$23.56	\$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.71%
Pinnacle West Capital Corporation	PNW	\$52.59	\$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.78%
Portland General Electric Company	POR	\$27.16	\$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.03%
Southern Company	SO	\$45.99	\$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.90%
Westar Energy, Inc.	WR	\$29.66	\$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.28%
MEAN											9.78%
FLOTATION COST											0.25%
											10.03%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

180-DAY MULTI-STAGE DCF -- LOW GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Second Stage Growth					Third Stage Growth	ROE
					Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$41.00	\$1.84	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	10.27%
American Electric Power Company, Inc	AEP	\$40.92	\$1.88	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	9.68%
Cleco Corporation	CNL	\$41.15	\$1.35	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.55%	8.47%
Empire District Electric Company	EDE	\$20.90	\$1.00	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.55%	10.74%
FirstEnergy Corporation	FE	\$46.07	\$2.20	2.50%	3.01%	3.52%	4.03%	4.53%	5.04%	5.55%	9.71%
Great Plains Energy Inc.	GXP	\$21.12	\$0.85	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.78%
Hawaiian Electric Industries, Inc.	HE	\$26.78	\$1.24	7.05%	6.80%	6.55%	6.30%	6.05%	5.80%	5.55%	10.90%
IDACORP, Inc.	IDA	\$41.61	\$1.52	2.00%	2.59%	3.18%	3.78%	4.37%	4.96%	5.55%	8.60%
Otter Tail Corporation	OTTR	\$22.69	\$1.19	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.90%
Pinnacle West Capital Corporation	PNW	\$50.67	\$2.18	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.94%
Portland General Electric Company	POR	\$26.27	\$1.08	2.67%	3.15%	3.63%	4.11%	4.59%	5.07%	5.55%	9.16%
Southern Company	SO	\$45.83	\$1.96	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	9.91%
Westar Energy, Inc.	WR	\$29.05	\$1.32	5.67%	5.65%	5.63%	5.61%	5.59%	5.57%	5.55%	10.38%
MEAN											9.88%
FLOTATION COST											0.25%
											10.13%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

30-DAY MULTI-STAGE DCF -- HIGH GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Second Stage Growth					Third Stage Growth	ROE
					Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$40.98	\$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.37%
American Electric Power Company, Inc	AEP	\$43.59	\$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.54%
Cleco Corporation	CNL	\$41.51	\$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.19%
Empire District Electric Company	EDE	\$21.26	\$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.06%
FirstEnergy Corporation	FE	\$44.25	\$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.62%
Great Plains Energy Inc.	GXP	\$21.92	\$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	11.00%
Hawaiian Electric Industries, Inc.	HE	\$25.75	\$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.77%
IDACORP, Inc.	IDA	\$43.62	\$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	8.87%
Otter Tail Corporation	OTTR	\$23.88	\$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	18.69%
Pinnacle West Capital Corporation	PNW	\$52.10	\$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.10%
Portland General Electric Company	POR	\$27.00	\$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.76%
Southern Company	SO	\$45.14	\$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	10.04%
Westar Energy, Inc.	WR	\$29.27	\$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.73%
MEAN											
FLOTATION COST											
11.13%											
0.25%											
11.38%											

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

90-DAY MULTI-STAGE DCF -- HIGH GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Second Stage Growth					Third Stage Growth	ROE
					Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$41.35	\$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.32%
American Electric Power Company, Inc	AEP	\$43.14	\$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.59%
Cleco Corporation	CNL	\$42.05	\$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.14%
Empire District Electric Company	EDE	\$21.40	\$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.02%
FirstEnergy Corporation	FE	\$45.49	\$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.49%
Great Plains Energy Inc.	GXP	\$21.98	\$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	10.99%
Hawaiian Electric Industries, Inc.	HE	\$26.97	\$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.50%
IDACORP, Inc.	IDA	\$42.91	\$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	8.93%
Otter Tail Corporation	OTTR	\$23.56	\$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	18.84%
Pinnacle West Capital Corporation	PNW	\$52.59	\$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.06%
Portland General Electric Company	POR	\$27.16	\$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.73%
Southern Company	SO	\$45.99	\$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	9.96%
Westar Energy, Inc.	WR	\$29.66	\$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.65%
MEAN											11.09%
FLOTATION COST											0.25%
											11.34%

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

180-DAY MULTI-STAGE DCF -- HIGH GROWTH RATE

Inputs		[1]	[2]	[3]	[4]	[4]	[4]	[4]	[4]	[5]	[6]
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Second Stage Growth					Third Stage Growth	ROE
					Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$41.00	\$1.84	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.36%
American Electric Power Company, Inc	AEP	\$40.92	\$1.88	3.48%	3.83%	4.17%	4.52%	4.86%	5.21%	5.55%	9.81%
Cleco Corporation	CNL	\$41.15	\$1.35	6.50%	6.34%	6.18%	6.03%	5.87%	5.71%	5.55%	9.22%
Empire District Electric Company	EDE	\$20.90	\$1.00	10.20%	9.43%	8.65%	7.88%	7.10%	6.33%	5.55%	12.16%
FirstEnergy Corporation	FE	\$46.07	\$2.20	5.00%	5.09%	5.18%	5.28%	5.37%	5.46%	5.55%	10.42%
Great Plains Energy Inc.	GXP	\$21.12	\$0.85	10.35%	9.55%	8.75%	7.95%	7.15%	6.35%	5.55%	11.20%
Hawaiian Electric Industries, Inc.	HE	\$26.78	\$1.24	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.55%	11.54%
IDACORP, Inc.	IDA	\$41.61	\$1.52	4.00%	4.26%	4.52%	4.78%	5.03%	5.29%	5.55%	9.04%
Otter Tail Corporation	OTTR	\$22.69	\$1.19	24.00%	20.93%	17.85%	14.78%	11.70%	8.63%	5.55%	19.24%
Pinnacle West Capital Corporation	PNW	\$50.67	\$2.18	6.03%	5.95%	5.87%	5.79%	5.71%	5.63%	5.55%	10.23%
Portland General Electric Company	POR	\$26.27	\$1.08	5.50%	5.51%	5.52%	5.53%	5.53%	5.54%	5.55%	9.88%
Southern Company	SO	\$45.83	\$1.96	5.22%	5.28%	5.33%	5.39%	5.44%	5.50%	5.55%	9.97%
Westar Energy, Inc.	WR	\$29.05	\$1.32	10.00%	9.26%	8.52%	7.78%	7.03%	6.29%	5.55%	11.77%
MEAN											
FLOTATION COST											
-----											
0.25%											
-----											
11.47%											

Notes

- [1] Source: Bloomberg. Based on indicated number of days historical average.
- [2] Source: Bloomberg.
- [3] Average of EPS Growth Rates from Value Line, Zacks, and First Call
- [4] Interpolating Growth Rates: Col. [3] - ((Col. [3] - Col. [5]) / 6) \* (Year - 5)
- [5] Long Term GDP Growth Rate
- [6] Calculated ROE

CAPITAL ASSET PRICING MODEL

	[4]	[5]	[6]	[7]
	Risk Free Rate	Average Beta	Market DCF Derived	ROE Estimate
<b><u>PROXY GROUP VALUE LINE BETA</u></b>				
[1] Current 30-day average Treasury Yield	2.87%	0.715	9.98%	10.01%
[2] Projected 30-Year Treasury (Q4 2012-Q1 2014)	3.15%	0.715	9.70%	10.09%
[3] Projected 30-Year Treasury (2014-2018)	5.10%	0.715	7.75%	10.64%
			Mean	10.25%
<b><u>PROXY GROUP BLOOMBERG BETA</u></b>				
[1] Current 30-day average Treasury Yield	2.87%	0.705	9.98%	9.90%
[2] Projected 30-Year Treasury (Q4 2012-Q1 2014)	3.15%	0.705	9.70%	9.98%
[3] Projected 30-Year Treasury (2014-2018)	5.10%	0.705	7.75%	10.56%
			Mean	10.15%

Notes:

- [1] Source: Bloomberg
- [2] Source: Aspen Publishers, Blue Chip Financial Forecasts, Vol. 30, No. 10 November 1, 2012, p. 2
- [3] Source: Aspen Publishers, Blue Chip Financial Forecasts, Vol. 30, No. 6 June 1, 2012, p. 14
- [4] See Notes [1], [2], and [3]
- [5] Source: Value Line & Bloomberg
- [6] Source: Exhibit\_\_(AEB-1), Schedule-6, p. 2
- [7] Equals Col. [4] + (Col. [5] x Col. [6])

ESTIMATED MARKET RISK PREMIUM DERIVED FROM ANALYSTS LONG-TERM GROWTH ESTIMATES

[1]	[2]	[3]
Estimated Weighted Index Dividend Yield	Weighted Index Long-Term Growth Rate	S&P 500 Est. Required Market Return
2.37%	10.35%	12.85%
		Implied Market Risk
		Risk-Free Rate [4]
		Premium [5]
[6] Current 30-day average Treasury Yield	2.87%	9.98%
[7] Near-Term Projected 30-Year Treasury (Q3 2012-Q4 2013)	3.15%	9.70%
[8] Projected 30-Year Treasury (2014-2018)	5.10%	7.75%
[6] Percent of Index Capitalization Represented by Estimate:		98.20%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[7] Weight in Index	[8] Long-Term Growth Est.	[9] Cap-Weighted Long-Term Growth Est.	[10] Estimated Dividend Yield	[11] Cap-Weighted Dividend Yield
3M Co	MMM	0.49%	11.50%	0.06%	2.67%	0.01%
Abbott Laboratories	ABT	0.79%	10.04%	0.08%	3.24%	0.03%
Abercrombie & Fitch Co	ANF	0.03%	17.80%	0.00%	1.71%	0.00%
Accenture PLC	ACN	0.40%	12.50%	0.05%	2.45%	0.01%
ACE Ltd	ACE	0.21%	9.65%	0.02%	2.54%	0.01%
Adobe Systems Inc	ADBE	0.13%	12.50%	0.02%	n/a	n/a
ADT Corp/The	ADT	0.08%	10.00%	0.01%	n/a	n/a
Advanced Micro Devices Inc	AMD	0.01%	4.50%	0.00%	n/a	n/a
AES Corp/VA	AES	0.06%	8.50%	0.00%	1.62%	0.00%
Aetna Inc	AET	0.11%	10.50%	0.01%	1.72%	0.00%
Aflac Inc	AFL	0.19%	14.77%	0.03%	2.78%	0.01%
Agilent Technologies Inc	A	0.10%	10.03%	0.01%	1.12%	0.00%
AGL Resources Inc	GAS	0.04%	4.00%	0.00%	4.87%	0.00%
Air Products & Chemicals Inc	APD	0.13%	10.69%	0.01%	3.20%	0.00%
Airgas Inc	ARG	0.05%	12.46%	0.01%	1.85%	0.00%
Akamai Technologies Inc	AKAM	0.05%	14.50%	0.01%	n/a	n/a
Alcoa Inc	AA	0.07%	10.00%	0.01%	1.47%	0.00%
Alexion Pharmaceuticals Inc	ALXN	0.14%	40.23%	0.06%	n/a	n/a
Allegheny Technologies Inc	ATI	0.02%	15.00%	0.00%	2.77%	0.00%
Allergan Inc/United States	AGN	0.22%	13.06%	0.03%	0.23%	0.00%
Allstate Corp/The	ALL	0.15%	9.00%	0.01%	2.26%	0.00%
Altera Corp	ALTR	0.08%	7.75%	0.01%	1.31%	0.00%
Altria Group Inc	MO	0.50%	6.44%	0.03%	5.63%	0.03%
Amazon.com Inc	AMZN	0.81%	32.26%	0.26%	n/a	n/a
Ameren Corp	AEE	0.06%	-4.00%	0.00%	5.45%	0.00%
American Electric Power Co Inc	AEP	0.16%	4.33%	0.01%	4.53%	0.01%
American Express Co	AXP	0.48%	9.68%	0.05%	1.47%	0.01%
American International Group Inc	AIG	0.37%	12.33%	0.05%	n/a	n/a
American Tower Corp	AMT	0.23%	18.43%	0.04%	1.25%	0.00%
Ameriprise Financial Inc	AMP	0.10%	10.55%	0.01%	3.08%	0.00%
AmerisourceBergen Corp	ABC	0.08%	12.00%	0.01%	2.09%	0.00%
Amgen Inc	AMGN	0.52%	9.34%	0.05%	1.70%	0.01%
Amphenol Corp	APH	0.08%	18.50%	0.01%	0.71%	0.00%
Anadarko Petroleum Corp	APC	0.28%	7.60%	0.02%	0.51%	0.00%
Analog Devices Inc	ADI	0.09%	11.00%	0.01%	3.05%	0.00%
Aon PLC	AON	0.14%	8.33%	0.01%	1.12%	0.00%
Apache Corp	APA	0.23%	7.52%	0.02%	0.90%	0.00%
Apartment Investment & Management C	AIV	0.03%	10.82%	0.00%	3.26%	0.00%
Apollo Group Inc	APOL	0.02%	9.80%	0.00%	n/a	n/a
Apple Inc	AAPL	3.96%	20.63%	0.82%	2.01%	0.08%
Applied Materials Inc	AMAT	0.10%	9.00%	0.01%	3.55%	0.00%
Archer-Daniels-Midland Co	ADM	0.13%	10.00%	0.01%	2.80%	0.00%
Assurant Inc	AIZ	0.02%	11.00%	0.00%	2.36%	0.00%
AT&T Inc	T	1.50%	6.19%	0.09%	5.43%	0.08%
Autodesk Inc	ADSK	0.06%	17.75%	0.01%	n/a	n/a
Automatic Data Processing Inc	ADP	0.21%	9.67%	0.02%	3.18%	0.01%
AutoNation Inc	AN	0.04%	20.48%	0.01%	n/a	n/a
AutoZone Inc	AZO	0.11%	16.65%	0.02%	n/a	n/a
AvalonBay Communities Inc	AVB	0.10%	10.12%	0.01%	3.01%	0.00%
Avery Dennison Corp	AVY	0.03%	7.00%	0.00%	3.38%	0.00%
Avon Products Inc	AVP	0.05%	11.00%	0.01%	1.70%	0.00%
Baker Hughes Inc	BHI	0.14%	23.00%	0.03%	1.49%	0.00%
Ball Corp	BLL	0.05%	10.00%	0.01%	0.92%	0.00%
Bank of America Corp	BAC	0.78%	13.45%	0.11%	0.44%	0.00%
Bank of New York Mellon Corp/The	BK	0.22%	17.63%	0.04%	2.20%	0.00%
Baxter International Inc	BAX	0.29%	9.00%	0.03%	2.73%	0.01%
BB&T Corp	BBT	0.16%	8.95%	0.01%	2.85%	0.00%
Beam Inc	BEAM	0.07%	12.72%	0.01%	1.53%	0.00%
Becton Dickinson and Co	BDX	0.12%	6.62%	0.01%	2.38%	0.00%
Bed Bath & Beyond Inc	BBBY	0.10%	14.70%	0.02%	n/a	n/a
Bemis Co Inc	BMS	0.03%	6.00%	0.00%	3.09%	0.00%
Berkshire Hathaway Inc	BRK/B	0.75%	n/a	n/a	n/a	n/a
Best Buy Co Inc	BBY	0.04%	-1.40%	0.00%	4.95%	0.00%
Big Lots Inc	BIG	0.01%	10.95%	0.00%	n/a	n/a
Biogen Idec Inc	BIIB	0.27%	15.83%	0.04%	n/a	n/a
BlackRock Inc	BLK	0.25%	12.67%	0.03%	3.21%	0.01%
BMC Software Inc	BMC	0.05%	15.00%	0.01%	n/a	n/a
Boeing Co/The	BA	0.43%	11.37%	0.05%	2.49%	0.01%

Name	Ticker	Weight in Index	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.	Estimated Dividend Yield	Cap-Weighted Dividend Yield
BorgWarner Inc	BWA	0.06%	18.74%	0.01%	n/a	n/a
Boston Properties Inc	BXP	0.12%	5.78%	0.01%	2.58%	0.00%
Boston Scientific Corp	BSX	0.06%	9.57%	0.01%	n/a	n/a
Bristol-Myers Squibb Co	BMX	0.42%	7.65%	0.03%	4.29%	0.02%
Broadcom Corp	BRCM	0.12%	14.50%	0.02%	1.31%	0.00%
Brown-Forman Corp	BF/B	0.07%	12.50%	0.01%	1.56%	0.00%
CA Inc	CA	0.08%	10.00%	0.01%	4.59%	0.00%
Cablevision Systems Corp	CVC	0.02%	23.00%	0.01%	4.28%	0.00%
Cabot Oil & Gas Corp	COG	0.08%	n/a	n/a	0.17%	0.00%
Cameron International Corp	CAM	0.10%	17.00%	0.02%	n/a	n/a
Campbell Soup Co	CPB	0.09%	6.25%	0.01%	3.17%	0.00%
Capital One Financial Corp	COF	0.26%	9.72%	0.03%	0.36%	0.00%
Cardinal Health Inc	CAH	0.11%	10.50%	0.01%	2.79%	0.00%
CareFusion Corp	CFN	0.05%	10.20%	0.00%	n/a	n/a
CarMax Inc	KMX	0.06%	12.79%	0.01%	n/a	n/a
Carnival Corp	CCL	0.18%	15.00%	0.03%	2.68%	0.00%
Caterpillar Inc	CAT	0.43%	11.00%	0.05%	2.54%	0.01%
CBRE Group Inc	CBG	0.05%	13.33%	0.01%	n/a	n/a
CBS Corp	CBS	0.16%	10.75%	0.02%	1.43%	0.00%
Celgene Corp	CELG	0.25%	23.82%	0.06%	n/a	n/a
CenterPoint Energy Inc	CNP	0.07%	5.67%	0.00%	4.14%	0.00%
CenturyLink Inc	CTL	0.19%	0.71%	0.00%	7.73%	0.01%
Cerner Corp	CERN	0.11%	19.00%	0.02%	n/a	n/a
CF Industries Holdings Inc	CF	0.10%	12.00%	0.01%	0.82%	0.00%
CH Robinson Worldwide Inc	CHRW	0.08%	14.80%	0.01%	2.23%	0.00%
Charles Schwab Corp/The	SCHW	0.13%	17.97%	0.02%	1.88%	0.00%
Chesapeake Energy Corp	CHK	0.09%	8.44%	0.01%	2.11%	0.00%
Chevron Corp	CVX	1.60%	-0.92%	-0.01%	3.52%	0.06%
Chipotle Mexican Grill Inc	CMG	0.07%	20.83%	0.01%	n/a	n/a
Chubb Corp/The	CB	0.16%	7.44%	0.01%	2.17%	0.00%
Cigna Corp	CI	0.11%	10.69%	0.01%	0.08%	0.00%
Cincinnati Financial Corp	CINF	0.05%	5.00%	0.00%	4.18%	0.00%
Cintas Corp	CTAS	0.04%	11.17%	0.00%	1.61%	0.00%
Cisco Systems Inc	CSCO	0.76%	9.75%	0.07%	3.11%	0.02%
Citigroup Inc	C	0.82%	10.49%	0.09%	0.11%	0.00%
Citrix Systems Inc	CTXS	0.09%	15.80%	0.01%	n/a	n/a
Cliffs Natural Resources Inc	CLF	0.04%	11.00%	0.00%	7.08%	0.00%
Clorox Co/The	CLX	0.08%	8.30%	0.01%	3.45%	0.00%
CME Group Inc/IL	CME	0.14%	14.73%	0.02%	3.32%	0.00%
CMS Energy Corp	CMS	0.05%	6.00%	0.00%	4.13%	0.00%
Coach Inc	COH	0.12%	12.71%	0.02%	2.20%	0.00%
Coca-Cola Co/The	KO	1.31%	7.49%	0.10%	2.79%	0.04%
Coca-Cola Enterprises Inc	CCE	0.07%	6.86%	0.00%	2.16%	0.00%
Cognizant Technology Solutions Corp	CTSH	0.16%	17.96%	0.03%	n/a	n/a
Colgate-Palmolive Co	CL	0.40%	8.66%	0.03%	2.36%	0.01%
Comcast Corp	CMCSA	0.60%	14.44%	0.09%	1.83%	0.01%
Comerica Inc	CMA	0.04%	6.64%	0.00%	2.14%	0.00%
Computer Sciences Corp	CSC	0.04%	8.00%	0.00%	2.32%	0.00%
ConAgra Foods Inc	CAG	0.09%	6.67%	0.01%	3.60%	0.00%
ConocoPhillips	COP	0.53%	-0.49%	0.00%	4.80%	0.03%
CONSOL Energy Inc	CNX	0.06%	12.00%	0.01%	1.57%	0.00%
Consolidated Edison Inc	ED	0.13%	3.26%	0.00%	4.40%	0.01%
Constellation Brands Inc	STZ	0.04%	10.88%	0.00%	n/a	n/a
Cooper Industries PLC	CBE	0.10%	14.67%	0.01%	1.10%	0.00%
Corning Inc	GLW	0.13%	12.00%	0.02%	3.30%	0.00%
Costco Wholesale Corp	COST	0.33%	12.93%	0.04%	1.15%	0.00%
Coventry Health Care Inc	CVH	0.05%	12.00%	0.01%	1.18%	0.00%
Covidien PLC	COV	0.21%	8.28%	0.02%	1.85%	0.00%
CR Bard Inc	BCR	0.06%	9.20%	0.01%	0.84%	0.00%
Crown Castle International Corp	CCI	0.15%	37.00%	0.06%	n/a	n/a
CSX Corp	CSX	0.16%	15.00%	0.02%	2.95%	0.00%
Cummins Inc	CMI	0.15%	13.00%	0.02%	2.09%	0.00%
CVS Caremark Corp	CVS	0.45%	13.50%	0.06%	1.45%	0.01%
Danaher Corp	DHR	0.29%	15.00%	0.04%	0.19%	0.00%
Darden Restaurants Inc	DRI	0.05%	12.46%	0.01%	3.93%	0.00%
DaVita HealthCare Partners Inc	DVA	0.09%	12.33%	0.01%	n/a	n/a
Dean Foods Co	DF	0.02%	5.75%	0.00%	n/a	n/a
Deere & Co	DE	0.27%	10.00%	0.03%	2.16%	0.01%
Dell Inc	DELL	0.12%	7.33%	0.01%	3.62%	0.00%
Denbury Resources Inc	DNR	0.05%	9.10%	0.00%	n/a	n/a
DENTSPLY International Inc	XRAY	0.04%	11.50%	0.01%	0.57%	0.00%
Devon Energy Corp	DVN	0.17%	5.51%	0.01%	1.53%	0.00%
Diamond Offshore Drilling Inc	DO	0.07%	18.00%	0.01%	5.38%	0.00%
DIRECTV	DTV	0.24%	16.48%	0.04%	n/a	n/a
Discover Financial Services	DFS	0.16%	10.67%	0.02%	1.01%	0.00%
Discovery Communications Inc	DISCA	0.06%	21.75%	0.01%	n/a	n/a
Dollar Tree Inc	DLTR	0.07%	16.67%	0.01%	n/a	n/a
Dominion Resources Inc/VA	D	0.23%	6.00%	0.01%	4.21%	0.01%
Dover Corp	DOV	0.09%	14.67%	0.01%	2.27%	0.00%
Dow Chemical Co/The	DOW	0.27%	14.33%	0.04%	4.61%	0.01%
DR Horton Inc	DHI	0.05%	7.67%	0.00%	0.79%	0.00%
Dr Pepper Snapple Group Inc	DPS	0.07%	7.41%	0.01%	3.17%	0.00%
DTE Energy Co	DTE	0.08%	5.00%	0.00%	4.18%	0.00%
Duke Energy Corp	DUK	0.34%	4.50%	0.02%	5.02%	0.02%
Dun & Bradstreet Corp/The	DNB	0.03%	10.00%	0.00%	2.03%	0.00%
E*TRADE Financial Corp	ETFC	0.02%	-57.27%	-0.01%	n/a	n/a
Eastman Chemical Co	EMN	0.07%	10.33%	0.01%	1.87%	0.00%
Eaton Corp	ETN	0.13%	10.00%	0.01%	3.11%	0.00%
eBay Inc	EBAY	0.49%	14.60%	0.07%	n/a	n/a
Ecolab Inc	ECL	0.16%	14.75%	0.02%	1.16%	0.00%

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Edison International	EIX	0.12%	3.98%	0.00%	2.92%	0.00%
Edwards Lifesciences Corp	EW	0.08%	17.60%	0.01%	n/a	n/a
El du Pont de Nemours & Co	DD	0.31%	6.68%	0.02%	4.10%	0.01%
Electronic Arts Inc	EA	0.03%	16.83%	0.01%	n/a	n/a
Eli Lilly & Co	LLY	0.42%	-0.23%	0.00%	4.27%	0.02%
EMC Corp/MA	EMC	0.40%	15.00%	0.06%	n/a	n/a
Emerson Electric Co	EMR	0.28%	10.00%	0.03%	3.40%	0.01%
Enesco PLC	ESV	0.10%	18.00%	0.02%	2.74%	0.00%
Entergy Corp	ETR	0.09%	3.50%	0.00%	5.28%	0.00%
EOG Resources Inc	EOG	0.25%	10.64%	0.03%	0.58%	0.00%
EQT Corp	EQT	0.07%	30.00%	0.02%	1.46%	0.00%
Equifax Inc	EFX	0.05%	11.00%	0.01%	1.43%	0.00%
Equity Residential	EQR	0.13%	8.42%	0.01%	2.49%	0.00%
Estee Lauder Cos Inc/The	EL	0.11%	13.95%	0.01%	1.27%	0.00%
Exelon Corp	EXC	0.20%	-1.25%	0.00%	7.18%	0.01%
Expedia Inc	EXPE	0.06%	13.37%	0.01%	0.89%	0.00%
Expeditors International of Washington I	EXPD	0.06%	9.30%	0.01%	1.57%	0.00%
Express Scripts Holding Co	ESRX	0.34%	16.88%	0.06%	n/a	n/a
Exxon Mobil Corp	XOM	3.14%	3.38%	0.11%	2.64%	0.08%
F5 Networks Inc	FFIV	0.05%	18.00%	0.01%	n/a	n/a
Family Dollar Stores Inc	FDO	0.06%	14.10%	0.01%	1.26%	0.00%
Fastenal Co	FAST	0.10%	18.73%	0.02%	2.05%	0.00%
Federated Investors Inc	FII	0.02%	8.00%	0.00%	5.06%	0.00%
FedEx Corp	FDX	0.22%	10.74%	0.02%	0.65%	0.00%
Fidelity National Information Services Inc	FIS	0.08%	12.86%	0.01%	2.29%	0.00%
Fifth Third Bancorp	FITB	0.10%	2.78%	0.00%	2.84%	0.00%
First Horizon National Corp	FHN	0.02%	8.33%	0.00%	0.43%	0.00%
First Solar Inc	FSLR	0.02%	9.00%	0.00%	n/a	n/a
FirstEnergy Corp	FE	0.14%	1.50%	0.00%	5.32%	0.01%
Fiserv Inc	FISV	0.08%	11.71%	0.01%	n/a	n/a
FLIR Systems Inc	FLIR	0.02%	12.50%	0.00%	1.47%	0.00%
Flowserve Corp	FLS	0.05%	11.00%	0.01%	1.07%	0.00%
Fluor Corp	FLR	0.07%	13.43%	0.01%	1.24%	0.00%
FMC Corp	FMC	0.06%	11.59%	0.01%	0.70%	0.00%
FMC Technologies Inc	FTI	0.08%	15.33%	0.01%	n/a	n/a
Ford Motor Co	F	0.31%	10.47%	0.03%	1.90%	0.01%
Forest Laboratories Inc	FRX	0.07%	14.16%	0.01%	n/a	n/a
Fossil Inc	FOSL	0.04%	17.30%	0.01%	n/a	n/a
Franklin Resources Inc	BEN	0.22%	12.67%	0.03%	0.84%	0.00%
Freeport-McMoRan Copper & Gold Inc	FCX	0.28%	n/a	n/a	3.40%	0.01%
Frontier Communications Corp	FTR	0.03%	-10.51%	0.00%	9.32%	0.00%
GameStop Corp	GME	0.03%	10.43%	0.00%	3.91%	0.00%
Gannett Co Inc	GCI	0.03%	6.00%	0.00%	4.71%	0.00%
Gap Inc/The	GPS	0.13%	11.78%	0.02%	1.49%	0.00%
General Dynamics Corp	GD	0.17%	8.00%	0.01%	3.28%	0.01%
General Electric Co	GE	1.68%	10.33%	0.17%	3.38%	0.06%
General Mills Inc	GIS	0.20%	7.75%	0.02%	3.32%	0.01%
Genuine Parts Co	GPC	0.07%	8.32%	0.01%	3.28%	0.00%
Genworth Financial Inc	GNW	0.02%	5.00%	0.00%	n/a	n/a
Gilead Sciences Inc	GILD	0.45%	20.04%	0.09%	n/a	n/a
Goldman Sachs Group Inc/The	GS	0.43%	11.03%	0.05%	1.73%	0.01%
Goodyear Tire & Rubber Co/The	GT	0.02%	43.84%	0.01%	n/a	n/a
Google Inc	GOOG	1.37%	14.55%	0.20%	n/a	n/a
H&R Block Inc	HRB	0.04%	11.00%	0.00%	4.48%	0.00%
Halliburton Co	HAL	0.23%	20.50%	0.05%	1.18%	0.00%
Harley-Davidson Inc	HOG	0.08%	13.00%	0.01%	1.34%	0.00%
Harman International Industries Inc	HAR	0.02%	17.50%	0.00%	1.61%	0.00%
Harris Corp	HRS	0.04%	4.00%	0.00%	3.19%	0.00%
Hartford Financial Services Group Inc	HIG	0.07%	9.50%	0.01%	1.96%	0.00%
Hasbro Inc	HAS	0.04%	9.00%	0.00%	3.95%	0.00%
HCP Inc	HCP	0.16%	5.24%	0.01%	4.49%	0.01%
Health Care REIT Inc	HCN	0.12%	5.16%	0.01%	5.14%	0.01%
Helmerich & Payne Inc	HP	0.04%	8.00%	0.00%	0.66%	0.00%
Hershey Co/The	HSY	0.09%	8.10%	0.01%	2.34%	0.00%
Hess Corp	HES	0.13%	2.05%	0.00%	0.82%	0.00%
Hewlett-Packard Co	HPQ	0.20%	3.50%	0.01%	4.11%	0.01%
HJ Heinz Co	HNZ	0.15%	7.33%	0.01%	3.55%	0.01%
Home Depot Inc/The	HD	0.75%	15.90%	0.12%	1.87%	0.01%
Honeywell International Inc	HON	0.37%	10.50%	0.04%	2.77%	0.01%
Hormel Foods Corp	HRL	0.06%	8.50%	0.01%	1.94%	0.00%
Hospira Inc	HSP	0.04%	5.99%	0.00%	n/a	n/a
Host Hotels & Resorts Inc	HST	0.08%	9.97%	0.01%	2.32%	0.00%
Hudson City Bancorp Inc	HCBK	0.03%	0.50%	0.00%	4.03%	0.00%
Humana Inc	HUM	0.08%	9.80%	0.01%	1.59%	0.00%
Huntington Bancshares Inc/OH	HBAN	0.04%	5.33%	0.00%	2.66%	0.00%
Illinois Tool Works Inc	ITW	0.22%	7.48%	0.02%	2.58%	0.01%
Ingersoll-Rand PLC	IR	0.11%	11.00%	0.01%	1.41%	0.00%
Integrus Energy Group Inc	TEG	0.03%	5.50%	0.00%	5.17%	0.00%
Intel Corp	INTC	0.80%	10.27%	0.08%	4.46%	0.04%
IntercontinentalExchange Inc	ICE	0.07%	13.45%	0.01%	n/a	n/a
International Business Machines Corp	IBM	1.68%	9.50%	0.16%	1.82%	0.03%
International Flavors & Fragrances Inc	IFF	0.04%	3.00%	0.00%	2.21%	0.00%
International Game Technology	IGT	0.03%	14.25%	0.00%	1.89%	0.00%
International Paper Co	IP	0.12%	5.00%	0.01%	3.50%	0.00%
Interpublic Group of Cos Inc/The	IPG	0.03%	12.50%	0.00%	2.50%	0.00%
Intuit Inc	INTU	0.14%	13.50%	0.02%	1.15%	0.00%
Intuitive Surgical Inc	ISRG	0.17%	18.38%	0.03%	n/a	n/a
Invesco Ltd	IVZ	0.08%	12.50%	0.01%	2.95%	0.00%
Iron Mountain Inc	IRM	0.04%	13.00%	0.01%	3.30%	0.00%
Jabil Circuit Inc	JBL	0.03%	12.00%	0.00%	1.82%	0.00%

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Jacobs Engineering Group Inc	JEC	0.04%	13.23%	0.01%	n/a	n/a
JC Penney Co Inc	JCP	0.03%	22.00%	0.01%	n/a	n/a
JDS Uniphase Corp	JDSU	0.02%	n/a	n/a	n/a	n/a
JM Smucker Co/The	SJM	0.07%	7.50%	0.01%	2.48%	0.00%
Johnson & Johnson	JNJ	1.53%	6.39%	0.10%	3.53%	0.05%
Johnson Controls Inc	JCI	0.14%	12.78%	0.02%	3.03%	0.00%
Joy Global Inc	JOY	0.05%	16.80%	0.01%	1.28%	0.00%
JPMorgan Chase & Co	JPM	1.20%	7.25%	0.09%	3.04%	0.04%
Juniper Networks Inc	JNPR	0.07%	14.00%	0.01%	n/a	n/a
Kellogg Co	K	0.15%	8.25%	0.01%	3.25%	0.01%
KeyCorp	KEY	0.06%	6.32%	0.00%	2.49%	0.00%
Kimberly-Clark Corp	KMB	0.27%	8.44%	0.02%	3.48%	0.01%
Kimco Realty Corp	KIM	0.06%	14.83%	0.01%	4.53%	0.00%
Kinder Morgan Inc/Delaware	KMI	0.27%	7.00%	0.02%	4.46%	0.01%
KLA-Tencor Corp	KLAC	0.06%	10.00%	0.01%	3.61%	0.00%
Kohl's Corp	KSS	0.10%	12.00%	0.01%	2.51%	0.00%
Kraft Foods Group Inc	KRFT	0.21%	6.00%	0.01%	n/a	n/a
Kroger Co/The	KR	0.10%	8.91%	0.01%	2.45%	0.00%
L-3 Communications Holdings Inc	LLL	0.06%	1.45%	0.00%	2.70%	0.00%
Laboratory Corp of America Holdings	LH	0.06%	12.25%	0.01%	n/a	n/a
Lam Research Corp	LRCX	0.05%	10.00%	0.00%	n/a	n/a
Legg Mason Inc	LM	0.03%	13.00%	0.00%	1.75%	0.00%
Leggett & Platt Inc	LEG	0.03%	15.00%	0.00%	4.37%	0.00%
Lennar Corp	LEN	0.05%	8.00%	0.00%	0.44%	0.00%
Leucadia National Corp	LUK	0.04%	n/a	n/a	1.22%	0.00%
Life Technologies Corp	LIFE	0.06%	9.73%	0.01%	n/a	n/a
Lincoln National Corp	LNC	0.05%	4.10%	0.00%	2.02%	0.00%
Linear Technology Corp	LLTC	0.06%	10.33%	0.01%	3.20%	0.00%
Lockheed Martin Corp	LMT	0.23%	7.83%	0.02%	5.20%	0.01%
Loews Corp	L	0.13%	n/a	n/a	0.61%	0.00%
Lorillard Inc	LO	0.12%	9.15%	0.01%	5.38%	0.01%
Lowe's Cos Inc	LOW	0.29%	16.50%	0.05%	2.00%	0.01%
LSI Corp	LSI	0.03%	15.33%	0.00%	n/a	n/a
Ltd Brands Inc	LTD	0.11%	12.68%	0.01%	2.16%	0.00%
LyondellBasell Industries NV	LYB	0.21%	9.67%	0.02%	3.41%	0.01%
M&T Bank Corp	MTB	0.10%	16.54%	0.02%	2.88%	0.00%
Macy's Inc	M	0.13%	10.27%	0.01%	1.99%	0.00%
Marathon Oil Corp	MRO	0.17%	1.40%	0.00%	2.20%	0.00%
Marathon Petroleum Corp	MPC	0.15%	11.00%	0.02%	2.58%	0.00%
Mariott International Inc/DE	MAR	0.09%	20.22%	0.02%	1.51%	0.00%
Marsh & McLennan Cos Inc	MMC	0.15%	8.08%	0.01%	2.66%	0.00%
Masco Corp	MAS	0.04%	10.00%	0.00%	2.01%	0.00%
Mastercard Inc	MA	0.44%	17.93%	0.08%	0.26%	0.00%
Mattel Inc	MAT	0.10%	9.00%	0.01%	3.51%	0.00%
McCormick & Co Inc/MD	MKC	0.06%	8.00%	0.00%	1.95%	0.00%
McDonald's Corp	MCD	0.67%	9.63%	0.06%	3.66%	0.02%
McGraw-Hill Cos Inc/The	MHP	0.11%	9.50%	0.01%	2.01%	0.00%
McKesson Corp	MCK	0.17%	14.33%	0.02%	0.87%	0.00%
Mead Johnson Nutrition Co	MJN	0.11%	11.50%	0.01%	1.82%	0.00%
MeadWestvaco Corp	MWV	0.04%	10.00%	0.00%	3.49%	0.00%
Medtronic Inc	MDT	0.33%	6.43%	0.02%	2.53%	0.01%
Merck & Co Inc	MRK	1.04%	4.69%	0.05%	3.90%	0.04%
MetLife Inc	MET	0.27%	10.00%	0.03%	2.34%	0.01%
MetroPCS Communications Inc	PCS	0.03%	11.12%	0.00%	n/a	n/a
Microchip Technology Inc	MCHP	0.05%	10.00%	0.00%	4.79%	0.00%
Micron Technology Inc	MU	0.04%	12.54%	0.01%	n/a	n/a
Microsoft Corp	MSFT	1.78%	10.95%	0.19%	3.47%	0.06%
Molex Inc	MOLX	0.02%	11.67%	0.00%	3.46%	0.00%
Molson Coors Brewing Co	TAP	0.05%	3.34%	0.00%	3.21%	0.00%
Mondelez International Inc	MDLZ	0.36%	7.86%	0.03%	2.04%	0.01%
Monsanto Co	MON	0.36%	11.92%	0.04%	1.76%	0.01%
Monster Beverage Corp	MNST	0.06%	17.00%	0.01%	n/a	n/a
Moody's Corp	MCO	0.08%	11.00%	0.01%	1.42%	0.00%
Morgan Stanley	MS	0.25%	11.00%	0.03%	1.24%	0.00%
Mosaic Co/The	MOS	0.12%	4.53%	0.01%	2.02%	0.00%
Motorola Solutions Inc	MSI	0.12%	n/a	n/a	1.97%	0.00%
Murphy Oil Corp	MUR	0.09%	10.00%	0.01%	2.22%	0.00%
Mylan Inc/PA	MYL	0.08%	10.54%	0.01%	n/a	n/a
Nabors Industries Ltd	NBR	0.03%	8.00%	0.00%	n/a	n/a
NASDAQ OMX Group Inc/The	NDAQ	0.03%	7.65%	0.00%	2.27%	0.00%
National Oilwell Varco Inc	NOV	0.24%	13.50%	0.03%	0.74%	0.00%
NetApp Inc	NTAP	0.09%	13.00%	0.01%	n/a	n/a
Netflix Inc	NFLX	0.04%	21.71%	0.01%	n/a	n/a
Newell Rubbermaid Inc	NWL	0.05%	9.13%	0.00%	2.87%	0.00%
Newfield Exploration Co	NFX	0.03%	11.50%	0.00%	n/a	n/a
Newmont Mining Corp	NEM	0.18%	-3.00%	-0.01%	3.03%	0.01%
News Corp	NVSA	0.29%	13.13%	0.04%	0.73%	0.00%
NextEra Energy Inc	NEE	0.23%	5.13%	0.01%	3.56%	0.01%
NIKE Inc	NKE	0.27%	12.30%	0.03%	1.81%	0.00%
NISource Inc	NI	0.06%	n/a	n/a	4.02%	0.00%
Noble Corp	NE	0.07%	13.00%	0.01%	1.55%	0.00%
Noble Energy Inc	NBL	0.13%	7.00%	0.01%	1.09%	0.00%
Nordstrom Inc	JWN	0.09%	12.67%	0.01%	1.97%	0.00%
Norfolk Southern Corp	NSC	0.14%	15.00%	0.02%	3.55%	0.01%
Northeast Utilities	NU	0.10%	7.53%	0.01%	3.58%	0.00%
Northern Trust Corp	NTRS	0.09%	4.08%	0.00%	2.56%	0.00%
Northrop Grumman Corp	NOC	0.12%	3.33%	0.00%	3.46%	0.00%
NRG Energy Inc	NRG	0.04%	-13.70%	0.00%	1.82%	0.00%
Nucor Corp	NUE	0.10%	8.50%	0.01%	3.70%	0.00%
NVIDIA Corp	NVDA	0.06%	14.33%	0.01%	2.64%	0.00%

Name	Ticker	Weight in Index	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.	Estimated Dividend Yield	Cap-Weighted Dividend Yield
NYSE Euronext	NYSE	0.04%	10.00%	0.00%	5.32%	0.00%
O'Reilly Automotive Inc	ORLY	0.08%	17.67%	0.01%	n/a	n/a
Occidental Petroleum Corp	OXY	0.48%	-2.63%	-0.01%	2.93%	0.01%
Omnicom Group Inc	OMC	0.10%	6.00%	0.01%	2.61%	0.00%
ONEOK Inc	OKE	0.07%	16.00%	0.01%	2.89%	0.00%
Oracle Corp	ORCL	1.15%	15.05%	0.17%	0.80%	0.01%
Owens-Illinois Inc	OI	0.02%	8.67%	0.00%	n/a	n/a
PACCAR Inc	PCAR	0.12%	10.25%	0.01%	1.91%	0.00%
Pall Corp	PLL	0.05%	12.74%	0.01%	1.69%	0.00%
Parker Hannifin Corp	PH	0.10%	6.00%	0.01%	2.05%	0.00%
Patterson Cos Inc	PDCO	0.03%	12.33%	0.00%	1.59%	0.00%
Paychex Inc	PAYX	0.09%	9.50%	0.01%	4.16%	0.00%
Peabody Energy Corp	BTU	0.05%	12.00%	0.01%	1.36%	0.00%
Pentair Ltd	PNR	0.07%	12.50%	0.01%	1.96%	0.00%
People's United Financial Inc	PBCT	0.03%	7.00%	0.00%	5.48%	0.00%
Pepco Holdings Inc	POM	0.04%	5.00%	0.00%	5.63%	0.00%
PepsiCo Inc	PEP	0.84%	5.98%	0.05%	3.15%	0.03%
PerkinElmer Inc	PKI	0.03%	11.41%	0.00%	0.93%	0.00%
Perrigo Co	PRGO	0.08%	10.97%	0.01%	0.35%	0.00%
PetSmart Inc	PETM	0.06%	18.08%	0.01%	0.98%	0.00%
Pfizer Inc	PFE	1.40%	3.63%	0.05%	3.69%	0.05%
PG&E Corp	PCG	0.14%	4.00%	0.01%	4.50%	0.01%
Philip Morris International Inc	PM	1.14%	10.60%	0.12%	4.00%	0.05%
Phillips 66	PSX	0.23%	10.00%	0.02%	2.18%	0.00%
Pinnacle West Capital Corp	PNW	0.04%	4.52%	0.00%	4.38%	0.00%
Pioneer Natural Resources Co	PXD	0.10%	15.69%	0.02%	0.08%	0.00%
Pitney Bowes Inc	PBI	0.02%	n/a	n/a	13.61%	0.00%
Plum Creek Timber Co Inc	PCL	0.05%	5.00%	0.00%	4.07%	0.00%
PNC Financial Services Group Inc	PNC	0.23%	3.64%	0.01%	2.94%	0.01%
PPG Industries Inc	PPG	0.14%	7.00%	0.01%	2.04%	0.00%
PPL Corp	PPL	0.13%	-1.50%	0.00%	5.05%	0.01%
Praxair Inc	PX	0.25%	10.59%	0.03%	2.11%	0.01%
Precision Castparts Corp	PCP	0.20%	13.07%	0.03%	0.07%	0.00%
priceline.com Inc	PCLN	0.24%	18.17%	0.04%	n/a	n/a
Principal Financial Group Inc	PFJ	0.06%	13.00%	0.01%	3.19%	0.00%
Procter & Gamble Co/The	PG	1.46%	7.56%	0.11%	3.36%	0.05%
Progressive Corp/The	PGR	0.11%	7.75%	0.01%	1.81%	0.00%
Prologis Inc	PLD	0.12%	3.93%	0.00%	3.43%	0.00%
Prudential Financial Inc	PRU	0.18%	14.50%	0.03%	3.28%	0.01%
Public Service Enterprise Group Inc	PEG	0.12%	0.30%	0.00%	4.82%	0.01%
Public Storage	PSA	0.20%	5.61%	0.01%	3.06%	0.01%
PulteGroup Inc	PHM	0.05%	10.00%	0.00%	n/a	n/a
QEP Resources Inc	QEP	0.04%	15.00%	0.01%	0.30%	0.00%
QUALCOMM Inc	QCOM	0.84%	15.00%	0.13%	1.61%	0.01%
Quanta Services Inc	PWR	0.04%	17.83%	0.01%	n/a	n/a
Quest Diagnostics Inc	DGX	0.07%	11.63%	0.01%	2.08%	0.00%
Ralph Lauren Corp	RL	0.07%	12.33%	0.01%	1.06%	0.00%
Range Resources Corp	RRC	0.09%	10.00%	0.01%	0.24%	0.00%
Raytheon Co	RTN	0.14%	9.00%	0.01%	3.67%	0.01%
Red Hat Inc	RHT	0.07%	17.00%	0.01%	n/a	n/a
Regions Financial Corp	RF	0.07%	8.00%	0.01%	0.63%	0.00%
Republic Services Inc	RSG	0.08%	6.60%	0.01%	3.48%	0.00%
Reynolds American Inc	RAI	0.18%	7.31%	0.01%	5.77%	0.01%
Robert Half International Inc	RHI	0.03%	14.33%	0.00%	2.25%	0.00%
Rockwell Automation Inc	ROK	0.09%	10.67%	0.01%	2.46%	0.00%
Rockwell Collins Inc	COL	0.06%	8.28%	0.01%	2.22%	0.00%
Roper Industries Inc	ROP	0.08%	15.00%	0.01%	0.51%	0.00%
Ross Stores Inc	ROST	0.10%	13.00%	0.01%	1.04%	0.00%
Rowan Cos Plc	RDC	0.03%	13.00%	0.00%	n/a	n/a
RR Donnelley & Sons Co	RRD	0.01%	5.00%	0.00%	11.32%	0.00%
Ryder System Inc	R	0.02%	8.97%	0.00%	2.80%	0.00%
Safeway Inc	SWY	0.03%	9.86%	0.00%	4.22%	0.00%
SAIC Inc	SAI	0.03%	3.87%	0.00%	4.36%	0.00%
Salesforce.com Inc	CRM	0.16%	26.60%	0.04%	n/a	n/a
SanDisk Corp	SNDK	0.08%	16.85%	0.01%	n/a	n/a
SCANA Corp	SCG	0.05%	4.34%	0.00%	4.30%	0.00%
Schlumberger Ltd	SLB	0.72%	17.00%	0.12%	1.61%	0.01%
Scripps Networks Interactive Inc	SNI	0.05%	15.19%	0.01%	0.81%	0.00%
Seagate Technology PLC	STX	0.08%	7.63%	0.01%	4.72%	0.00%
Sealed Air Corp	SEE	0.03%	5.50%	0.00%	3.17%	0.00%
Sempra Energy	SRE	0.13%	7.00%	0.01%	3.63%	0.00%
Sherwin-Williams Co/The	SHW	0.12%	13.02%	0.02%	1.03%	0.00%
Sigma-Aldrich Corp	SIAL	0.07%	7.11%	0.00%	1.15%	0.00%
Simon Property Group Inc	SPG	0.36%	5.68%	0.02%	2.99%	0.01%
SLM Corp	SLM	0.06%	-4.30%	0.00%	2.99%	0.00%
Snap-on Inc	SNA	0.03%	10.00%	0.00%	2.03%	0.00%
Southern Co/The	SO	0.30%	5.28%	0.02%	4.59%	0.01%
Southwest Airlines Co	LUV	0.05%	15.75%	0.01%	0.45%	0.00%
Southwestern Energy Co	SWN	0.10%	n/a	n/a	n/a	n/a
Spectra Energy Corp	SE	0.14%	5.00%	0.01%	4.41%	0.01%
Sprint Nextel Corp	S	0.13%	5.00%	0.01%	n/a	n/a
St Jude Medical Inc	STJ	0.09%	10.00%	0.01%	2.63%	0.00%
Stanley Black & Decker Inc	SWK	0.09%	8.00%	0.01%	2.91%	0.00%
Staples Inc	SPLS	0.06%	5.53%	0.00%	3.75%	0.00%
Starbucks Corp	SBUX	0.29%	17.43%	0.05%	1.72%	0.01%
Starwood Hotels & Resorts Worldwide Ir	HOT	0.08%	15.19%	0.01%	2.43%	0.00%
State Street Corp	STT	0.16%	5.75%	0.01%	2.17%	0.00%
Stericycle Inc	SRCL	0.06%	16.00%	0.01%	n/a	n/a
Stryker Corp	SYK	0.16%	9.50%	0.01%	1.63%	0.00%
SunTrust Banks Inc	STI	0.11%	14.36%	0.02%	0.77%	0.00%

Name	Ticker	Weight in Index	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.	Estimated Dividend Yield	Cap-Weighted Dividend Yield
Symantec Corp	SYMC	0.10%	6.60%	0.01%	n/a	n/a
Sysco Corp	SY	0.14%	10.00%	0.01%	3.73%	0.01%
T Rowe Price Group Inc	TROW	0.13%	14.00%	0.02%	2.15%	0.00%
Target Corp	TGT	0.33%	12.09%	0.04%	2.30%	0.01%
TE Connectivity Ltd	TEL	0.11%	15.00%	0.02%	2.46%	0.00%
TECO Energy Inc	TE	0.03%	3.67%	0.00%	5.33%	0.00%
Tenet Healthcare Corp	THC	0.02%	11.00%	0.00%	n/a	n/a
Teradata Corp	TDC	0.08%	16.00%	0.01%	n/a	n/a
Teradyne Inc	TER	0.02%	11.75%	0.00%	n/a	n/a
Tesoro Corp	TSO	0.04%	34.10%	0.01%	1.58%	0.00%
Texas Instruments Inc	TXN	0.25%	9.50%	0.02%	2.97%	0.01%
Textron Inc	TXT	0.05%	31.50%	0.02%	0.35%	0.00%
Thermo Fisher Scientific Inc	TMO	0.17%	10.94%	0.02%	0.99%	0.00%
Tiffany & Co	TIF	0.06%	13.73%	0.01%	2.15%	0.00%
Time Warner Cable Inc	TWC	0.22%	15.33%	0.03%	2.48%	0.01%
Time Warner Inc	TWX	0.34%	12.72%	0.04%	2.33%	0.01%
Titanium Metals Corp	TIE	0.02%	15.00%	0.00%	1.81%	0.00%
TJX Cos Inc	TJX	0.25%	11.68%	0.03%	1.08%	0.00%
Torchmark Corp	TMK	0.04%	9.00%	0.00%	1.19%	0.00%
Total System Services Inc	TSS	0.03%	9.71%	0.00%	1.87%	0.00%
Travelers Cos Inc/The	TRV	0.21%	7.75%	0.02%	2.68%	0.01%
TripAdvisor Inc	TRIP	0.04%	16.34%	0.01%	n/a	n/a
Tyco International Ltd	TYC	0.10%	13.00%	0.01%	2.24%	0.00%
Tyson Foods Inc	TSN	0.04%	n/a	n/a	1.18%	0.00%
Union Pacific Corp	UNP	0.44%	13.20%	0.06%	2.35%	0.01%
United Parcel Service Inc	UPS	0.40%	9.58%	0.04%	3.26%	0.01%
United States Steel Corp	X	0.02%	6.50%	0.00%	1.00%	0.00%
United Technologies Corp	UTX	0.55%	12.96%	0.07%	2.84%	0.02%
UnitedHealth Group Inc	UNH	0.42%	10.25%	0.04%	1.64%	0.01%
Unum Group	UNM	0.04%	10.00%	0.00%	2.67%	0.00%
Urban Outfitters Inc	URBN	0.04%	18.44%	0.01%	n/a	n/a
US Bancorp	USB	0.47%	7.57%	0.04%	2.47%	0.01%
Valero Energy Corp	VLO	0.13%	6.30%	0.01%	2.38%	0.00%
Varian Medical Systems Inc	VAR	0.06%	11.50%	0.01%	n/a	n/a
Ventas Inc	VTR	0.15%	4.77%	0.01%	3.89%	0.01%
VeriSign Inc	VRSN	0.05%	15.50%	0.01%	n/a	n/a
Verizon Communications Inc	VZ	0.94%	6.43%	0.06%	4.98%	0.05%
VF Corp	VFC	0.14%	12.40%	0.02%	2.23%	0.00%
Viacom Inc	VIAB	0.18%	12.28%	0.02%	2.22%	0.00%
Visa Inc	V	0.61%	18.71%	0.11%	0.93%	0.01%
Vornado Realty Trust	VNO	0.11%	-2.91%	0.00%	3.77%	0.00%
Vulcan Materials Co	VMC	0.05%	9.67%	0.00%	0.09%	0.00%
Wal-Mart Stores Inc	WMT	1.82%	10.22%	0.19%	2.34%	0.04%
Walgreen Co	WAG	0.24%	12.83%	0.03%	3.42%	0.01%
Walt Disney Co/The	DIS	0.68%	10.89%	0.07%	1.27%	0.01%
Washington Post Co/The	WPO	0.02%	n/a	n/a	2.86%	0.00%
Waste Management Inc	WM	0.12%	2.80%	0.00%	4.52%	0.01%
Waters Corp	WAT	0.06%	9.08%	0.01%	n/a	n/a
Watson Pharmaceuticals Inc	WPI	0.08%	12.29%	0.01%	n/a	n/a
WellPoint Inc	WLP	0.13%	11.00%	0.01%	2.09%	0.00%
Wells Fargo & Co	WFC	1.34%	11.13%	0.15%	2.76%	0.04%
Western Digital Corp	WDC	0.07%	2.13%	0.00%	2.89%	0.00%
Western Union Co/The	WU	0.06%	10.41%	0.01%	3.93%	0.00%
Weyerhaeuser Co	WY	0.11%	5.00%	0.01%	2.68%	0.00%
Whirlpool Corp	WHR	0.06%	n/a	n/a	2.08%	0.00%
Whole Foods Market Inc	WFM	0.13%	18.86%	0.03%	0.88%	0.00%
Williams Cos Inc/The	WMB	0.16%	12.00%	0.02%	4.10%	0.01%
Windstream Corp	WN	0.04%	-3.41%	0.00%	12.12%	0.00%
Wisconsin Energy Corp	WEC	0.07%	4.75%	0.00%	3.30%	0.00%
WPX Energy Inc	WPX	0.02%	n/a	n/a	n/a	n/a
WW Grainger Inc	GWW	0.10%	14.18%	0.01%	1.70%	0.00%
Wyndham Worldwide Corp	WYN	0.05%	18.60%	0.01%	1.88%	0.00%
Wynn Resorts Ltd	WYNN	0.08%	8.00%	0.01%	1.92%	0.00%
Xcel Energy Inc	XEL	0.10%	5.17%	0.01%	4.11%	0.00%
Xerox Corp	XR	0.06%	n/a	n/a	3.69%	0.00%
Xilinx Inc	XLNX	0.07%	14.00%	0.01%	2.71%	0.00%
XL Group PLC	XL	0.06%	8.33%	0.00%	1.86%	0.00%
Xylem Inc/NY	XYL	0.04%	7.00%	0.00%	1.67%	0.00%
Yahoo! Inc	YHOO	0.17%	12.67%	0.02%	n/a	n/a
Yum! Brands Inc	YUM	0.26%	12.00%	0.03%	1.86%	0.00%
Zimmer Holdings Inc	ZMH	0.09%	9.56%	0.01%	1.12%	0.00%
Zions Bancorporation	ZION	0.03%	7.75%	0.00%	0.20%	0.00%

Notes:

- [1] Equals sum of Col. [11]
- [2] Equals sum of Col. [9]
- [3] Equals (Col. [1] x (1 + (Col. [2])) + Col. [2]
- [4] Source: Bloomberg and Blue Chipe Financial Forecasts
- [5] Equals Col. [3] - Col. [4]
- [6] Equals sum of Col. [7] if Col. [8] ≠ n/a
- [7] Equals weight in S&P 500 based on market capitalization
- [8] Source: Bloomberg
- [9] Equals Col. [7] x Col. [8] if Col. [8] ≠ n/a, otherwise equals zero
- [10] Source: Bloomberg
- [11] Equals Col. [7] x Col. [10] if Col. [8] ≠ n/a, otherwise equals zero

BETAS  
VALUE LINE AND BLOOMBERG

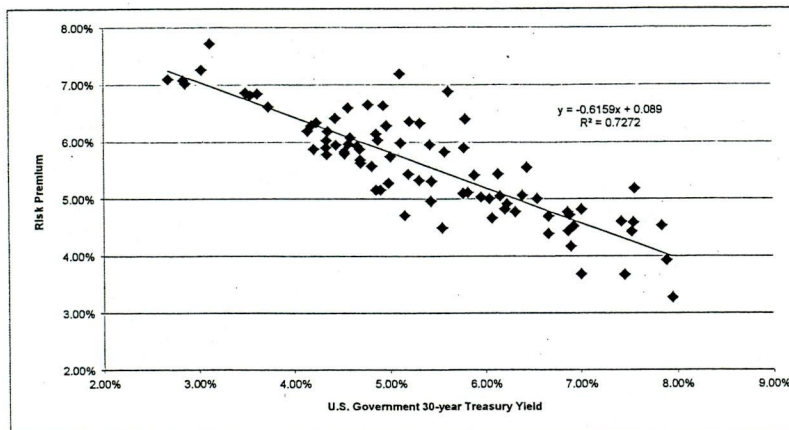
Case No. PU-12-\_\_\_\_\_  
Exhibit\_\_(AEB-1), Schedule 7  
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		<u>Value Line</u>	<u>Bloomberg</u>	<u>Average</u>
ALLETE, Inc.	ALE	0.70	0.78	0.74
American Electric Power	AEP	0.70	0.61	0.65
Cleco Corp.	CNL	0.65	0.74	0.69
Empire District Electric	EDE	0.65	0.74	0.69
FirstEnergy Corporation	FE	0.80	0.64	0.72
Great Plains Energy Inc.	GXP	0.75	0.77	0.76
Hawaiian Electric	HE	0.70	0.72	0.71
IDACORP, Inc.	IDA	0.70	0.80	0.75
Otter Tail Corp.	OTTR	0.90	0.76	0.83
Pinnacle West Capital	PNW	0.70	0.70	0.70
Portland General	POR	0.75	0.74	0.74
Southern Co.	SO	0.55	0.50	0.53
Westar Energy	WR	0.75	0.67	0.71
Average Beta		<u>0.715</u>	<u>0.705</u>	<u>0.710</u>

Sources: Value Line and Bloomberg

Bond Yield Risk Premium

	[1]	[2]	[3]
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.38%	7.84%	4.55%
1992.2	11.83%	7.88%	3.94%
1992.3	12.03%	7.42%	4.62%
1992.4	12.14%	7.54%	4.60%
1993.1	11.84%	7.01%	4.83%
1993.2	11.64%	6.86%	4.78%
1993.3	11.15%	6.23%	4.92%
1993.4	11.04%	6.21%	4.84%
1994.1	11.07%	6.66%	4.40%
1994.2	11.13%	7.45%	3.68%
1994.3	12.75%	7.55%	5.20%
1994.4	11.24%	7.95%	3.29%
1995.1	11.96%	7.52%	4.44%
1995.2	11.32%	6.87%	4.45%
1995.3	11.37%	6.66%	4.71%
1995.4	11.58%	6.14%	5.45%
1996.1	11.46%	6.39%	5.07%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	7.00%	3.70%
1996.4	11.56%	6.54%	5.02%
1997.1	11.08%	6.90%	4.18%
1997.2	11.62%	6.88%	4.73%
1997.3	12.00%	6.44%	5.56%
1997.4	11.06%	6.04%	5.02%
1998.1	11.31%	5.89%	5.43%
1998.2	12.20%	5.79%	6.41%
1998.3	11.65%	5.32%	6.33%
1998.4	12.30%	5.11%	7.20%
1999.1	10.40%	5.43%	4.97%
1999.2	10.94%	5.82%	5.12%
1999.3	10.75%	6.07%	4.68%
1999.4	11.10%	6.31%	4.79%
2000.1	11.21%	6.15%	5.06%
2000.2	11.00%	5.95%	5.05%
2000.3	11.68%	5.78%	5.90%
2000.4	12.50%	5.62%	6.88%
2001.1	11.38%	5.42%	5.96%
2001.2	10.88%	5.77%	5.11%
2001.3	10.76%	5.44%	5.32%
2001.4	11.57%	5.21%	6.36%
2002.1	10.05%	5.55%	4.50%
2002.2	11.41%	5.57%	5.83%
2002.3	11.25%	4.96%	6.29%
2002.4	11.57%	4.93%	6.63%
2003.1	11.43%	4.78%	6.65%
2003.2	11.16%	4.57%	6.60%
2003.3	9.88%	5.15%	4.72%
2003.4	11.09%	5.11%	5.98%
2004.1	11.00%	4.86%	6.14%
2004.2	10.64%	5.31%	5.33%
2004.3	10.75%	5.01%	5.74%
2004.4	10.91%	4.87%	6.04%
2005.1	10.56%	4.69%	5.87%
2005.2	10.13%	4.34%	5.78%
2005.3	10.85%	4.43%	6.41%
2005.4	10.59%	4.66%	5.93%
2006.1	10.38%	4.69%	5.69%
2006.2	10.63%	5.19%	5.44%
2006.3	10.06%	4.90%	5.16%
2006.4	10.33%	4.70%	5.64%
2007.1	10.39%	4.81%	5.58%
2007.2	10.27%	4.98%	5.28%
2007.3	10.02%	4.85%	5.16%
2007.4	10.36%	4.53%	5.83%
2008.1	10.37%	4.34%	6.03%
2008.2	10.54%	4.57%	5.97%
2008.3	10.38%	4.44%	5.95%
2008.4	10.36%	3.49%	6.86%
2009.1	10.46%	3.62%	6.85%
2009.2	10.58%	4.23%	6.34%
2009.3	10.46%	4.18%	6.28%
2009.4	10.54%	4.35%	6.19%
2010.1	10.66%	4.59%	6.08%
2010.2	10.08%	4.20%	5.87%
2010.3	10.34%	3.73%	6.61%
2010.4	10.34%	4.14%	6.20%
2011.1	10.32%	4.53%	5.80%
2011.2	10.23%	4.33%	5.90%
2011.3	10.36%	3.54%	6.82%
2011.4	10.29%	3.03%	7.26%
2012.1	10.84%	3.12%	7.72%
2012.2	9.92%	2.84%	7.08%
2012.3	9.78%	2.68%	7.10%
2012.4	9.88%	2.86%	7.03%
MEAN	10.98%	5.41%	5.57%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.85278442
R Square	0.72724127
Adjusted R Square	0.72391495
Standard Error	0.00481884
Observations	84

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.005076894	0.005076894	218.6319943	7.54877E-25
Residual	82	0.001904137	2.32212E-05		
Total	83	0.006981031			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.08902034	0.002303292	38.64918272	2.11015E-54	0.084438363	0.09360233	0.08443836	0.09360233
U.S. Govt. 30-year Treasury	-0.61593891	0.041656309	-14.7862096	7.54877E-25	-0.698806576	-0.53307124	-0.69880658	-0.53307124

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	Authorized ROE
Current 30-Day Average [4]	2.87%	7.13%	10.00%
Blue Chip Consensus Forecast (Q2 2012-Q3 2013) [5]	3.15%	6.96%	10.11%
Blue Chip Consensus Forecast (2013-2017) [6]	5.10%	5.76%	10.86%
AVERAGE			10.33%

Notes:

- [1] Source: Regulatory Research Associates, accessed November 1, 2012.
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of the last trading day of each month in the quarter.
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional
- [5] Source: Blue Chip Financial Forecasts, Vol. 31, No. 11, November 1, 2012, at 2.
- [6] Source: Blue Chip Financial Forecasts, Vol. 31, No. 6, June 1, 2012, at 14.
- [7] See notes [4], [5] & [6]
- [8] Equals  $0.089020 + (-0.615939 \times \text{Column [7]})$
- [9] Equals Column [7] + Column [8]

Equity Ratio

Summary Data

Company Name	Ticker	2012Q2	2012Q1	2011Q4	2011Q3	2011Q2	2011Q1	2010Q4	2010Q3	Overall Average
ALLETE, Inc.	ALE	57.43%	59.36%	58.41%	57.75%	58.92%	58.73%	58.00%	57.48%	58.26%
American Electric Power	AEP	52.18%	51.46%	52.94%	52.58%	50.86%	50.15%	50.05%	53.10%	51.66%
Cleco Power LLC	CNL	50.38%	48.38%	48.29%	47.52%	47.75%	46.98%	47.33%	51.14%	48.47%
Empire District Electric	EDE	52.50%	52.91%	52.29%	51.95%	50.96%	51.03%	50.93%	50.99%	51.69%
FirstEnergy Corporation	FE	47.07%	46.86%	46.50%	47.19%	45.67%	46.50%	49.42%	46.83%	47.01%
Great Plains Energy Inc.	GXP	49.49%	51.86%	51.93%	51.13%	53.00%	53.59%	52.23%	52.34%	51.95%
Hawaiian Electric Company, Inc.	HE	55.36%	58.58%	58.42%	57.59%	57.22%	55.86%	55.83%	55.62%	56.81%
IDACORP, Inc.	IDA	50.37%	50.91%	50.59%	50.44%	48.95%	48.84%	46.61%	46.22%	49.12%
Otter Tail Corp.	OTTR	50.23%	50.48%	50.28%	53.36%	53.17%	53.24%	53.16%	53.00%	52.12%
Pinnacle West	PNW	54.60%	54.36%	54.46%	52.06%	52.44%	52.57%	52.97%	52.98%	53.30%
Portland General	POR	49.47%	49.37%	48.94%	47.90%	47.78%	47.74%	46.83%	46.73%	48.09%
Southern Co.	SO	47.22%	46.48%	47.43%	51.14%	50.22%	50.59%	49.27%	48.75%	48.89%
Westar Energy	WR	59.38%	60.05%	61.36%	60.66%	59.62%	59.24%	59.37%	59.48%	59.90%
Proxy Group Average		51.98%	52.39%	52.45%	52.41%	52.04%	51.93%	51.69%	51.90%	52.10%

Underlying Data

Company Name	Ticker	Equity Ratio							
		2012Q2	2012Q1	2011Q4	2011Q3	2011Q2	2011Q1	2010Q4	2010Q3
ALLETE (Minnesota Power)	ALE	57.43%	57.69%	56.92%	56.28%	58.10%	57.49%	56.82%	56.79%
Superior Water, Light and Power Company	ALE		61.03%	59.89%	59.22%	59.74%	59.97%	59.17%	58.17%
AEP Texas Central Company	AEP	48.91%	45.78%	63.77%	60.84%	47.26%	44.99%	44.85%	44.76%
AEP Texas North Company	AEP	47.24%	47.29%	46.93%	46.35%	46.08%	45.88%	45.52%	45.18%
Appalachian Power Company	AEP	44.73%	44.62%	44.07%	44.19%	43.14%	41.53%	44.21%	43.87%
Columbus Southern Power Company	AEP			51.28%	50.96%	50.87%	50.81%	48.47%	46.80%
Indiana Michigan Power Company	AEP	49.42%	49.55%	49.13%	49.10%	49.06%	48.86%	48.47%	46.80%
Kentucky Power Company	AEP	46.12%	45.76%	45.61%	45.62%	45.42%	45.50%	44.84%	44.21%
Kingsport Power Company	AEP	59.94%	60.35%	59.56%	58.67%	59.00%	59.12%	57.96%	100.00%
Ohio Power Company	AEP	53.94%	53.49%	52.12%	53.92%	54.34%	54.52%	53.43%	52.37%
Public Service Company of Oklahoma	AEP	48.93%	48.40%	48.52%	48.56%	47.51%	45.21%	46.45%	46.65%
Southwestern Electric Power Company	AEP	49.27%	48.55%	51.85%	51.99%	50.32%	49.58%	49.15%	49.07%
Wheeling Power Co	AEP	73.26%	70.78%	67.87%	67.88%	66.34%	65.53%	64.89%	62.73%
Cleco Power LLC	CNL	50.38%	48.38%	48.29%	47.52%	47.75%	46.98%	47.33%	51.14%
Empire District Electric Company	EDE	52.50%	52.91%	52.29%	51.95%	50.96%	51.03%	50.93%	50.99%
Toledo Edison Company	FE	38.20%	37.78%	38.13%	39.73%	38.84%	39.24%	39.71%	39.46%
Ohio Edison Company	FE	42.09%	41.67%	40.81%	42.58%	40.91%	44.90%	46.83%	46.41%
Cleveland Electric Illuminating Company	FE	39.44%	40.47%	42.30%	42.84%	42.26%	42.07%	42.72%	42.59%
Jersey Central Power & Light Company	FE	60.81%	60.94%	60.71%	60.36%	59.42%	63.89%	63.70%	63.66%
Metropolitan Edison Company	FE	53.37%	53.03%	52.55%	51.60%	50.71%	55.76%	59.42%	59.93%
Monongahela Power Company	FE	46.13%	45.29%	43.96%	45.76%	41.18%	40.41%	45.45%	46.11%
Potomac Edison Company	FE	46.41%	45.22%	43.97%	43.69%	42.38%	39.50%	44.17%	44.91%
West Penn Power Company	FE	50.15%	50.49%	49.61%	50.98%	49.68%	46.19%	53.34%	31.54%
Kansas City Power & Light Company	GXP	51.73%	51.48%	51.59%	49.84%	54.41%	52.66%	52.90%	53.16%
KCP&L Greater Missouri Operations Company	GXP	47.26%	52.24%	52.28%	52.42%	51.59%	54.52%	51.55%	51.52%
Hawaiian Electric Company, Inc.	HE	55.36%	58.58%	58.42%	57.59%	57.22%	55.86%	55.83%	55.62%
Idaho Power Co.	IDA	50.37%	50.91%	50.59%	50.44%	48.95%	48.84%	46.61%	46.22%
Otter Tail Power Company	OTTR	50.23%	50.48%	50.28%	53.36%	53.17%	53.24%	53.16%	53.00%
Arizona Public Service Company	PNW	54.60%	54.36%	54.46%	52.06%	52.44%	52.57%	52.97%	52.98%
Portland General Electric Company	POR	49.47%	49.37%	48.94%	47.90%	47.78%	47.74%	46.83%	46.73%
Alabama Power Company	SO	46.81%	45.57%	46.53%	47.29%	46.71%	46.46%	46.54%	47.06%
Georgia Power Company	SO	47.90%	50.17%	51.73%	51.94%	50.73%	51.17%	51.32%	50.22%
Gulf Power Company	SO	48.31%	48.35%	47.61%	47.79%	47.45%	47.52%	46.71%	45.40%
Mississippi Power Company	SO	45.88%	41.82%	43.83%	57.54%	55.99%	57.21%	52.51%	52.30%
Kansas Gas and Electric Company	WR	58.30%	57.85%	57.55%	57.70%	56.77%	56.52%	57.00%	57.24%
Westar Energy (KPL)	WR	60.46%	62.26%	65.18%	63.63%	62.47%	61.96%	61.74%	61.72%

Notes  
 Source: SNL Financial

Long Term Debt Ratio

Summary Data

Company Name	Ticker	2012Q2	2012Q1	2011Q4	2011Q3	2011Q2	2011Q1	2010Q4	2010Q3	Overall Average
ALLETE, Inc.	ALE	42.57%	40.64%	41.59%	42.25%	41.08%	41.27%	42.00%	42.52%	41.74%
American Electric Power	AEP	47.82%	48.54%	47.06%	47.42%	49.14%	49.85%	49.95%	46.90%	48.34%
Cleco Power LLC	CNL	49.62%	51.62%	51.71%	52.48%	52.25%	53.02%	52.67%	48.86%	51.53%
Empire District Electric	EDE	47.50%	47.09%	47.71%	48.05%	49.04%	48.97%	49.07%	49.01%	48.31%
FirstEnergy Corporation	FE	52.93%	53.14%	53.50%	52.81%	54.33%	53.50%	50.58%	53.17%	52.99%
Great Plains Energy Inc.	GXP	50.51%	48.14%	48.07%	48.87%	47.00%	46.41%	47.77%	47.66%	48.05%
Hawaiian Electric Company, Inc.	HE	44.64%	41.42%	41.58%	42.41%	42.78%	44.14%	44.17%	44.38%	43.19%
IDACORP, Inc.	IDA	49.63%	49.09%	49.41%	49.56%	51.05%	51.16%	53.39%	53.78%	50.88%
Otter Tail Corp.	OTTR	49.77%	49.52%	49.72%	46.64%	46.83%	46.76%	46.84%	47.00%	47.88%
Pinnacle West	PNW	45.40%	45.64%	45.54%	47.94%	47.56%	47.43%	47.03%	47.02%	46.70%
Portland General	POR	50.53%	50.63%	51.06%	52.10%	52.22%	52.26%	53.17%	53.27%	51.91%
Southern Co.	SO	52.78%	53.52%	52.57%	48.86%	49.78%	49.41%	50.73%	51.25%	51.11%
Westar Energy	WR	40.62%	39.95%	38.64%	39.34%	40.38%	40.76%	40.63%	40.52%	40.10%
Proxy Group Average		48.02%	47.61%	47.55%	47.59%	47.96%	48.07%	48.31%	48.10%	47.90%

Underlying Data

		Long Term Debt Ratio							
Company Name	Ticker	2012Q2	2012Q1	2011Q4	2011Q3	2011Q2	2011Q1	2010Q4	2010Q3
ALLETE (Minnesota Power)	ALE	42.57%	42.31%	43.08%	43.72%	41.90%	42.51%	43.18%	43.21%
Superior Water, Light and Power Company	ALE		38.97%	40.11%	40.78%	40.26%	40.03%	40.83%	41.83%
AEP Texas Central Company	AEP	51.09%	54.22%	36.23%	39.16%	52.74%	55.01%	55.15%	55.24%
AEP Texas North Company	AEP	52.76%	52.71%	53.07%	53.65%	53.92%	54.12%	54.48%	54.82%
Appalachian Power Company	AEP	55.27%	55.38%	55.93%	55.81%	56.86%	58.47%	55.79%	56.13%
Columbus Southern Power Company	AEP			48.72%	49.04%	49.13%	49.19%	51.53%	
Indiana Michigan Power Company	AEP	50.58%	50.45%	50.87%	50.90%	50.94%	51.14%	51.53%	53.20%
Kentucky Power Company	AEP	53.88%	54.24%	54.39%	54.38%	54.58%	54.50%	55.16%	55.79%
Kingsport Power Company	AEP	40.06%	39.65%	40.44%	41.33%	41.00%	40.88%	42.04%	0.00%
Ohio Power Company	AEP	46.06%	46.51%	47.88%	46.08%	45.66%	45.48%	46.57%	47.63%
Public Service Company of Oklahoma	AEP	51.07%	51.60%	51.48%	51.44%	52.49%	54.79%	53.55%	53.35%
Southwestern Electric Power Company	AEP	50.73%	51.45%	48.15%	48.01%	49.68%	50.42%	50.85%	50.93%
Wheeling Power Co	AEP	26.74%	29.22%	32.13%	32.12%	33.66%	34.47%	35.11%	37.27%
Cleco Power LLC	CNL	49.62%	51.62%	51.71%	52.48%	52.25%	53.02%	52.67%	48.86%
Empire District Electric Company	EDE	47.50%	47.09%	47.71%	48.05%	49.04%	48.97%	49.07%	49.01%
Toledo Edison Company	FE	61.80%	62.22%	61.87%	60.27%	61.16%	60.76%	60.29%	60.54%
Ohio Edison Company	FE	57.91%	58.33%	59.19%	57.42%	59.09%	55.10%	53.17%	53.59%
Cleveland Electric Illuminating Company	FE	60.56%	59.53%	57.70%	57.16%	57.74%	57.93%	57.28%	57.41%
Jersey Central Power & Light Company	FE	39.19%	39.06%	39.29%	39.64%	40.58%	36.11%	36.30%	36.34%
Metropolitan Edison Company	FE	46.63%	46.97%	47.45%	48.40%	49.29%	44.24%	40.58%	40.07%
Monongahela Power Company	FE	53.87%	54.71%	56.04%	54.24%	58.82%	59.59%	54.55%	53.89%
Potomac Edison Company	FE	53.59%	54.78%	56.03%	56.31%	57.62%	60.50%	55.83%	55.09%
West Penn Power Company	FE	49.85%	49.51%	50.39%	49.02%	50.32%	53.81%	46.66%	68.46%
Kansas City Power & Light Company	GXP	48.27%	48.52%	48.41%	50.16%	45.99%	47.34%	47.10%	46.84%
KCP&L Greater Missouri Operations Company	GXP	52.74%	47.76%	47.72%	47.58%	48.41%	45.48%	48.45%	48.48%
Hawaiian Electric Company, Inc.	HE	44.64%	41.42%	41.58%	42.41%	42.78%	44.14%	44.17%	44.38%
Idaho Power Co.	IDA	49.63%	49.09%	49.41%	49.56%	51.05%	51.16%	53.39%	53.78%
Otter Tail Power Company	OTTR	49.77%	49.52%	49.72%	46.64%	46.83%	46.76%	46.84%	47.00%
Arizona Public Service Company	PNW	45.40%	45.64%	45.54%	47.94%	47.56%	47.43%	47.03%	47.02%
Portland General Electric Company	POR	50.53%	50.63%	51.06%	52.10%	52.22%	52.26%	53.17%	53.27%
Alabama Power Company	SO	53.19%	54.43%	53.47%	52.71%	53.29%	53.54%	53.46%	52.94%
Georgia Power Company	SO	52.10%	49.83%	48.27%	48.06%	49.27%	48.83%	48.68%	49.78%
Gulf Power Company	SO	51.69%	51.65%	52.39%	52.21%	52.55%	52.48%	53.29%	54.60%
Mississippi Power Company	SO	54.12%	58.18%	56.17%	42.46%	44.01%	42.79%	47.49%	47.70%
Kansas Gas and Electric Company	WR	41.70%	42.15%	42.45%	42.30%	43.23%	43.48%	43.00%	42.76%
Westar Energy (KPL)	WR	39.54%	37.74%	34.82%	36.37%	37.53%	38.04%	38.26%	38.28%

Notes

Source: SNL Financial

Northern States Power Company  
 Electric Utility - State of North Dakota  
 Composite Cost of Long-Term Debt  
 (\$000's)

**TEST YEAR - 2013 FORECASTED LONG TERM DEBT AND COST**

Description	Coupon Rate	Issue Date	Maturity Date	Amount	Premium or Hedge Gain/(Loss)	Bond Discount	Bond Expense	3/ Capital Employed	Total Bond Cost				Cost of Capital	Capital Cost %
									4/ Interest Charge	Premium/ Hedge Amortization	Discount Amortization	Expense Amortization		
<b>First Mortgage Bonds</b>														
Series due July 1, 2025 (FMB)	7.1250	Jul-95	Jul-25	250,000	-	929	757	248,314	17,813	-	78	63	17,953	7.23%
Series due March 1, 2026 (FMB)	6.5000	Mar-98	Mar-28	150,000	-	859	719	148,422	9,750	-	59	49	9,858	6.64%
Series Due July 15, 2035 (FMB)	5.2500	Jul-05	Jul-35	250,000	-	356	2,225	247,419	13,125	-	16	101	13,242	5.35%
Series Due June 1, 2036 (FMB)	6.2500	May-06	Jun-36	400,000	12,469	1,070	3,717	407,682	25,000	544	35	175	24,666	6.05%
Series Due July 1, 2037 (FMB)	6.2000	Jun-07	Jul-37	350,000	746	1,587	3,462	345,697	21,700	189	66	144	21,721	6.28%
Series Due March 1, 2018 (FMB)	5.2500	Mar-08	Mar-18	500,000	(2,399)	706	2,238	494,657	26,250	(518)	153	484	27,405	5.54%
Series Due November 1, 2039 (FMB)	5.3500	Nov-09	Nov-39	300,000	(2,815)	500	3,647	293,038	16,050	(107)	19	139	16,315	5.57%
Series Due August 15, 2015 (FMB)	1.9500	Aug-10	Aug-15	250,000	-	206	969	248,825	4,875	-	99	466	5,440	2.19%
Series Due August 15, 2040 (FMB)	4.8500	Aug-10	Aug-40	250,000	-	638	2,725	246,637	12,125	-	24	101	12,249	4.97%
Series Due August 15, 2040 (FMB)	4.8500	Aug-10	Aug-40	250,000	-	638	2,725	246,637	12,125	-	24	101	12,249	4.97%
New Debt - 2012 10 year	2.1500	Aug-12	Aug-22	300,000	-	414	2,756	296,830	6,450	-	46	304	6,799	2.29%
New Debt - 2012 30 year	3.4000	Aug-12	Aug-42	500,000	(43,564)	3,702	5,996	446,737	17,000	(1,498)	127	206	18,832	4.22%
New Debt - 2013 30 year 1/	4.2500	May-13	May-43	266,667	-	-	3,160	263,507	11,333	-	-	107	11,440	4.34%
<b>Other Debt</b>														
Seeley & Right of Way Notes	var	var	var	7	-	-	-	7	-	-	-	-	-	0.00%
<b>TOTAL DEBT</b>				<b>3,766,674</b>	<b>(35,563)</b>	<b>10,966</b>	<b>32,371</b>	<b>3,687,773</b>	<b>181,471</b>	<b>(1,391)</b>	<b>721</b>	<b>2,338</b>	<b>185,921</b>	<b>5.04%</b>
								(20,072)					1,978	
Unamortized Loss on Reacquired Debt								-					508	
Fees on 5-year Credit Facility 2/								-					188,406	5.14%
<b>GRAND TOTAL and COST OF DEBT</b>								<b>3,667,701</b>						

1/ NSPM issuances - May 2013 \$400M. Interest Rate Based on a July 2012 Global Insights Inc Forecast. Balance is 8 of 12 Months.

2/ Fees associated with the 5 Year Credit Facility are amortized over the life of the facility and are incorporated into the long-term debt rate.

3/ Capital Employed is based on the Premium / Discount / Expense Balances representing average declining balances. New and Maturing Debt averaged on number of months in the year.

4/ Interest Expense is a Straight Interest Expense calculation.