

DAVID J. MEYER  
VICE PRESIDENT AND CHIEF COUNSEL FOR  
REGULATORY & GOVERNMENTAL AFFAIRS  
AVISTA CORPORATION  
P.O. BOX 3727  
1411 EAST MISSION AVENUE  
SPOKANE, WASHINGTON 99220-3727  
TELEPHONE: (509) 495-4316  
FACSIMILE: (509) 495-8851  
DAVID.MEYER@AVISTACORP.COM

**BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION**

IN THE MATTER OF THE APPLICATION	)	CASE NO. AVU-E-15-05
OF AVISTA CORPORATION FOR THE	)	CASE NO. AVU-G-15-01
AUTHORITY TO INCREASE ITS RATES	)	
AND CHARGES FOR ELECTRIC AND	)	
NATURAL GAS SERVICE TO ELECTRIC	)	EXHIBIT NO. 3
AND NATURAL GAS CUSTOMERS IN THE	)	
STATE OF IDAHO	)	ADRIEN M. MCKENZIE
_____	)	

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

**QUALIFICATIONS OF ADRIEN M. MCKENZIE**

1           **Q.    What is the purpose of this exhibit?**

2           A.    This exhibit describes my background and  
3           experience and contains the details of my qualifications.

4           **Q.    Please describe your qualifications and**  
5           **experience.**

6           A.    I received B.A. and M.B.A. degrees with a major  
7           in finance from The University of Texas at Austin, and hold  
8           the Chartered Financial Analyst (CFA®) designation. Since  
9           joining FINCAP in 1984, I have participated in consulting  
10          assignments involving a broad range of economic and  
11          financial issues, including cost of capital, cost of  
12          service, rate design, economic damages, and business  
13          valuation. I have extensive experience in economic and  
14          financial analysis for regulated industries, and in  
15          preparing and supporting expert witness testimony before  
16          courts, regulatory agencies, and legislative committees  
17          throughout the U.S. and Canada. Since 2014, I have  
18          personally sponsored direct and rebuttal testimony  
19          concerning the rate of return on equity ("ROE") in  
20          proceedings filed with the Federal Energy Regulatory  
21          Commission ("FERC" or "the Commission"), the Hawaii Public

1 Utilities Commission, the Kansas State Corporation  
2 Commission, the Kentucky Public Service Commission, the  
3 Montana Public Service Commission, the Public Utility  
4 Commission of Oregon, the South Dakota Public Utilities  
5 Commission, the Washington Utilities and Transportation  
6 Commission, and the Wyoming Public Service Commission. My  
7 testimony addressed the establishment of risk-comparable  
8 proxy groups, the application of alternative quantitative  
9 methods, and the consideration of regulatory standards and  
10 policy objectives in establishing a fair ROE for regulated  
11 electric and gas utility operations.

12 In addition, over the course of my career I have  
13 worked with Dr. William Avera to prepare prefiled direct  
14 and rebuttal testimony in over 250 regulatory proceedings  
15 before the Federal Energy Regulatory Commission ("FERC")  
16 (including Docket No. EL11-66-001, which established FERC's  
17 current policies with respect to ROE for electric  
18 utilities, adopted in Opinion No. 531), the Canadian Radio-  
19 Television and Telecommunications Commission, and  
20 regulatory agencies in over 30 states.<sup>1</sup> In connection with  
21 these assignments, my responsibilities have included  
22 performing analyses to estimate investors' required rate of

---

<sup>1</sup> This testimony was sponsored by Dr. William Avera, who is President of FINCAP, Inc.

1 return, critically evaluating the results of alternative  
2 approaches, evaluating the positions of other parties,  
3 representing clients in settlement negotiations and  
4 hearings, and assisting in the preparation of legal briefs.  
5 Prior to joining FINCAP, I was employed by an oil and gas  
6 firm and was responsible for operations and accounting. A  
7 resume containing the details of my qualifications and  
8 experience is attached below.

9

**ADRIEN M. McKENZIE**

Vice President  
FINCAP, INC.  
Financial Concepts and Applications  
*Economic and Financial Counsel*

3907 Red River  
Austin, Texas 78751  
(512) 458-4644  
FAX (512) 458-4768  
fincap3@texas.net

**Summary of Qualifications**

Adrien McKenzie has an MBA in finance from the University of Texas at Austin and holds the Chartered Financial Analyst (CFA) designation. He has over 25 years of experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. Assignments have included a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation.

**Employment**

*Consultant,*  
FINCAP, Inc.  
(June 1984 to June 1987)  
(April 1988 to present)

Economic consulting firm specializing in regulated industries and valuation of closely-held businesses. Assignments have involved electric, gas, telecommunication, and water/sewer utilities, with clients including utilities, consumer groups, municipalities, regulatory agencies, and cogenerators. Areas of participation have included rate of return, revenue requirements, rate design, tariff analysis, avoided cost, forecasting, and negotiations. Develop cost of capital analyses using alternative market models for electric, gas, and telephone utilities. Prepare pre-filed direct and rebuttal testimony, participate in settlement negotiations, respond to interrogatories, evaluate opposition testimony, and assist in the areas of cross-examination and the preparations of legal briefs. Other assignments have involved preparation of technical reports, valuations, estimation of damages, industry studies, and various economic analyses in support of litigation.

*Manager,*  
McKenzie Energy Company  
(Jan. 1981 to May. 1984)

Responsible for operations and accounting for firm engaged in the management of working interests in oil and gas properties.

## **Education**

*M.B.A., Finance,*  
University of Texas at Austin  
(Sep. 1982 to May. 1984)

Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship.

Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*

*B.B.A., Finance,*  
University of Texas at Austin  
(Jan. 1981 to May 1982)

Electives included capital market theory, portfolio management, and international economics and finance. Elected to Beta Gamma Sigma business honor society. Dean's List 1981-1982.

Simon Fraser University,  
Vancouver, Canada and University  
of Hawaii at Manoa, Honolulu,  
Hawaii  
(Jan. 1979 to Dec 1980)

Coursework in accounting, finance, economics, and liberal arts.

## **Professional Associations**

Received Chartered Financial Analyst (CFA) designation in 1990.

*Member* – CFA Institute.

## **Bibliography**

“A Profile of State Regulatory Commissions,” A Special Report by the Electricity Consumers Resource Council (ELCON), Summer 1991.

“The Impact of Regulatory Climate on Utility Capital Costs: An Alternative Test,” with Bruce H. Fairchild, *Public Utilities Fortnightly* (May 25, 1989).

## **Presentations**

“ROE at FERC: Issues and Methods,” *Expert Briefing on Parallels in ROE Issues between AER, ERA, and FERC*, Jones Day (Sydney, Melbourne, and Perth, Australia) (April 15, 2014)

*Cost of Capital Working Group eforum*, Edison Electric Institute (April 24, 2012)

“Cost-of-Service Studies and Rate Design,” General Management of Electric Utilities (A Training Program for Electric Utility Managers from Developing Countries), Austin, Texas (October 1989 and November 1990 and 1991).

**Representative Assignments**

Mr. McKenzie has prepared and supported prefiled testimony submitted in over 250 regulatory proceedings. In addition to filings before regulators in 33 states, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission (“FERC”) on the issue of ROE. Many of these proceedings have been influential in addressing key aspects of FERC’s policies with respect to ROE determinations. Broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE, including discounted cash flow approaches, the Capital Asset Pricing Model, risk premium methods, and other quantitative benchmarks. Other representative assignments have included the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits; development of explanatory models for nuclear plant capital costs in connection with prudency reviews; and the analysis of avoided cost pricing for cogenerated power.

**I. DESCRIPTION OF QUANTITATIVE ANALYSES**

1           **Q. What is the purpose of this schedule?**

2           A. Exhibit No. 3, Schedule 2 presents capital  
3 market estimates of the cost of equity. First, I examine  
4 the concept of the cost of equity, along with the risk-  
5 return tradeoff principle fundamental to capital markets.  
6 Next, I describe DCF, ECAPM, and risk premium analyses  
7 conducted to estimate the cost of equity for reference  
8 groups of comparable risk firms. This schedule also  
9 presents alternative tests to confirm that the end-results  
10 of my primary analyses are reasonable and do not exceed a  
11 fair ROE.

**A. Comparable Risk Proxy Group**

12           **Q. How did you implement quantitative methods to**  
13 **estimate the cost of common equity for Avista?**

14           A. Application of quantitative methods to estimate  
15 the cost of equity requires observable capital market  
16 data, such as stock prices. Moreover, even for a firm  
17 with publicly traded stock, the cost of equity can only be  
18 estimated. As a result, applying quantitative models  
19 using observable market data only produces an estimate  
20 that inherently includes some degree of observation error.

1 Thus, the accepted approach to increase confidence in the  
2 results is to apply the quantitative methods such as the  
3 DCF and ECAPM to a proxy group of publicly traded  
4 companies that investors regard as risk-comparable.

5 **Q. What specific proxy group of utilities did you**  
6 **rely on for your analysis?**

7 A. In order to reflect the risks and prospects  
8 associated with Avista's jurisdictional utility  
9 operations, my DCF analyses focused on a reference group  
10 of other utilities composed of those companies included by  
11 The Value Line Investment Survey ("Value Line") in its  
12 Electric Utilities Industry groups with:

- 13 1. S&P corporate credit ratings of BBB-, BBB, or  
14 BBB+;
- 15 2. Moody's issuer ratings of Baa2, Baa1, or A3,
- 16 3. Value Line Safety Rank of "2" or "3";
- 17 4. No involvement in a major merger or acquisition;
- 18 and,
- 19 5. Currently paying common dividends with no recent  
20 dividend cuts.

21 These criteria resulted in a proxy group composed of 19  
22 companies, which I refer to as the "Utility Group."

1           **Q.    How did you evaluate the risks of the Utility**  
2 **Group relative to Avista?**

3           A.    My evaluation of relative risk considered four  
4 objective, published benchmarks that are widely relied on  
5 in the investment community. Credit ratings are assigned  
6 by independent rating agencies for the purpose of  
7 providing investors with a broad assessment of the  
8 creditworthiness of a firm. Ratings generally extend from  
9 triple-A (the highest) to D (in default). Other symbols  
10 (e.g., "BBB+") are used to show relative standing within a  
11 category. Because the rating agencies' evaluation  
12 includes virtually all of the factors normally considered  
13 important in assessing a firm's relative credit standing,  
14 corporate credit ratings provide a broad, objective  
15 measure of overall investment risk that is readily  
16 available to investors. Although the credit rating  
17 agencies are not immune to criticism, their rankings and  
18 analyses are widely cited in the investment community and  
19 referenced by investors. Investment restrictions tied to  
20 credit ratings continue to influence capital flows, and  
21 credit ratings are also frequently used as a primary risk  
22 indicator in establishing proxy groups to estimate the  
23 cost of common equity.

1           While credit ratings provide the most widely  
2           referenced benchmark for investment risks, other quality  
3           rankings published by investment advisory services also  
4           provide relative assessments of risks that are considered  
5           by investors in forming their expectations for common  
6           stocks. Value Line's primary risk indicator is its Safety  
7           Rank, which ranges from "1" (Safest) to "5" (Riskiest).  
8           This overall risk measure is intended to capture the total  
9           risk of a stock, and incorporates elements of stock price  
10          stability and financial strength. Given that Value Line  
11          is perhaps the most widely available source of investment  
12          advisory information, its Safety Rank provides useful  
13          guidance regarding the risk perceptions of investors.

14          The Financial Strength Rating is designed as a guide  
15          to overall financial strength and creditworthiness, with  
16          the key inputs including financial leverage, business  
17          volatility measures, and company size. Value Line's  
18          Financial Strength Ratings range from "A++" (strongest)  
19          down to "C" (weakest) in nine steps. Finally, Value  
20          Line's beta measures a utility's stock price volatility  
21          relative to the market as a whole. A stock that tends to  
22          respond less to market movements has a beta less than

1 1.00, while stocks that tend to move more than the market  
2 have betas greater than 1.00. Beta is the only relevant  
3 measure of investment risk under modern capital market  
4 theory, and is widely cited in academics and in the  
5 investment industry as a guide to investors' risk  
6 perceptions. Moreover, in my experience Value Line is the  
7 most widely referenced source for beta in regulatory  
8 proceedings. As noted in *New Regulatory Finance*:

9 Value Line is the largest and most widely  
10 circulated independent investment advisory  
11 service, and influences the expectations of a  
12 large number of institutional and individual  
13 investors. ... Value Line betas are computed on a  
14 theoretically sound basis using a broadly based  
15 market index, and they are adjusted for the  
16 regression tendency of betas to converge to  
17 1.00.<sup>1</sup>

18 **Q. How do the overall risks of your proxy group**  
19 **compare with Avista?**

20 A. Table 1 compares the Utility Group with Avista  
21 across five key indicators of investment risk:

---

<sup>1</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports*  
at 71 (2006).

1  
2

**TABLE 1**  
**COMPARISON OF RISK INDICATORS**

<u>Proxy Group</u>	<u>S&amp;P</u>	<u>Moody's</u>	<u>Value Line</u>		
			<u>Safety Rank</u>	<u>Financial Strength</u>	<u>Beta</u>
Utility Group	BBB+	Baal	2	B++	0.77
Avista	BBB	Baal	2	A	0.80

3 Considered together, this comparison of objective  
4 measures, which consider a broad spectrum of risks,  
5 including financial and business position, and exposure to  
6 firm-specific factors, indicates that investors would  
7 likely conclude that the overall investment risks for  
8 Avista are generally comparable to those of the firms in  
9 the Utility Group.

**B. Discounted Cash Flow Analyses**

10 **Q. How are DCF models used to estimate the cost of**  
11 **equity?**

12 A. DCF models attempt to replicate the market  
13 valuation process that sets the price investors are  
14 willing to pay for a share of a company's stock. The  
15 model rests on the assumption that investors evaluate the  
16 risks and expected rates of return from all securities in  
17 the capital markets. Given these expectations, the price  
18 of each stock is adjusted by the market until investors  
19 are adequately compensated for the risks they bear.

1 Therefore, we can look to the market to determine what  
2 investors believe a share of common stock is worth. By  
3 estimating the cash flows investors expect to receive from  
4 the stock in the way of future dividends and capital  
5 gains, we can calculate their required rate of return.  
6 That is, the cost of equity is the discount rate that  
7 equates the current price of a share of stock with the  
8 present value of all expected cash flows from the stock.  
9 The formula for the general form of the DCF model is as  
10 follows:

$$11 \quad P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \dots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

12 where:  $P_0$  = Current price per share;  
13  $P_t$  = Expected future price per share in  
14 period  $t$ ;  
15  $D_t$  = Expected dividend per share in period  $t$ ;  
16  $k_e$  = Cost of common equity.

1           **Q.    What form of the DCF model is customarily used**  
2 **to estimate the cost of equity in rate cases?**

3           A.    Rather than developing annual estimates of cash  
4 flows into perpetuity, the DCF model can be simplified to  
5 a "constant growth" form: <sup>2</sup>

$$6 \qquad P_0 = \frac{D_1}{k_e - g}$$

7           where:    P<sub>0</sub> = Current price per share;  
8                    D<sub>1</sub> = Expected dividend per share in the  
9                            coming year;  
10                   k<sub>e</sub> = Cost of equity;  
11                    g = Investors' long-term growth  
12                            expectations.

13    The cost of equity (K<sub>e</sub>) can be isolated by rearranging  
14 terms:

$$15 \qquad k_e = \frac{D_1}{P_0} + g$$

16    This constant growth form of the DCF model recognizes that  
17 the rate of return to stockholders consists of two parts:

18    1) dividend yield (D<sub>1</sub>/P<sub>0</sub>), and 2) growth (g).    In other  
19 words, investors expect to receive a portion of their

---

<sup>2</sup> The constant growth DCF model is dependent on a number of assumptions, which in practice are never strictly met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (i.e., no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

1 total return in the form of current dividends and the  
2 remainder through price appreciation.

3 **Q. What steps are required to apply the DCF model?**

4 A. The first step in implementing the constant  
5 growth DCF model is to determine the expected dividend  
6 yield ( $D_1/P_0$ ) for the firm in question. This is usually  
7 calculated based on an estimate of dividends to be paid in  
8 the coming year divided by the current price of the stock.  
9 The second step is to estimate investors' long-term growth  
10 expectations ( $g$ ) for the firm. The final step is to sum  
11 the firm's dividend yield and estimated growth rate to  
12 arrive at an estimate of its cost of equity.

13 **Q. How was the dividend yield for the Utility Group**  
14 **determined?**

15 A. Estimates of dividends to be paid by each of  
16 these utilities over the next twelve months, obtained from  
17 Value Line, served as  $D_1$ . This annual dividend was then  
18 divided by a 30-day average stock price for each utility  
19 to arrive at the expected dividend yield. The expected  
20 dividends, stock prices, and resulting dividend yields for  
21 the firms in the Utility Group are presented on page 1 of  
22 Schedule 5.

1           **Q.    What is the next step in applying the constant**  
2 **growth DCF model?**

3           A.    The next step is to evaluate long-term growth  
4 expectations, or "g", for the firm in question.  In  
5 constant growth DCF theory, earnings, dividends, book  
6 value, and market price are all assumed to grow in  
7 lockstep, and the growth horizon of the DCF model is  
8 infinite.  But implementation of the DCF model is more  
9 than just a theoretical exercise; it is an attempt to  
10 replicate the mechanism investors used to arrive at  
11 observable stock prices.  A wide variety of techniques can  
12 be used to derive growth rates, but the only "g" that  
13 matters in applying the DCF model is the value that  
14 investors expect.

15           **Q.    What are investors most likely to consider in**  
16 **developing their long-term growth expectations?**

17           A.    Given that the DCF model is solely concerned  
18 with replicating the forward-looking evaluation of real-  
19 world investors, in the case of utilities, dividend growth  
20 rates are not likely to provide a meaningful guide to  
21 investors' current growth expectations.  This is because  
22 utilities have significantly altered their dividend  
23 policies in response to more accentuated business risks in

1 the industry, with payout ratios remaining significantly  
2 below historical levels. As a result of this trend  
3 towards a more conservative payout ratio, dividend growth  
4 in the utility industry has lagged growth in earnings as  
5 utilities conserve financial resources to provide a hedge  
6 against heightened uncertainties.

7 A measure that plays a pivotal role in determining  
8 investors' long-term growth expectations are future trends  
9 in earnings per share ("EPS"), which provide the source  
10 for future dividends and ultimately support share prices.  
11 The importance of earnings in evaluating investors'  
12 expectations and requirements is well accepted in the  
13 investment community, and surveys of analytical techniques  
14 relied on by professional analysts indicate that growth in  
15 earnings is far more influential than trends in dividends  
16 per share ("DPS").

17 The availability of projected EPS growth rates also  
18 is key to investors relying on this measure as compared to  
19 future trends in DPS. Apart from Value Line, investment  
20 advisory services do not generally publish comprehensive  
21 DPS growth projections, and this scarcity of dividend  
22 growth rates relative to the abundance of earnings

1 forecasts attests to their relative influence. The fact  
2 that securities analysts focus on EPS growth, and that DPS  
3 growth rates are not routinely published, indicates that  
4 projected EPS growth rates are likely to provide a  
5 superior indicator of the future long-term growth expected  
6 by investors.

7 **Q. Do the growth rate projections of security**  
8 **analysts consider historical trends?**

9 A. Yes. Professional security analysts study  
10 historical trends extensively in developing their  
11 projections of future earnings. Hence, to the extent  
12 there is any useful information in historical patterns,  
13 that information is incorporated into analysts' growth  
14 forecasts.

15 **Q. Did Professor Myron J. Gordon, who originated**  
16 **the DCF approach, recognize the pivotal role that earnings**  
17 **play in forming investors' expectations?**

18 A. Yes. Dr. Gordon specifically recognized that  
19 "it is the growth that investors expect that should be  
20 used" in applying the DCF model and he concluded:

1 A number of considerations suggest that  
2 investors may, in fact, use earnings growth as a  
3 measure of expected future growth."<sup>3</sup>

4 **Q. Are analysts' assessments of growth rates**  
5 **appropriate for estimating investors' required return**  
6 **using the DCF model?**

7 A. Yes. In applying the DCF model to estimate the  
8 cost of common equity, the only relevant growth rate is  
9 the forward-looking expectations of investors that are  
10 captured in current stock prices. Investors, just like  
11 securities analysts and others in the investment  
12 community, do not know how the future will actually turn  
13 out. They can only make investment decisions based on  
14 their best estimate of what the future holds in the way of  
15 long-term growth for a particular stock, and securities  
16 prices are constantly adjusting to reflect their  
17 assessment of available information.

18 Any claims that analysts' estimates are not relied  
19 upon by investors are illogical given the reality of a  
20 competitive market for investment advice. The market for  
21 investment advice is intensely competitive, and securities  
22 analysts are personally and professionally motivated to  
23 provide the most accurate assessment possible of future

---

<sup>3</sup> Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).

1 growth trends. If financial analysts' forecasts do not  
2 add value to investors' decision making, then it is  
3 irrational for investors to pay for these estimates.  
4 Those financial analysts who fail to provide reliable  
5 forecasts will lose out in competitive markets relative to  
6 those analysts whose forecasts investors find more  
7 credible. The reality that analyst estimates are  
8 routinely referenced in the financial media and in  
9 investment advisory publications (e.g., Value Line)  
10 implies that investors use them as a basis for their  
11 expectations.

12 While the projections of securities analysts may be  
13 proven optimistic or pessimistic in hindsight, this is  
14 irrelevant in assessing the expected growth that investors  
15 have incorporated into current stock prices, and any bias  
16 in analysts' forecasts - whether pessimistic or optimistic  
17 - is irrelevant if investors share analysts' views.

18 Earnings growth projections of security analysts provide  
19 the most frequently referenced guide to investors' views  
20 and are widely accepted in applying the DCF model. As  
21 explained in *New Regulatory Finance*:

22 Because of the dominance of institutional  
23 investors and their influence on individual

1 investors, analysts' forecasts of long-run  
2 growth rates provide a sound basis for  
3 estimating required returns. Financial analysts  
4 exert a strong influence on the expectations of  
5 many investors who do not possess the resources  
6 to make their own forecasts, that is, they are a  
7 cause of  $g$  [growth]. The accuracy of these  
8 forecasts in the sense of whether they turn out  
9 to be correct is not an issue here, as long as  
10 they reflect widely held expectations.<sup>4</sup>

11 **Q. What are security analysts currently projecting**  
12 **in the way of growth for the firms in the Utility Proxy**  
13 **Group?**

14 A. The projected EPS growth rates for each of the  
15 firms in the Utility Group reported by Value Line, IBES,  
16 and Zacks Investment Research ("Zacks") are displayed on  
17 page 2 of Schedule 5.<sup>5</sup>

18 **Q. How else are investors' expectations of future**  
19 **long-term growth prospects often estimated for use in the**  
20 **constant growth DCF model?**

21 A. In constant growth theory, growth in book equity  
22 will be equal to the product of the earnings retention  
23 ratio (one minus the dividend payout ratio) and the earned  
24 rate of return on book equity. Furthermore, if the earned  
25 rate of return and the payout ratio are constant over  
26 time, growth in earnings and dividends will be equal to

---

<sup>4</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).

<sup>5</sup> Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

1 growth in book value. Despite the fact that these  
2 conditions are seldom, if ever, met in practice, this  
3 "sustainable growth" approach may provide a rough guide  
4 for evaluating a firm's growth prospects and is frequently  
5 proposed in regulatory proceedings.

6 The sustainable growth rate is calculated by the  
7 formula,  $g = br + sv$ , where "b" is the expected retention  
8 ratio, "r" is the expected earned return on equity, "s" is  
9 the percent of common equity expected to be issued  
10 annually as new common stock, and "v" is the equity  
11 accretion rate. Under DCF theory, the "sv" factor is a  
12 component of the growth rate designed to capture the  
13 impact of issuing new common stock at a price above, or  
14 below, book value. The sustainable, "br+sv" growth rates  
15 for each firm in the Utility Group are summarized on page  
16 2 of Schedule 5, with the underlying details being  
17 presented on Schedule 6.<sup>6</sup>

18 **Q. Are there significant shortcomings associated**  
19 **with the "br+sv" growth rate?**

20 A. Yes. First, in order to calculate the  
21 sustainable growth rate, it is necessary to develop

---

<sup>6</sup> Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, which is consistent with the theory underlying this approach.

1 estimates of investors' expectations for four separate  
2 variables; namely, "b", "r", "s", and "v." Given the  
3 inherent difficulty in forecasting each parameter and the  
4 difficulty of estimating the expectations of investors,  
5 the potential for measurement error is significantly  
6 increased when using four variables, as opposed to  
7 referencing a direct projection for EPS growth. Second,  
8 empirical research in the finance literature indicates  
9 that sustainable growth rates are not as significantly  
10 correlated to measures of value, such as share prices, as  
11 are analysts' EPS growth forecasts.<sup>7</sup>

12 The "sustainable growth" approach was included for  
13 completeness, but evidence indicates that analysts'  
14 forecasts provide a superior and more direct guide to  
15 investors' growth expectations. Accordingly, I give less  
16 weight to cost of equity estimates based on  $br+sv$  growth  
17 rates in evaluating the results of the DCF model.

18 **Q. What cost of equity estimates were implied for**  
19 **the Utility Group using the DCF model?**

20 A. After combining the dividend yields and  
21 respective growth projections for each utility, the

---

<sup>7</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.*, at 307 (2006).

1 resulting cost of equity estimates are shown on page 3 of  
2 Schedule 5.

3 **Q. In evaluating the results of the constant growth**  
4 **DCF model, is it appropriate to eliminate illogical**  
5 **estimates?**

6 A. Yes. In applying quantitative methods to  
7 estimate the cost of equity, it is essential that the  
8 resulting values pass fundamental tests of reasonableness  
9 and economic logic. Accordingly, DCF estimates that are  
10 implausibly low or high should be eliminated when  
11 evaluating the results of this method.

12 **Q. How did you evaluate DCF estimates at the low**  
13 **end of the range?**

14 A. I based my evaluation of DCF estimates at the  
15 low end of the range on the fundamental risk-return  
16 tradeoff, which holds that investors will only take on  
17 more risk if they expect to earn a return to compensate  
18 them for the greater uncertainty. Because common stocks  
19 lack the protections associated with an investment in  
20 long-term bonds, a utility's common stock imposes far  
21 greater risks on investors. As a result, the rate of  
22 return that investors require from a utility's common  
23 stock is considerably higher than the yield offered by

1 senior, long-term debt. Consistent with this principle,  
2 DCF results that are not sufficiently higher than the  
3 yields available on less risky utility bonds must be  
4 eliminated.

5 **Q. Have similar tests been applied by regulators?**

6 A. Yes. FERC has noted that adjustments are  
7 justified where applications of the DCF approach produce  
8 illogical results. FERC evaluates DCF results against  
9 observable yields on long-term public utility debt and has  
10 recognized that it is appropriate to eliminate estimates  
11 that do not sufficiently exceed this threshold.<sup>8</sup> FERC  
12 recently affirmed that:

13 The purpose of the low-end outlier test is to  
14 exclude from the proxy group those companies  
15 whose ROE estimates are below the average bond  
16 yield or are above the average bond yield but  
17 are sufficiently low that an investor would  
18 consider the stock to yield essentially the same  
19 return as debt. In public utility ROE cases,  
20 the Commission has used 100 basis points above  
21 the cost of debt as an approximation of this  
22 threshold, but has also considered the  
23 distribution of proxy group companies to inform  
24 its decision on which companies are outliers.  
25 As the Presiding Judge explained, this is a  
26 flexible test.<sup>9</sup>

---

<sup>8</sup> See, e.g., *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("SoCal Edison").

<sup>9</sup> *Martha Coakley et al., v. Bangor Hydro-Electric Company, et al.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 122 (2014).

1           **Q.    What interest rate benchmark did you consider in**  
2 **evaluating the DCF results for Avista?**

3           A.    As noted earlier, the S&P and Moody's ratings  
4 for Avista are BBB and Baal, respectively, which fall in  
5 the triple-B rating category. Accordingly, I referenced  
6 average yields on triple-B utility bonds as my benchmark  
7 in evaluating low-end results. Monthly yields on triple-B  
8 bonds reported by Moody's averaged approximately 4.6  
9 percent over the six months ending April 2015.<sup>10</sup>

10           **Q.    What else should be considered in evaluating DCF**  
11 **estimates at the low end of the range?**

12           A.    As indicated earlier, while long-term bond  
13 yields have declined substantially in response to the  
14 Federal Reserve's stimulus policies, it is generally  
15 expected that long-term interest rates will rise as the  
16 economy returns to a more normal pattern of growth and the  
17 Federal Reserve normalizes monetary policies. As shown in  
18 Table 2 below, forecasts of IHS Global Insight and the EIA  
19 imply an average triple-B bond yield of approximately 6.8  
20 percent over the period 2015-2019:

---

<sup>10</sup> Moody's Investors Service,  
<http://credittrends.moody.com/chartroom.asp?c=3>.

1  
2

**TABLE 2**  
**IMPLIED BBB BOND YIELD**

	<u><b>2015-19</b></u>
Projected AA Utility Yield	
IHS Global Insight (a)	6.10%
EIA (b)	<u>5.80%</u>
Average	5.95%
Current BBB - AA Yield Spread (c)	<u>0.82%</u>
<b>Implied Triple-B Utility Yield</b>	<b>6.77%</b>

- 
- (a) IHS Global Insight, *The U.S. Economy: The 30-Year Focus* (Third-Quarter 2014).
  - (b) Energy Information Administration, *Annual Energy Outlook 2015* (April 2015).
  - (c) Based on monthly average bond yields from Moody's Investors Service for the six-month period Nov. 2014 - Apr. 2015.

3           The increase in debt yields anticipated by IHS Global  
4           Insight and EIA is also supported by the widely-referenced  
5           Blue Chip Financial Forecasts, which projects that yields  
6           on corporate bonds will climb over 200 basis points  
7           through 2019.<sup>11</sup>

8           **Q.    What does this test of logic imply with respect**  
9           **to the DCF estimates for the Utility Group?**

10          A.    Adding FERC's 100 basis-point premium to the  
11          historical and projected average utility bond yields  
12          implies a low-end threshold on the order of 5.6 percent to

---

<sup>11</sup> *Blue Chip Financial Forecasts*, Vol. 33, No. 12 (Dec. 1, 2014).

1 7.8 percent. As highlighted on page 3 of Schedule 5,  
2 after considering this test and the distribution of  
3 individual estimates, I eliminated low-end DCF estimates  
4 ranging from 3.5% to 6.8%. Based on my professional  
5 experience and the risk-return tradeoff principle that is  
6 fundamental to finance, it is inconceivable that investors  
7 are not requiring a substantially higher rate of return  
8 for holding common stock. As a result, consistent with  
9 the threshold established by historical and projected  
10 utility bond yields, these values provide little guidance  
11 as to the returns investors require from utility common  
12 stocks and should be excluded.

13 **Q. Is there a basis to eliminate high-end values**  
14 **from the range of DCF results produced for the Utility**  
15 **Group?**

16 A. While it is just as important to evaluate DCF  
17 estimates at the upper end of the range, there is no  
18 objective benchmark analogous to the bond yield averages  
19 used to eliminate illogical low-end values. In response,  
20 FERC has consistently applied a two-pronged test for high-  
21 end values based on the magnitude of the cost of equity  
22 estimate and its underlying growth rate. As FERC  
23 observed:

1           The Presiding Judge found that the [utilities']  
2           criteria for screening high-end outliers  
3           substantially complies with Commission  
4           precedent. . . . The Presiding Judge further  
5           stated that the Commission's high-end outlier  
6           test since 2004 has been to exclude from the  
7           proxy group any company whose cost of equity  
8           estimate is at or above 17.7 percent and whose  
9           growth rate is at or above 13.3 percent.<sup>12</sup>

10           The upper end of the DCF range for the Utility Group  
11           was set by a cost of equity estimate of 13.9 percent.  
12           This cost of equity estimate, and the underlying growth  
13           rate of 10.0 percent, falls well below the threshold tests  
14           employed by FERC. Moreover, while this cost of equity  
15           estimate may exceed the majority of the remaining values,  
16           remaining low-end estimates in the 7.0 percent range are  
17           assuredly far below investors' required rate of return.  
18           Taken together and considered along with the balance of  
19           the DCF estimates, these values provide a reasonable basis  
20           on which to frame the range of plausible DCF estimates and  
21           evaluate investors' required rate of return.

22           **Q.    What cost of equity is implied by your DCF**  
23           **results for the Utility Group?**

24           A.    As shown on page 3 of Schedule 5 and summarized  
25           in Table 3, below, after eliminating illogical low-end

---

<sup>12</sup> Opinion No. 531 at P 115 (footnotes omitted).

1 values, application of the constant growth DCF model  
2 resulted in the following cost of equity estimates:

3 **TABLE 3**  
4 **DCF RESULTS - UTILITY GROUP**

<u>Growth Rate</u>	<u>Cost of Equity</u>	
	<u>Average</u>	<u>Midpoint</u>
Value Line	9.9%	10.6%
IBES	9.2%	8.9%
Zacks	8.9%	9.2%
br + sv	8.4%	9.6%

C. Empirical Capital Asset Pricing Model

5 Q. Please describe the ECAPM.

6 A. The ECAPM is a variant of the traditional CAPM,  
7 which is a theory of market equilibrium that measures risk  
8 using the beta coefficient. Assuming investors are fully  
9 diversified, the relevant risk of an individual asset  
10 (e.g., common stock) is its volatility relative to the  
11 market as a whole, with beta reflecting the tendency of a  
12 stock's price to follow changes in the market. A stock  
13 that tends to respond less to market movements has a beta  
14 less than 1.00, while stocks that tend to move more than  
15 the market have betas greater than 1.00. The CAPM is  
16 mathematically expressed as:

1 
$$R_j = R_f + \beta_j(R_m - R_f)$$

2 where:  $R_j$  = required rate of return for stock  $j$ ;  
3  $R_f$  = risk-free rate;  
4  $R_m$  = expected return on the market  
5 portfolio; and,  
6  $\beta_j$  = beta, or systematic risk, for  
7 stock  $j$ .

8 Like the DCF model, the ECAPM is an *ex-ante*, or forward-  
9 looking model based on expectations of the future. As a  
10 result, in order to produce a meaningful estimate of  
11 investors' required rate of return, the ECAPM must be  
12 applied using estimates that reflect the expectations of  
13 actual investors in the market, not with backward-looking,  
14 historical data.

15 **Q. Why is the ECAPM approach an appropriate**  
16 **component of evaluating the cost of equity for Avista?**

17 A. The CAPM approach, which forms the foundation of  
18 the ECAPM, generally is considered to be the most widely  
19 referenced method for estimating the cost of equity among  
20 academicians and professional practitioners, with the  
21 pioneering researchers of this method receiving the Nobel  
22 Prize in 1990. Because this is the dominant model for  
23 estimating the cost of equity outside the regulatory  
24 sphere, the ECAPM provides important insight into

1 investors' required rate of return for utility stocks,  
2 including Avista.

3 **Q. How does the ECAPM approach differ from**  
4 **traditional applications of the CAPM?**

5 A. Empirical tests of the CAPM have shown that low-  
6 beta securities earn returns somewhat higher than the CAPM  
7 would predict, and high-beta securities earn less than  
8 predicted. In other words, the CAPM tends to overstate  
9 the actual sensitivity of the cost of capital to beta,  
10 with low-beta stocks tending to have higher returns and  
11 high-beta stocks tending to have lower risk returns than  
12 predicted by the CAPM. This empirical finding is widely  
13 reported in the finance literature, as summarized in *New*  
14 *Regulatory Finance*:

15 As discussed in the previous section, several  
16 finance scholars have developed refined and  
17 expanded versions of the standard CAPM by  
18 relaxing the constraints imposed on the CAPM,  
19 such as dividend yield, size, and skewness  
20 effects. These enhanced CAPMs typically produce  
21 a risk-return relationship that is flatter than  
22 the CAPM prediction in keeping with the actual  
23 observed risk-return relationship. The ECAPM  
24 makes use of these empirical relationships.<sup>13</sup>

25 As discussed in *New Regulatory Finance*, based on a review  
26 of the empirical evidence, the expected return on a

---

<sup>13</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports*  
at 189 (2006).

1 security is related to its risk by the ECAPM, which is  
2 represented by the following formula:

$$3 \quad R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

4 This ECAPM equation, and the associated weighting factors,  
5 recognize the observed relationship between standard CAPM  
6 estimates and the cost of capital documented in the  
7 financial research, and correct for the understated  
8 returns that would otherwise be produced for low beta  
9 stocks.

10 **Q. How did you apply the ECAPM to estimate the cost**  
11 **of common equity?**

12 A. Application of the ECAPM to the Utility Group  
13 based on a forward-looking estimate for investors'  
14 required rate of return from common stocks is presented on  
15 Schedule 7. In order to capture the expectations of  
16 today's investors in current capital markets, the expected  
17 market rate of return was estimated by conducting a DCF  
18 analysis on the dividend paying firms in the S&P 500.

19 The dividend yield for each firm was obtained from  
20 Value Line, and the growth rate was equal to the average  
21 of the earnings growth projections for each firm published  
22 by IBES and Value Line, with each firm's dividend yield

1 and growth rate being weighted by its proportionate share  
2 of total market value. Based on the weighted average of  
3 the projections for the individual firms, current  
4 estimates imply an average growth rate over the next five  
5 years of 9.2 percent. Combining this average growth rate  
6 with a year-ahead dividend yield of 2.3 percent results in  
7 a current cost of common equity estimate for the market as  
8 a whole ( $R_m$ ) of approximately 11.5 percent. Subtracting a  
9 2.7 percent risk-free rate based on the average yield on  
10 30-year Treasury bonds for the six months ending April  
11 2015 produced a market equity risk premium of 8.8 percent.

12 **Q. What was the source of the beta values you used**  
13 **to apply the CAPM?**

14 A. I relied on the beta values reported by Value  
15 Line, which in my experience is the most widely referenced  
16 source for beta in regulatory proceedings. As noted in  
17 *New Regulatory Finance*:

18 Value Line is the largest and most widely  
19 circulated independent investment advisory  
20 service, and influences the expectations of a  
21 large number of institutional and individual  
22 investors. ... Value Line betas are computed on a  
23 theoretically sound basis using a broadly based  
24 market index, and they are adjusted for the

1 regression tendency of betas to converge to  
2 1.00.<sup>14</sup>

3 **Q. What else should be considered in applying the**  
4 **ECAPM?**

5 A. As explained by *Morningstar*:

6 One of the most remarkable discoveries of modern  
7 finance is that of a relationship between firm  
8 size and return. The relationship cuts across  
9 the entire size spectrum but is most evident  
10 among smaller companies, which have higher  
11 returns on average than larger ones.<sup>15</sup>

12 Because empirical research indicates that the ECAPM does  
13 not fully account for observed differences in rates of  
14 return attributable to firm size, a modification is  
15 required to account for this size effect.

16 According to the ECAPM, the expected return on a  
17 security should consist of the riskless rate, plus a  
18 premium to compensate for the systematic risk of the  
19 particular security. The degree of systematic risk is  
20 represented by the beta coefficient. The need for the  
21 size adjustment arises because differences in investors'  
22 required rates of return that are related to firm size are  
23 not fully captured by beta. To account for this,  
24 Morningstar has developed size premiums that need to be

---

<sup>14</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports*  
at 71 (2006).

<sup>15</sup> *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85  
(footnote omitted).

1 added to the theoretical ECAPM cost of equity estimates to  
2 account for the level of a firm's market capitalization in  
3 determining the ECAPM cost of equity. These premiums  
4 correspond to the size deciles of publicly traded common  
5 stocks, and range from a premium of 5.7 percent for a  
6 company in the first decile (market capitalization less  
7 than \$300.85 million), to a reduction of 32 basis points  
8 for firms in the tenth decile (market capitalization  
9 greater than \$24.4 billion).<sup>16</sup> Accordingly, my ECAPM  
10 analyses incorporated an adjustment to recognize the  
11 impact of size distinctions, as measured by the average  
12 market capitalization for the Utility Group.

13 **Q. What cost of equity is indicated for the Utility**  
14 **Group using the ECAPM approach?**

15 A. As shown on page 1 of Schedule 7, a forward-  
16 looking application of the ECAPM approach resulted in an  
17 average unadjusted ROE estimate of 10.0 percent.<sup>17</sup> After  
18 adjusting for the impact of firm size, the ECAPM approach  
19 implied an average cost of equity of 11.1 percent for the  
20 Utility Group, with a midpoint cost of equity estimate of  
21 10.9 percent.

---

<sup>16</sup> *Morningstar*, "2015 Ibbotson SBBI Market Report," at Table 10 (2015).

<sup>17</sup> The midpoint of the unadjusted ECAPM range was 10.2%.

1           **Q. Did you also apply the ECAPM using forecasted**  
2 **bond yields?**

3           A. Yes. As discussed earlier, there is widespread  
4 consensus that interest rates will increase materially as  
5 the economy continues to strengthen. Accordingly, in  
6 addition to the use of current bond yields, I also applied  
7 the ECAPM based on the forecasted long-term Treasury bond  
8 yields developed based on projections published by Value  
9 Line, IHS Global Insight and Blue Chip. As shown on page  
10 2 of Schedule 7, incorporating a forecasted Treasury bond  
11 yield for 2015-2019 implied a cost of equity of  
12 approximately 10.3% for the Utility Group, or 11.4% after  
13 adjusting for the impact of relative size. The midpoints  
14 of the unadjusted and size adjusted cost of equity ranges  
15 were 10.4% and 11.1%, respectively.

**D. Risk Premium Approach**

16           **Q. Please briefly describe the risk premium method.**

17           A. The risk premium method of estimating investors'  
18 required rate of return extends to common stocks the risk-  
19 return tradeoff observed with bonds. The cost of equity  
20 is estimated by first determining the additional return  
21 investors require to forgo the relative safety of bonds  
22 and to bear the greater risks associated with common

1 stock, and by then adding this equity risk premium to the  
2 current yield on bonds. Like the DCF model, the risk  
3 premium method is capital market oriented. However,  
4 unlike DCF models, which indirectly impute the cost of  
5 equity, risk premium methods directly estimate investors'  
6 required rate of return by adding an equity risk premium  
7 to observable bond yields.

8 **Q. Is the risk premium approach a widely accepted**  
9 **method for estimating the cost of equity?**

10 A. Yes. The risk premium approach is based on the  
11 fundamental risk-return principle that is central to  
12 finance, which holds that investors will require a premium  
13 in the form of a higher return in order to assume  
14 additional risk. This method is routinely referenced by  
15 the investment community and in academia and regulatory  
16 proceedings, and provides an important tool in estimating  
17 a fair ROE for Avista.

18 **Q. How did you implement the risk premium method?**

19 A. I based my estimates of equity risk premiums for  
20 electric utilities on surveys of previously authorized  
21 ROEs. Authorized ROEs presumably reflect regulatory  
22 commissions' best estimates of the cost of equity, however  
23 determined, at the time they issued their final order.

1 Moreover, allowed ROEs are an important consideration for  
2 investors and have the potential to influence other  
3 observable investment parameters, including credit ratings  
4 and borrowing costs. Thus, this data provides a logical  
5 and frequently referenced basis for estimating equity risk  
6 premiums for regulated utilities.

7 **Q. Is it circular to consider risk premiums based**  
8 **on authorized returns in assessing a fair ROE for Avista?**

9 A. No. In establishing authorized ROEs, regulators  
10 typically consider the results of alternative market-based  
11 approaches, including the DCF model. Because allowed risk  
12 premiums consider objective market data (e.g., stock  
13 prices, dividends, beta, and interest rates), and are not  
14 based strictly on past actions of other regulators, this  
15 mitigates concerns over any potential for circularity.

16 **Q. How did you implement the risk premium approach**  
17 **using surveys of allowed rates of return?**

18 A. The ROEs authorized for electric utilities by  
19 regulatory commissions across the U.S. are compiled by  
20 Regulatory Research Associates and published in its  
21 Regulatory Focus report. On page 3 of Schedule 8, the  
22 average yield on public utility bonds is subtracted from  
23 the average allowed rate of return on common equity for

1 electric utilities to calculate equity risk premiums for  
2 each year between 1974 and 2014. Over this 40-year  
3 period, these equity risk premiums for electric utilities  
4 averaged 3.57 percent, and the yield on public utility  
5 bonds averaged 8.58 percent.

6 **Q. Is there any capital market relationship that**  
7 **must be considered when implementing the risk premium**  
8 **method?**

9 A. Yes. There is considerable evidence that the  
10 magnitude of equity risk premiums is not constant and that  
11 equity risk premiums tend to move inversely with interest  
12 rates. In other words, when interest rate levels are  
13 relatively high, equity risk premiums narrow, and when  
14 interest rates are relatively low, equity risk premiums  
15 widen. The implication of this inverse relationship is  
16 that the cost of equity does not move as much as, or in  
17 lockstep with, interest rates. Accordingly, for a 1  
18 percent increase or decrease in interest rates, the cost  
19 of equity may only rise or fall, say, 50 basis points.  
20 Therefore, when implementing the risk premium method,  
21 adjustments may be required to incorporate this inverse  
22 relationship if current interest rate levels diverge from

1 the average interest rate level represented in the data  
2 set.

3 **Q. Has this inverse relationship been documented in**  
4 **the financial research?**

5 A. Yes. This inverse relationship between equity  
6 risk premiums and interest rates has been widely reported  
7 in the financial literature.<sup>18</sup> For example, New Regulatory  
8 Finance documented this inverse relationship:

9 Published studies by Brigham, Shome, and Vinson  
10 (1985), Harris (1986), Harris and Marston (1992,  
11 1993), Carelton, Chambers, and Lakonishok  
12 (1983), Morin (2005), and McShane (2005), and  
13 others demonstrate that, beginning in 1980, risk  
14 premiums varied inversely with the level of  
15 interest rates - rising when rates fell and  
16 declining when rates rose.<sup>19</sup>

17 Other regulators have also recognized that the cost of  
18 equity does not move in tandem with interest rates.<sup>20</sup>

19 **Q. What are the implications of this relationship**  
20 **under current capital market conditions?**

---

<sup>18</sup> See, e.g., Brigham, E.F., Shome, D.K., and Vinson, S.R., "The Risk Premium Approach to Measuring a Utility's Cost of Equity," *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

<sup>19</sup> Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports*, at 128 (2006).

<sup>20</sup> See, e.g., California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-5, [http://www.entergy-mississippi.com/content/price/tariffs/emi\\_frp.pdf](http://www.entergy-mississippi.com/content/price/tariffs/emi_frp.pdf); *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

1           A.     As noted earlier, bond yields are at  
2     unprecedented lows. Given that equity risk premiums move  
3     inversely with interest rates, these uncharacteristically  
4     low bond yields also imply a sharp increase in the equity  
5     risk premium that investors require to accept the higher  
6     uncertainties associated with an investment in utility  
7     common stocks versus bonds. In other words, higher  
8     required equity risk premiums offset the impact of  
9     declining interest rates on the ROE.

10           **Q.     What cost of equity is implied by the risk**  
11     **premium method using surveys of allowed ROEs?**

12           A.     Because risk premiums move inversely with  
13     interest rates and current bond yields are significantly  
14     lower than the average over the study period, it is  
15     necessary to adjust the average equity risk premium over  
16     the study period to reflect the impact of changes in bond  
17     yields. Based on the regression output between the  
18     interest rates and equity risk premiums displayed on page  
19     4 of Schedule 8, the equity risk premium for electric  
20     utilities increased approximately 43 basis points for each  
21     percentage point drop in the yield on average public  
22     utility bonds. As illustrated on page 1 of Schedule 8,  
23     with the yield on average public utility bonds for the six

1 months ending April 2015 being 4.03 percent, this implied  
2 a current equity risk premium of 5.51 percent for electric  
3 utilities. Adding this equity risk premium to the yield  
4 on triple-B utility bonds of 4.55 percent produces a  
5 current cost of equity of approximately 10.1 percent.

6 **Q. What cost of equity was produced by the risk**  
7 **premium approach after incorporating forecasted bond**  
8 **yields?**

9 A. As shown on page 2 of Schedule 8, incorporating  
10 a forecasted yield for 2015-2019 and adjusting for changes  
11 in interest rates since the study period implied an equity  
12 risk premium of 4.56 percent for electric utilities.  
13 Adding this equity risk premium to the average implied  
14 yield on triple-B public utility bonds for 2015-2019 of  
15 6.77 percent resulted in an implied cost of equity of  
16 approximately 11.3 percent.

## II. OTHER ROE BENCHMARKS

17 **Q. What is the purpose of this section?**

18 A. This section presents alternative tests to  
19 demonstrate that the end-results of the ROE analyses  
20 discussed earlier are reasonable and do not exceed a fair  
21 ROE. The first test is based on applications of the  
22 traditional CAPM analysis using current and projected

1 interest rates. The second test is based on expected  
2 earned returns for electric utilities. Finally, I present  
3 a DCF analysis for a low risk group of non-utility firms,  
4 with which Avista must compete for investors' money.

**A. Capital Asset Pricing Model**

5 **Q. What cost of equity estimates were indicated by**  
6 **the traditional CAPM?**

7 A. My applications of the traditional CAPM were  
8 based on the same forward-looking market rate of return,  
9 risk-free rates, and beta values discussed earlier in  
10 connections with the ECAPM. As shown on page 1 of  
11 Schedule 9, applying the forward-looking CAPM approach to  
12 the firms in the Utility Group results in an average  
13 theoretical cost of equity estimate of 9.5 percent, or  
14 10.6 percent after incorporating the size adjustment  
15 corresponding to the market capitalization of the  
16 individual utilities.

17 As shown on page 2 of Schedule 9, incorporating a  
18 forecasted Treasury bond yield for 2015-2019 implied a  
19 cost of equity of approximately 9.9 percent for the  
20 Utility Group, or 11.0 percent after adjusting for the  
21 impact of relative size.

**B. Expected Earnings Approach**

1           **Q.    What other analyses did you conduct to estimate**  
2 **the cost of common equity?**

3           A.    As noted earlier, I also evaluated the cost of  
4 common equity using the expected earnings method.  
5 Reference to rates of return available from alternative  
6 investments of comparable risk can provide an important  
7 benchmark in assessing the return necessary to assure  
8 confidence in the financial integrity of a firm and its  
9 ability to attract capital. This expected earnings  
10 approach is consistent with the economic underpinnings for  
11 a fair rate of return established by the U.S. Supreme  
12 Court in *Bluefield* and *Hope*. Moreover, it avoids the  
13 complexities and limitations of capital market methods and  
14 instead focuses on the returns earned on book equity,  
15 which are readily available to investors.

16           **Q.    What economic premise underlies the expected**  
17 **earnings approach?**

18           A.    The simple, but powerful concept underlying the  
19 expected earnings approach is that investors compare each  
20 investment alternative with the next best opportunity. If  
21 the utility is unable to offer a return similar to that  
22 available from other opportunities of comparable risk,

1 investors will become unwilling to supply the capital on  
2 reasonable terms. For existing investors, denying the  
3 utility an opportunity to earn what is available from  
4 other similar risk alternatives prevents them from earning  
5 their opportunity cost of capital. In this situation the  
6 government is effectively taking the value of investors'  
7 capital without adequate compensation. The expected  
8 earnings approach is consistent with the economic  
9 rationale underpinning established regulatory standards,  
10 which specifies a methodology to determine an ROE  
11 benchmark based on earned rates of return for a peer group  
12 of other utilities.

13 **Q. How is the expected earnings approach typically**  
14 **implemented?**

15 A. The traditional comparable earnings test  
16 identifies a group of companies that are believed to be  
17 comparable in risk to the utility. The actual earnings of  
18 those companies on the book value of their investment are  
19 then compared to the allowed return of the utility. While  
20 the traditional comparable earnings test is implemented  
21 using historical data taken from the accounting records,  
22 it is also common to use projections of returns on book  
23 investment, such as those published by recognized

1 investment advisory publications (e.g., Value Line).  
2 Because these returns on book value equity are analogous  
3 to the allowed return on a utility's rate base, this  
4 measure of opportunity costs results in a direct, "apples  
5 to apples" comparison.

6 Moreover, regulators do not set the returns that  
7 investors earn in the capital markets, which are a  
8 function of dividend payments and fluctuations in common  
9 stock prices- both of which are outside their control.  
10 Regulators can only establish the allowed ROE, which is  
11 applied to the book value of a utility's investment in  
12 rate base, as determined from its accounting records.  
13 This is directly analogous to the expected earnings  
14 approach, which measures the return that investors expect  
15 the utility to earn on book value. As a result, the  
16 expected earnings approach provides a meaningful guide to  
17 ensure that the allowed ROE is similar to what other  
18 utilities of comparable risk will earn on invested  
19 capital. This expected earnings test does not require  
20 theoretical models to indirectly infer investors'  
21 perceptions from stock prices or other market data. As  
22 long as the proxy companies are similar in risk, their

1 expected earned returns on invested capital provide a  
2 direct benchmark for investors' opportunity costs that is  
3 independent of fluctuating stock prices, market-to-book  
4 ratios, debates over DCF growth rates, or the limitations  
5 inherent in any theoretical model of investor behavior.

6 **Q. What rates of return on equity are indicated for**  
7 **utilities based on the expected earnings approach?**

8 A. Value Line's projections imply an average rate  
9 of return on common equity for the electric utility  
10 industry of 10.6 percent over its 2017-2019 forecast  
11 horizon.<sup>21</sup> Meanwhile, for the firms in the Utility Group  
12 specifically, the year-end returns on common equity  
13 projected by Value Line over its forecast horizon are  
14 shown on Schedule 10. Consistent with the rationale  
15 underlying the development of the br+sv growth rates,  
16 these year-end values were converted to average returns  
17 using the same adjustment factor discussed earlier and  
18 developed on Schedule 6. As shown on Schedule 10, Value  
19 Line's projections for the Utility Group suggest an  
20 average ROE of approximately 10.3 percent, with a midpoint  
21 value of 10.8 percent.

---

<sup>21</sup> The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015). Recall that Value Line reports return on year-end equity so the equivalent return on average equity would be higher.

**C. Low Risk Non-Utility DCF**

1           **Q.    What other proxy group did you consider in**  
2 **evaluating a fair ROE for Avista?**

3           A.    Consistent with underlying economic and  
4 regulatory standards, I also applied the DCF model to a  
5 reference group of low-risk companies in the non-utility  
6 sectors of the economy. I refer to this group as the  
7 "Non-Utility Group".

8           **Q.    Do utilities have to compete with non-regulated**  
9 **firms for capital?**

10          A.    Yes. The cost of capital is an opportunity cost  
11 based on the returns that investors could realize by  
12 putting their money in other alternatives. Clearly, the  
13 total capital invested in utility stocks is only the tip  
14 of the iceberg of total common stock investment, and there  
15 are a plethora of other enterprises available to investors  
16 beyond those in the utility industry. Utilities must  
17 compete for capital, not just against firms in their own  
18 industry, but with other investment opportunities of  
19 comparable risk. Indeed, modern portfolio theory is built  
20 on the assumption that rational investors will hold a  
21 diverse portfolio of stocks, not just companies in a  
22 single industry.

1           **Q. Does consideration of the results for the Non-**  
2 **Utility Group make the estimation of the cost of equity**  
3 **using the DCF model more reliable?**

4           A. Yes. The estimates of growth from the DCF model  
5 depend on analysts' forecasts. It is possible for utility  
6 growth rates to be distorted by short-term trends in the  
7 industry, or by the industry falling into favor or  
8 disfavor by analysts. The result of such distortions  
9 would be to bias the DCF estimates for utilities. Because  
10 the Non-Utility Group includes low risk companies from  
11 many industries, it diversifies away any distortion that  
12 may be caused by the ebb and flow of enthusiasm for a  
13 particular sector.

14           **Q. What criteria did you apply to develop the Non-**  
15 **Utility Group?**

16           A. The comparable risk proxy group was composed of  
17 those U.S. companies followed by Value Line that:

- 18           1) pay common dividends;
- 19           2) have a Safety Rank of "1";
- 20           3) have a Financial Strength Rating of "B++" or  
21           greater;
- 22           4) have a beta of 0.70 or less; and
- 23           5) have investment grade credit ratings from  
24           S&P.

1           **Q.    How do the overall risks of this Non-Utility**  
2 **Group compare with the Utility Group and Avista?**

3           A.    As illustrated in Table 5 to my testimony, the  
4 average credit ratings, Safety Rank, Financial Strength  
5 Rating, and beta for the Non-Utility Group suggest less  
6 risk than for Avista and the proxy group of utilities.  
7 When considered together, a comparison of these objective  
8 measures, which consider a broad spectrum of risks,  
9 including financial and business position, relative size,  
10 and exposure to company-specific factors, indicates that  
11 investors would likely conclude that the overall  
12 investment risks for the Utility Group and Avista are  
13 greater than those of the firms in the Non-Utility Group.

14           The thirteen companies that make up the Non-Utility  
15 Group are representative of the pinnacle of corporate  
16 America. These firms, which include household names such  
17 as Colgate-Palmolive, McDonalds, and Wal-Mart, have long  
18 corporate histories, well-established track records, and  
19 exceedingly conservative risk profiles. Many of these  
20 companies pay dividends on a par with utilities, with the  
21 average dividend yield for the group approaching  
22 3 percent. Moreover, because of their significance and  
23 name recognition, these companies receive intense scrutiny

1 by the investment community, which increases confidence  
2 that published growth estimates are representative of the  
3 consensus expectations reflected in common stock prices.

4 **Q. What were the results of your DCF analysis for**  
5 **the Non-Utility Group?**

6 A. I applied the DCF model to the Non-Utility Group  
7 using the same analysts EPS growth projections described  
8 earlier for the Utility Group, with the results being  
9 presented in Schedule 11. As summarized in Table 4,  
10 below, application of the constant growth DCF model  
11 resulted in the following cost of equity estimates:

**TABLE 4**  
**DCF RESULTS - NON-UTILITY GROUP**

<u>Growth Rate</u>	<u>Cost of Equity</u>	
	<u>Average</u>	<u>Midpoint</u>
Value Line	10.1%	10.3%
IBES	9.4%	9.2%
Zacks	9.8%	10.1%

12 As discussed earlier, reference to the Non-Utility Group  
13 is consistent with established regulatory principles.  
14 Required returns for utilities should be in line with  
15 those of non-utility firms of comparable risk operating  
16 under the constraints of free competition. Considering  
17 the lower risk associated with the Non-Utility Group,

1 these DCF results suggests that the 9.9 percent requested  
2 ROE for Avista's utility operations is a conservative  
3 estimate of a fair return.

4 **Q. Please summarize the results of your alternative**  
5 **ROE benchmarks.**

6 A. The cost of common equity estimates produced by  
7 the various tests of reasonableness discussed above are  
8 shown on page 2 of Schedule 3, and summarized in Table 5,  
9 below:

10  
11

**TABLE 5**  
**SUMMARY OF ALTERNATIVE ROE BENCHMARKS**

	<u>Average</u>	<u>Midpoint</u>
<b><u>CAPM - Historical Bond Yield</u></b>		
Unadjusted	9.5%	9.7%
Size Adjusted	10.6%	10.4%
<b><u>CAPM - Projected Bond Yield</u></b>		
Unadjusted	9.9%	10.1%
Size Adjusted	11.0%	10.8%
<b><u>Expected Earnings</u></b>		
Industry	10.6%	
Proxy Group	10.3%	10.8%
<b><u>Non-Utility DCF</u></b>		
Value Line	10.1%	10.3%
IBES	9.4%	9.2%
Zacks	9.8%	10.1%

SUMMARY OF RESULTS

<u>DCF</u>	<u>Average</u>	<u>Midpoint</u>
Value Line	9.9%	10.6%
IBES	9.2%	8.9%
Zacks	8.9%	9.2%
Internal br + sv	8.4%	9.6%
<u>Empirical CAPM - Historical Bond Yield</u>		
Unadjusted	10.0%	10.2%
Size Adjusted	11.1%	10.9%
<u>Empirical CAPM - Projected Bond Yield</u>		
Unadjusted	10.3%	10.4%
Size Adjusted	11.4%	11.1%
<u>Utility Risk Premium</u>		
Historical Bond Yields	10.1%	
Projected Bond Yields	11.3%	
<u>Cost of Equity Recommendation</u>		
Cost of Equity Range	9.4%	-- 10.8%
<u>Flotation Cost Adjustment</u>		
Dividend Yield	3.6%	
Flotation Cost Percentage	3.6%	
Adjustment	0.10%	
<u>ROE Recommendation</u>		
	9.5%	-- 10.9%

CHECKS OF REASONABLENESS

	<u>Average</u>	<u>Midpoint</u>
<b><u>CAPM - Historical Bond Yield</u></b>		
Unadjusted	9.5%	9.7%
Size Adjusted	10.6%	10.4%
<b><u>CAPM - Projected Bond Yield</u></b>		
Unadjusted	9.9%	10.1%
Size Adjusted	11.0%	10.8%
<b><u>Expected Earnings</u></b>		
Industry	10.6%	
Proxy Group	10.3%	10.8%
<b><u>Non-Utility DCF</u></b>		
Value Line	10.1%	10.3%
IBES	9.4%	9.2%
Zacks	9.8%	10.1%

## CAPITAL STRUCTURE

Schedule 4

Page 1 of 1

UTILITY GROUP

	Company	At Fiscal Year-End 2014 (a)			Value Line Projected (b)		
		Debt	Preferred	Common Equity	Debt	Other	Common Equity
1	ALLETE	46.0%	0.0%	54.0%	42.0%	0.0%	58.0%
2	Ameren Corp.	47.7%	1.1%	51.3%	45.0%	1.0%	54.0%
3	American Elec Pwr	49.9%	0.0%	50.1%	48.5%	0.0%	51.5%
4	Avista Corp.	50.3%	0.0%	49.7%	52.5%	0.0%	47.5%
5	Black Hills Corp.	52.9%	0.0%	47.1%	48.0%	0.0%	52.0%
6	CenterPoint Energy	55.2%	0.0%	44.8%	58.0%	0.0%	42.0%
7	CMS Energy Corp.	69.8%	0.0%	30.2%	65.5%	0.0%	34.5%
8	DTE Energy Co.	50.8%	0.0%	49.2%	51.0%	0.0%	49.0%
9	Edison International	45.3%	8.5%	46.2%	43.5%	7.5%	49.0%
10	El Paso Electric	53.9%	0.0%	46.1%	56.5%	0.0%	43.5%
11	Empire District Elec	50.6%	0.0%	49.4%	50.0%	0.0%	50.0%
12	Great Plains Energy	49.1%	0.5%	50.3%	45.5%	0.5%	54.0%
13	IDACORP, Inc.	45.2%	0.0%	54.8%	45.0%	0.0%	55.0%
14	NorthWestern Corp.	53.0%	0.0%	47.0%	48.5%	0.0%	51.5%
15	Otter Tail Corp.	46.5%	0.0%	53.5%	48.0%	0.0%	52.0%
16	PG&E Corp.	48.5%	0.8%	50.7%	48.5%	0.5%	51.0%
17	Portland General Elec.	56.7%	0.0%	43.3%	48.5%	0.0%	51.5%
18	Sempra Energy	51.1%	0.1%	48.8%	52.5%	0.0%	47.5%
19	Westar Energy	49.3%	0.0%	50.7%	50.0%	0.0%	50.0%
	<b>Average</b>	<b>51.1%</b>	<b>0.6%</b>	<b>48.3%</b>	<b>49.8%</b>	<b>0.5%</b>	<b>49.7%</b>

(a) Company Form 10-K and Annual Reports.

(b) The Value Line Investment Survey (Feb. 20, Mar. 20, &amp; May 1, 2015).

DIVIDEND YIELD

		(a)	(b)	
	<u>Company</u>	<u>Price</u>	<u>Dividends</u>	<u>Yield</u>
1	ALLETE	\$ 51.82	\$ 2.04	3.9%
2	Ameren Corp.	\$ 41.80	\$ 1.66	4.0%
3	American Elec Pwr	\$ 56.60	\$ 2.18	3.9%
4	Avista Corp.	\$ 33.59	\$ 1.33	4.0%
5	Black Hills Corp.	\$ 50.89	\$ 1.64	3.2%
6	CenterPoint Energy	\$ 20.83	\$ 1.00	4.8%
7	CMS Energy Corp.	\$ 34.84	\$ 1.18	3.4%
8	DTE Energy Co.	\$ 81.28	\$ 2.87	3.5%
9	Edison International	\$ 62.37	\$ 1.76	2.8%
10	El Paso Electric	\$ 38.11	\$ 1.18	3.1%
11	Empire District Elec	\$ 24.63	\$ 1.05	4.3%
12	Great Plains Energy	\$ 26.67	\$ 1.01	3.8%
13	IDACORP, Inc.	\$ 62.21	\$ 1.88	3.0%
14	NorthWestern Corp.	\$ 53.24	\$ 1.94	3.6%
15	Otter Tail Corp.	\$ 31.79	\$ 1.23	3.9%
16	PG&E Corp.	\$ 52.87	\$ 1.82	3.4%
17	Portland General Elec.	\$ 36.58	\$ 1.18	3.2%
18	Sempra Energy	\$108.71	\$ 2.84	2.6%
19	Westar Energy	\$ 38.38	\$ 1.44	3.8%
	<b>Average</b>			<b>3.6%</b>

(a) Average of closing prices for 30 trading days ended May 1, 2015.

(b) The Value Line Investment Survey, Summary & Index (May 1, 2015).

GROWTH RATES

	<u>Company</u>	(a)	(b)	(c)	(d)
		<u>Earnings Growth</u>			<u>br+sv</u>
		<u>V Line</u>	<u>IBES</u>	<u>Zacks</u>	<u>Growth</u>
1	ALLETE	7.0%	6.0%	NA	4.1%
2	Ameren Corp.	5.0%	6.9%	7.4%	4.3%
3	American Elec Pwr	5.5%	5.2%	5.0%	4.6%
4	Avista Corp.	7.0%	5.0%	NA	3.7%
5	Black Hills Corp.	4.5%	7.0%	NA	4.0%
6	CenterPoint Energy	1.5%	1.6%	5.0%	3.5%
7	CMS Energy Corp.	5.5%	6.7%	6.2%	5.0%
8	DTE Energy Co.	6.0%	4.5%	5.1%	4.4%
9	Edison International	3.0%	0.7%	4.2%	5.9%
10	El Paso Electric	3.5%	7.0%	6.7%	4.8%
11	Empire District Elec	3.0%	5.0%	5.0%	3.2%
12	Great Plains Energy	5.0%	5.9%	5.4%	3.0%
13	IDACORP, Inc.	1.0%	4.0%	4.0%	3.6%
14	NorthWestern Corp.	6.5%	4.5%	4.5%	4.0%
15	Otter Tail Corp.	10.0%	6.0%	NA	8.1%
16	PG&E Corp.	8.5%	4.7%	5.3%	4.5%
17	Portland General Elec.	6.0%	4.7%	5.2%	4.5%
18	Sempra Energy	8.5%	7.9%	8.5%	6.7%
19	Westar Energy	6.0%	3.1%	3.6%	5.3%

(a) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015).

(b) [www.finance.yahoo.com](http://www.finance.yahoo.com) (retrieved May 5, 2015).

(c) [www.zacks.com](http://www.zacks.com) (retrieved May 14, 2015).

(d) See Schedule 6.

DCF COST OF EQUITY ESTIMATES

Company	(a)	(a)	(a)	(a)
	Earnings Growth			br+sv
	V Line	IBES	Zacks	Growth
1 ALLETE	10.9%	9.9%	NA	8.1%
2 Ameren Corp.	9.0%	10.8%	11.3%	8.3%
3 American Elec Pwr	9.4%	9.0%	8.8%	8.5%
4 Avista Corp.	11.0%	9.0%	NA	7.6%
5 Black Hills Corp.	7.7%	10.2%	NA	7.3%
6 CenterPoint Energy	6.3%	6.4%	9.8%	8.3%
7 CMS Energy Corp.	8.9%	10.1%	9.6%	8.4%
8 DTE Energy Co.	9.5%	8.0%	8.6%	8.0%
9 Edison International	5.8%	3.5%	7.0%	8.7%
10 El Paso Electric	6.6%	10.1%	9.8%	7.9%
11 Empire District Elec	7.3%	9.3%	9.3%	7.5%
12 Great Plains Energy	8.8%	9.7%	9.2%	6.8%
13 IDACORP, Inc.	4.0%	7.0%	7.0%	6.6%
14 NorthWestern Corp.	10.1%	8.1%	8.1%	7.6%
15 Otter Tail Corp.	13.9%	9.9%	NA	12.0%
16 PG&E Corp.	11.9%	8.2%	8.7%	7.9%
17 Portland General Elec.	9.2%	7.9%	8.4%	7.7%
18 Sempra Energy	11.1%	10.5%	11.1%	9.3%
19 Westar Energy	9.8%	6.8%	7.3%	9.1%
<b>Average (b)</b>	<b>9.9%</b>	<b>9.2%</b>	<b>8.9%</b>	<b>8.4%</b>
<b>Midpoint (c)</b>	<b>10.6%</b>	<b>8.9%</b>	<b>9.2%</b>	<b>9.6%</b>

- (a) Sum of dividend yield (Schedule 5, p. 1) and respective growth rate (Schedule 5, p. 2).
- (b) Excludes highlighted values.
- (c) Average of low and high values.

BR+SV GROWTH RATE

	<u>Company</u>	(a) 2019					Adjustment		(d) "sv" Factor			<u>br + sv</u>	
		<u>EPS</u>	<u>DPS</u>	<u>BVPS</u>	<u>b</u>	<u>r</u>	<u>Factor</u>	<u>Adjusted r</u>	<u>br</u>	<u>s</u>	<u>v</u>		<u>sv</u>
1	ALLETE	\$4.00	\$2.40	\$42.25	40.0%	9.5%	1.0240	9.7%	3.9%	0.0138	0.1952	0.27%	4.1%
2	Ameren Corp.	\$3.25	\$1.85	\$34.00	43.1%	9.6%	1.0238	9.8%	4.2%	0.0070	0.1500	0.11%	4.3%
3	American Elec Pwr	\$4.50	\$2.65	\$42.25	41.1%	10.7%	1.0198	10.9%	4.5%	0.0055	0.2652	0.15%	4.6%
4	Avista Corp.	\$2.50	\$1.55	\$27.50	38.0%	9.1%	1.0170	9.2%	3.5%	0.0071	0.2143	0.15%	3.7%
5	Black Hills Corp.	\$3.25	\$1.90	\$36.50	41.5%	8.9%	1.0205	9.1%	3.8%	0.0085	0.3048	0.26%	4.0%
6	CenterPoint Energy	\$1.45	\$1.15	\$12.00	20.7%	12.1%	1.0182	12.3%	2.5%	0.0190	0.5200	0.99%	3.5%
7	CMS Energy Corp.	\$2.25	\$1.50	\$17.75	33.3%	12.7%	1.0329	13.1%	4.4%	0.0138	0.4929	0.68%	5.0%
8	DTE Energy Co.	\$5.75	\$3.50	\$59.00	39.1%	9.7%	1.0310	10.0%	3.9%	0.0215	0.2387	0.51%	4.4%
9	Edison International	\$5.00	\$2.45	\$44.25	51.0%	11.3%	1.0274	11.6%	5.9%	-	0.3679	0.00%	5.9%
10	El Paso Electric	\$2.75	\$1.40	\$29.50	49.1%	9.3%	1.0212	9.5%	4.7%	0.0049	0.2625	0.13%	4.8%
11	Empire District Elec	\$1.75	\$1.20	\$20.25	31.4%	8.6%	1.0205	8.8%	2.8%	0.0220	0.1900	0.42%	3.2%
12	Great Plains Energy	\$2.00	\$1.20	\$26.75	40.0%	7.5%	1.0149	7.6%	3.0%	0.0017	0.0273	0.00%	3.0%
13	IDACORP, Inc.	\$3.90	\$2.25	\$47.05	42.3%	8.3%	1.0199	8.5%	3.6%	0.0002	0.2472	0.00%	3.6%
14	NorthWestern Corp.	\$3.75	\$2.25	\$38.50	40.0%	9.7%	1.0200	9.9%	4.0%	0.0005	0.2667	0.01%	4.0%
15	Otter Tail Corp.	\$2.35	\$1.32	\$18.10	43.8%	13.0%	1.0281	13.3%	5.9%	0.0473	0.4829	2.28%	8.1%
16	PG&E Corp.	\$3.75	\$2.10	\$40.75	44.0%	9.2%	1.0301	9.5%	4.2%	0.0208	0.1421	0.30%	4.5%
17	Portland General Elec.	\$2.75	\$1.55	\$30.50	43.6%	9.0%	1.0357	9.3%	4.1%	0.0313	0.1286	0.40%	4.5%
18	Sempra Energy	\$7.25	\$3.60	\$58.75	50.3%	12.3%	1.0268	12.7%	6.4%	0.0073	0.4268	0.31%	6.7%
19	Westar Energy	\$3.00	\$1.65	\$29.25	45.0%	10.3%	1.0128	10.4%	4.7%	0.0189	0.3500	0.66%	5.3%

BR+SV GROWTH RATE

	(a)	(a)	(f)	(a)	(a)	(f)	(g)	(a)	(a)		(h)	(a)	(a)	(g)
	----- 2014 -----			----- 2019 -----			Chg	----- 2019 Price -----				---- Common Shares ----		
<u>Company</u>	<u>Eq Ratio</u>	<u>Tot Cap</u>	<u>Com Eq</u>	<u>Eq Ratio</u>	<u>Tot Cap</u>	<u>Com Eq</u>	<u>Equity</u>	<u>High</u>	<u>Low</u>	<u>Avg.</u>	<u>M/B</u>	<u>2014</u>	<u>2019</u>	<u>Growth</u>
1 ALLETE	55.8%	\$2,882	\$1,608	58.0%	\$3,525	\$2,045	4.9%	\$60.00	\$45.00	\$52.50	1.243	45.90	48.50	1.11%
2 Ameren Corp.	51.5%	\$12,975	\$6,682	54.0%	\$15,700	\$8,478	4.9%	\$45.00	\$35.00	\$40.00	1.176	242.65	250.00	0.60%
3 American Elec Pwr	51.0%	\$34,050	\$17,366	51.5%	\$41,100	\$21,167	4.0%	\$70.00	\$45.00	\$57.50	1.361	490.00	500.00	0.40%
4 Avista Corp.	49.0%	\$3,027	\$1,483	47.5%	\$3,700	\$1,758	3.4%	\$40.00	\$30.00	\$35.00	1.273	62.24	64.00	0.56%
5 Black Hills Corp.	52.1%	\$2,644	\$1,377	52.0%	\$3,250	\$1,690	4.2%	\$60.00	\$45.00	\$52.50	1.438	44.67	46.00	0.59%
6 CenterPoint Energy	36.0%	\$12,550	\$4,518	42.0%	\$12,900	\$5,418	3.7%	\$30.00	\$20.00	\$25.00	2.083	430.00	450.00	0.91%
7 CMS Energy Corp.	31.0%	\$11,846	\$3,672	34.5%	\$14,800	\$5,106	6.8%	\$40.00	\$30.00	\$35.00	1.972	275.20	285.00	0.70%
8 DTE Energy Co.	50.0%	\$16,675	\$8,338	49.0%	\$23,200	\$11,368	6.4%	\$90.00	\$65.00	\$77.50	1.314	177.00	192.00	1.64%
9 Edison International	47.2%	\$23,216	\$10,958	49.0%	\$29,400	\$14,406	5.6%	\$80.00	\$60.00	\$70.00	1.582	325.81	325.81	0.00%
10 El Paso Electric	46.5%	\$2,118	\$985	43.5%	\$2,800	\$1,218	4.3%	\$45.00	\$35.00	\$40.00	1.356	40.36	41.10	0.36%
11 Empire District Elec	49.4%	\$1,587	\$784	50.0%	\$1,925	\$963	4.2%	\$30.00	\$20.00	\$25.00	1.235	43.48	47.50	1.78%
12 Great Plains Energy	50.5%	\$7,115	\$3,593	54.0%	\$7,725	\$4,172	3.0%	\$35.00	\$20.00	\$27.50	1.028	154.20	155.50	0.17%
13 IDACORP, Inc.	54.7%	\$3,568	\$1,951	55.0%	\$4,330	\$2,382	4.1%	\$70.00	\$55.00	\$62.50	1.328	50.27	50.30	0.01%
14 NorthWestern Corp.	46.6%	\$3,168	\$1,476	51.5%	\$3,500	\$1,803	4.1%	\$65.00	\$40.00	\$52.50	1.364	46.91	47.00	0.04%
15 Otter Tail Corp.	53.5%	\$1,071	\$573	52.0%	\$1,460	\$759	5.8%	\$40.00	\$30.00	\$35.00	1.934	37.22	42.00	2.45%
16 PG&E Corp.	50.7%	\$31,050	\$15,742	51.0%	\$41,700	\$21,267	6.2%	\$55.00	\$40.00	\$47.50	1.166	475.91	520.00	1.79%
17 Portland General Elec.	47.3%	\$4,037	\$1,910	51.5%	\$5,300	\$2,730	7.4%	\$40.00	\$30.00	\$35.00	1.148	78.23	89.50	2.73%
18 Sempra Energy	48.2%	\$23,513	\$11,333	47.5%	\$31,200	\$14,820	5.5%	\$120.00	\$85.00	\$102.50	1.745	246.33	251.50	0.42%
19 Westar Energy	50.0%	\$6,596	\$3,298	50.0%	\$7,500	\$3,750	2.6%	\$50.00	\$40.00	\$45.00	1.538	131.69	140.00	1.23%

- (a) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015).
- (b) Computed using the formula  $2 * (1 + 5\text{-Yr. Change in Equity}) / (2 + 5 \text{ Yr. Change in Equity})$ .
- (c) Product of average year-end "r" for 2019 and Adjustment Factor.
- (d) Product of change in common shares outstanding and M/B Ratio.
- (e) Computed as  $1 - B/M$  Ratio.
- (f) Product of total capital and equity ratio.
- (g) Five-year rate of change.
- (h) Average of High and Low expected market prices divided by 2019 BVPS.

UTILITY GROUP

Company	(a) Market Return (R <sub>m</sub> )			(c) Risk-Free Rate	Market		(d) Unadjusted RP Weight	(e) Beta	(d) Adjusted RP		Total RP	(f) Unadjusted K <sub>e</sub>	(f) Market Cap	(g) Size Adjustment	Size Adjusted K <sub>e</sub>	
	Div Yield	Proj. Growth	Cost of Equity		Risk Premium	Beta			Weight	RP <sup>1</sup>						RP <sup>2</sup>
1 ALLETE	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 2,308.8	1.63%	11.8%	
2 Ameren Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.75	75%	5.0%	7.2%	9.9%	\$ 9,933.4	0.94%	10.8%	
3 American Elec Pwr	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.70	75%	4.6%	6.8%	9.5%	\$ 27,862.3	-0.32%	9.2%	
4 Avista Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 2,030.4	1.63%	11.8%	
5 Black Hills Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.95	75%	6.3%	8.5%	11.2%	\$ 2,201.8	1.63%	12.8%	
6 CenterPoint Energy	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 8,996.1	0.94%	11.1%	
7 CMS Energy Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.75	75%	5.0%	7.2%	9.9%	\$ 9,364.7	0.94%	10.8%	
8 DTE Energy Co.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.75	75%	5.0%	7.2%	9.9%	\$ 14,280.1	0.65%	10.5%	
9 Edison International	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.75	75%	5.0%	7.2%	9.9%	\$ 19,854.9	0.65%	10.5%	
10 El Paso Electric	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.70	75%	4.6%	6.8%	9.5%	\$ 1,501.7	1.77%	11.3%	
11 Empire District Elec	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.70	75%	4.6%	6.8%	9.5%	\$ 1,024.8	1.77%	11.3%	
12 Great Plains Energy	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.85	75%	5.6%	7.8%	10.5%	\$ 4,036.0	1.05%	11.6%	
13 IDACORP, Inc.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 3,032.7	1.65%	11.8%	
14 NorthWestern Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.70	75%	4.6%	6.8%	9.5%	\$ 2,450.2	1.63%	11.2%	
15 Otter Tail Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.90	75%	5.9%	8.1%	10.8%	\$ 1,113.2	1.77%	12.6%	
16 PG&E Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.65	75%	4.3%	6.5%	9.2%	\$ 25,185.3	-0.32%	8.9%	
17 Portland General Elec.	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 2,754.6	1.65%	11.8%	
18 Sempra Energy	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.80	75%	5.3%	7.5%	10.2%	\$ 26,152.9	-0.32%	9.9%	
19 Westar Energy	2.3%	9.2%	11.5%	2.7%	8.8%	25%	2.2%	0.75	75%	5.0%	7.2%	9.9%	\$ 4,958.0	1.05%	10.9%	
<b>Average</b>												<b>10.0%</b>			<b>11.1%</b>	
<b>Midpoint (h)</b>												<b>10.2%</b>			<b>10.9%</b>	

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Mar. 10, 2015)

(b) Average of weighted average earnings growth rates from IBES and Value Line Investment Survey for dividend-paying stocks in the S&P 500 based on data from http://finance.yahoo.com (retrieved Mar. 11, 2015). and www.valueline.com (retrieved Mar. 10, 2015).

(c) Average yield on 30-year Treasury bonds for the six-months ending Apr. 2015 based on data from the Federal Reserve at http://www.federalreserve.gov/releases/h15/data.htm

(d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).

(e) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015)

(f) www.valueline.com (retrieved May 5, 2015)

(g) Morningstar, "2015 Ibbotson S&P Market Report," at Table 10 (2015).

(h) Average of low and high values

EMPIRICAL CAPM - PROJECTED BOND YIELD

UTILITY GROUP

Company	(a) Market Return (R <sub>m</sub> )			(c) Risk-Free Rate	(d) Market Risk Premium		(d) Unadjusted RP Weight	(e) Beta	(d) Beta Adjusted RP		(f) Total Unadjusted RP	(f) Market Unadjusted K <sub>e</sub>	(f) Market Cap	(g) Size Adjustment	(g) Size Adjusted K <sub>e</sub>			
	Div Yield	Proj. Growth	Cost of Equity		Risk	Risk Premium			Beta	Weight						RP <sup>1</sup>	RP <sup>2</sup>	
1 ALLETE	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 2,308.8	1.63%	12.1%			
2 Ameren Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.75	75%	4.1%	5.9%	10.2%	\$ 9,933.4	0.94%	11.1%			
3 American Elec Pwr	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.70	75%	3.8%	5.6%	9.9%	\$ 27,862.3	-0.32%	9.6%			
4 Avista Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 2,030.4	1.63%	12.1%			
5 Black Hills Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.95	75%	5.1%	6.9%	11.2%	\$ 2,201.8	1.63%	12.9%			
6 CenterPoint Energy	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 8,996.1	0.94%	11.4%			
7 CMS Energy Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.75	75%	4.1%	5.9%	10.2%	\$ 9,364.7	0.94%	11.1%			
8 DTE Energy Co.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.75	75%	4.1%	5.9%	10.2%	\$ 14,280.1	0.65%	10.8%			
9 Edison International	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.75	75%	4.1%	5.9%	10.2%	\$ 19,854.9	0.65%	10.8%			
10 El Paso Electric	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.70	75%	3.8%	5.6%	9.9%	\$ 1,501.7	1.77%	11.7%			
11 Empire District Elec	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.70	75%	3.8%	5.6%	9.9%	\$ 1,024.8	1.77%	11.7%			
12 Great Plains Energy	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.85	75%	4.6%	6.4%	10.7%	\$ 4,036.0	1.05%	11.7%			
13 IDACORP, Inc.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 3,032.7	1.65%	12.1%			
14 NorthWestern Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.70	75%	3.8%	5.6%	9.9%	\$ 2,450.2	1.63%	11.5%			
15 Otter Tail Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.90	75%	4.9%	6.7%	11.0%	\$ 1,113.2	1.77%	12.7%			
16 PG&E Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.65	75%	3.5%	5.3%	9.6%	\$ 25,185.3	-0.32%	9.3%			
17 Portland General Elec.	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 2,754.6	1.65%	12.1%			
18 Sempra Energy	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.80	75%	4.3%	6.1%	10.4%	\$ 26,152.9	-0.32%	10.1%			
19 Westar Energy	2.3%	9.2%	11.5%	4.3%	7.2%	25%	1.8%	0.75	75%	4.1%	5.9%	10.2%	\$ 4,958.0	1.05%	11.2%			
<b>Average</b>																<b>10.3%</b>	<b>11.4%</b>	
<b>Midpoint (h)</b>																	<b>10.4%</b>	<b>11.1%</b>

- (a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Mar. 10, 2015)
- (b) Average of weighted average earnings growth rates from IBES and Value Line Investment Survey for dividend-paying stocks in the S&P 500 based on data from http://finance.yahoo.co (retrieved Mar. 11, 2015). and www.valueline.com (retrieved Mar. 10, 2015).
- (c) Average yield on 30-year Treasury bonds for 2015-2019 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 20, 2015); IHS Global Insight, The U.S. Economy: The 30-Year Focus (Third-Quarter 2014); & Blue Chip Financial Forecasts, Vol. 33, No. 12 (Dec. 1, 2014).
- (d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).
- (e) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015)
- (f) www.valueline.com (retrieved May 5, 2015)
- (g) Morningstar, "2015 Ibbotson S&P Market Report," at Table 10 (2015).
- (h) Average of low and high values

**ELECTRIC UTILITY RISK PREMIUM**

**Schedule 8**

**Page 1 of 4**

**CURRENT BOND YIELD**

**Current Equity Risk Premium**

(a) Avg. Yield over Study Period	8.58%
(b) Average Utility Bond Yield	<u>4.03%</u>
Change in Bond Yield	-4.55%
(c) Risk Premium/Interest Rate Relationship	<u>-0.4267</u>
Adjustment to Average Risk Premium	1.94%
(a) Average Risk Premium over Study Period	<u>3.57%</u>
<b>Adjusted Risk Premium</b>	<b>5.51%</b>

**Implied Cost of Equity**

(b) Baa Utility Bond Yield	4.55%
Adjusted Equity Risk Premium	<u>5.51%</u>
<b>Risk Premium Cost of Equity</b>	<b>10.06%</b>

(a) Schedule 8, page 3.

(b) Average bond yield for six-months ending Apr. 2015 based on data from Moody's Investors Service at [www.credittrends.com](http://www.credittrends.com).

(c) Schedule 8, page 4.

PROJECTED BOND YIELDCurrent Equity Risk Premium

(a) Avg. Yield over Study Period	8.58%
(b) Average Utility Bond Yield 2015-2019	<u>6.25%</u>
Change in Bond Yield	-2.33%
(c) Risk Premium/Interest Rate Relationship	<u>-0.4267</u>
Adjustment to Average Risk Premium	0.99%
(a) Average Risk Premium over Study Period	<u>3.57%</u>
<b>Adjusted Risk Premium</b>	<b>4.56%</b>

Implied Cost of Equity

(b) Baa Utility Bond Yield 2015-2019	6.77%
Adjusted Equity Risk Premium	<u>4.56%</u>
<b>Risk Premium Cost of Equity</b>	<b>11.33%</b>

- (a) Schedule 8, page 3.
- (b) Based on data from Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 20, 2015); IHS Global Insight, The U.S. Economy: The 30-Year Focus (Third-Quarter 2014); & Moody's Investors Service at [www.credittrends.com](http://www.credittrends.com).
- (c) Schedule 8, page 4.

AUTHORIZED RETURNS

Year	(a) Allowed ROE	(b) Average Utility Bond Yield	Risk Premium
1974	13.10%	9.27%	3.83%
1975	13.20%	9.88%	3.32%
1976	13.10%	9.17%	3.93%
1977	13.30%	8.58%	4.72%
1978	13.20%	9.22%	3.98%
1979	13.50%	10.39%	3.11%
1980	14.23%	13.15%	1.08%
1981	15.22%	15.62%	-0.40%
1982	15.78%	15.33%	0.45%
1983	15.36%	13.31%	2.05%
1984	15.32%	14.03%	1.29%
1985	15.20%	12.29%	2.91%
1986	13.93%	9.46%	4.47%
1987	12.99%	9.98%	3.01%
1988	12.79%	10.45%	2.34%
1989	12.97%	9.66%	3.31%
1990	12.70%	9.76%	2.94%
1991	12.55%	9.21%	3.34%
1992	12.09%	8.57%	3.52%
1993	11.41%	7.56%	3.85%
1994	11.34%	8.30%	3.04%
1995	11.55%	7.91%	3.64%
1996	11.39%	7.74%	3.65%
1997	11.40%	7.63%	3.77%
1998	11.66%	7.00%	4.66%
1999	10.77%	7.55%	3.22%
2000	11.43%	8.09%	3.34%
2001	11.09%	7.72%	3.37%
2002	11.16%	7.53%	3.63%
2003	10.97%	6.61%	4.36%
2004	10.75%	6.20%	4.55%
2005	10.54%	5.67%	4.87%
2006	10.36%	6.08%	4.28%
2007	10.36%	6.11%	4.25%
2008	10.46%	6.65%	3.81%
2009	10.48%	6.28%	4.20%
2010	10.34%	5.56%	4.78%
2011	10.29%	5.13%	5.16%
2012	10.17%	4.26%	5.91%
2013	10.02%	4.55%	5.47%
2014	<u>9.92%</u>	<u>4.42%</u>	<u>5.50%</u>
<b>Average</b>	12.16%	8.58%	3.57%

(a) Major Rate Case Decisions, Regulatory Focus, Regulatory Research Associates; *UtilityScope*  
*Regulatory Service*, Argus.

(b) Moody's Investors Service.

**REGRESSION RESULTS**

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.92319
R Square	0.85228
Adjusted R Square	0.84850
Standard Error	0.00508
Observations	41

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.005802	0.005802	225.0178	8.7182E-18
Residual	39	0.001006	2.58E-05		
Total	40	0.006807			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.07235	0.00257	28.18815	1.52E-27	0.06716	0.07755	0.06716	0.07755
X Variable 1	-0.42669	0.02845	-15.0006	8.72E-18	-0.48423	-0.36916	-0.48423	-0.36916

UTILITY GROUP

	Company	(a) (b) Market Return ( $R_m$ )			(c)	(d)	(e)	(f)	Size Adjusted $K_e$		
		Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted $K_e$		Market Cap	Size Adjustment
1	ALLETE	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 2,308.8	1.63%	11.4%
2	Ameren Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.75	9.3%	\$ 9,933.4	0.94%	10.2%
3	American Elec Pwr	2.3%	9.2%	11.5%	2.7%	8.8%	0.70	8.9%	\$ 27,862.3	-0.32%	8.5%
4	Avista Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 2,030.4	1.63%	11.4%
5	Black Hills Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.95	11.1%	\$ 2,201.8	1.63%	12.7%
6	CenterPoint Energy	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 8,996.1	0.94%	10.7%
7	CMS Energy Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.75	9.3%	\$ 9,364.7	0.94%	10.2%
8	DTE Energy Co.	2.3%	9.2%	11.5%	2.7%	8.8%	0.75	9.3%	\$ 14,280.1	0.65%	10.0%
9	Edison International	2.3%	9.2%	11.5%	2.7%	8.8%	0.75	9.3%	\$ 19,854.9	0.65%	10.0%
10	El Paso Electric	2.3%	9.2%	11.5%	2.7%	8.8%	0.70	8.9%	\$ 1,501.7	1.77%	10.6%
11	Empire District Elec	2.3%	9.2%	11.5%	2.7%	8.8%	0.70	8.9%	\$ 1,024.8	1.77%	10.6%
12	Great Plains Energy	2.3%	9.2%	11.5%	2.7%	8.8%	0.85	10.2%	\$ 4,036.0	1.05%	11.2%
13	IDACORP, Inc.	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 3,032.7	1.65%	11.4%
14	NorthWestern Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.70	8.9%	\$ 2,450.2	1.63%	10.5%
15	Otter Tail Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.90	10.6%	\$ 1,113.2	1.77%	12.4%
16	PG&E Corp.	2.3%	9.2%	11.5%	2.7%	8.8%	0.65	8.4%	\$ 25,185.3	-0.32%	8.1%
17	Portland General Elec.	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 2,754.6	1.65%	11.4%
18	Sempra Energy	2.3%	9.2%	11.5%	2.7%	8.8%	0.80	9.7%	\$ 26,152.9	-0.32%	9.4%
19	Westar Energy	2.3%	9.2%	11.5%	2.7%	8.8%	0.75	9.3%	\$ 4,958.0	1.05%	10.4%
	<b>Average</b>							<b>9.5%</b>			<b>10.6%</b>
	<b>Midpoint (g)</b>							<b>9.7%</b>			<b>10.4%</b>

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Mar. 10, 2015)

(b) Average of weighted average earnings growth rates from IBES and Value Line Investment Survey for dividend-paying stocks in the S&P 500 based on data from <http://finance.yahoo.com> (retrieved Mar. 11, 2015). and [www.valueline.com](http://www.valueline.com) (retrieved Mar. 10, 2015).

(c) Average yield on 30-year Treasury bonds for the six-months ending Apr. 2015 based on data from the Federal Reserve at <http://www.federalreserve.gov/releases/h15/data.htm>.

(d) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015)

(e) [www.valueline.com](http://www.valueline.com) (retrieved May 5, 2015).

(f) Morningstar, "2015 Ibbotson SBBi Market Report," at Table 10 (2015).

(g) Average of low and high values.

CAPM - PROJECTED BOND YIELD

UTILITY GROUP

	Company	(a) (b) Market Return (R <sub>m</sub> )			(c)	(d)	(e)	(f)	Size		
		Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Unadjusted K <sub>e</sub>	Market Cap	Size Adjustment	Adjusted K <sub>e</sub>	
1	ALLETE	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 2,308.8	1.63%	11.7%
2	Ameren Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.75	9.7%	\$ 9,933.4	0.94%	10.6%
3	American Elec Pwr	2.3%	9.2%	11.5%	4.3%	7.2%	0.70	9.3%	\$ 27,862.3	-0.32%	9.0%
4	Avista Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 2,030.4	1.63%	11.7%
5	Black Hills Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.95	11.1%	\$ 2,201.8	1.63%	12.8%
6	CenterPoint Energy	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 8,996.1	0.94%	11.0%
7	CMS Energy Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.75	9.7%	\$ 9,364.7	0.94%	10.6%
8	DTE Energy Co.	2.3%	9.2%	11.5%	4.3%	7.2%	0.75	9.7%	\$ 14,280.1	0.65%	10.4%
9	Edison International	2.3%	9.2%	11.5%	4.3%	7.2%	0.75	9.7%	\$ 19,854.9	0.65%	10.4%
10	El Paso Electric	2.3%	9.2%	11.5%	4.3%	7.2%	0.70	9.3%	\$ 1,501.7	1.77%	11.1%
11	Empire District Elec	2.3%	9.2%	11.5%	4.3%	7.2%	0.70	9.3%	\$ 1,024.8	1.77%	11.1%
12	Great Plains Energy	2.3%	9.2%	11.5%	4.3%	7.2%	0.85	10.4%	\$ 4,036.0	1.05%	11.5%
13	IDACORP, Inc.	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 3,032.7	1.65%	11.7%
14	NorthWestern Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.70	9.3%	\$ 2,450.2	1.63%	11.0%
15	Otter Tail Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.90	10.8%	\$ 1,113.2	1.77%	12.6%
16	PG&E Corp.	2.3%	9.2%	11.5%	4.3%	7.2%	0.65	9.0%	\$ 25,185.3	-0.32%	8.7%
17	Portland General Elec.	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 2,754.6	1.65%	11.7%
18	Sempra Energy	2.3%	9.2%	11.5%	4.3%	7.2%	0.80	10.1%	\$ 26,152.9	-0.32%	9.7%
19	Westar Energy	2.3%	9.2%	11.5%	4.3%	7.2%	0.75	9.7%	\$ 4,958.0	1.05%	10.8%
	<b>Average</b>							<b>9.9%</b>			<b>11.0%</b>
	<b>Midpoint (g)</b>							<b>10.1%</b>			<b>10.8%</b>

- (a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Mar. 10, 2015)
- (b) Average of weighted average earnings growth rates from IBES and Value Line Investment Survey for dividend-paying stocks in the S&P 500 based on data from http://finance.yahoo.com (retrieved Mar. 11, 2015). and www.valueline.com (retrieved Mar. 10, 2015).
- (c) Average yield on 30-year Treasury bonds for 2015-2019 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 20, 2015) IHS Global Insight, The U.S. Economy: The 30-Year Focus (Third-Quarter 2014); & Blue Chip Financial Forecasts, Vol. 33, No. 12 (Dec. 1, 2014).
- (d) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015)
- (e) www.valueline.com (retrieved May 5, 2015).
- (f) Morningstar, "2015 Ibbotson SBBi Market Report," at Table 10 (2015).
- (g) Average of low and high values.

UTILITY GROUP

	(a)	(b)	(c)
<u>Company</u>	<u>Expected Return on Common Equity</u>	<u>Adjustment Factor</u>	<u>Adjusted Return on Common Equity</u>
1 ALLETE	9.5%	1.0240	9.7%
2 Ameren Corp.	9.5%	1.0238	9.7%
3 American Elec Pwr	10.5%	1.0198	10.7%
4 Avista Corp.	9.0%	1.0170	9.2%
5 Black Hills Corp.	8.5%	1.0205	8.7%
6 CenterPoint Energy	12.5%	1.0182	12.7%
7 CMS Energy Corp.	13.5%	1.0329	13.9%
8 DTE Energy Co.	10.0%	1.0310	10.3%
9 Edison International	11.5%	1.0274	11.8%
10 El Paso Electric	9.0%	1.0212	9.2%
11 Empire District Elec	8.5%	1.0205	8.7%
12 Great Plains Energy	7.5%	1.0149	7.6%
13 IDACORP, Inc.	8.5%	1.0199	8.7%
14 NorthWestern Corp.	10.0%	1.0200	10.2%
15 Otter Tail Corp.	13.0%	1.0281	13.4%
16 PG&E Corp.	9.5%	1.0301	9.8%
17 Portland General Elec.	9.0%	1.0357	9.3%
18 Sempra Energy	12.5%	1.0268	12.8%
19 Westar Energy	9.5%	1.0128	9.6%
<b>Average (d)</b>			<b>10.3%</b>
<b>Midpoint (d)</b>			<b>10.8%</b>

- (a) The Value Line Investment Survey (Feb. 20, Mar. 20, & May 1, 2015).
- (b) Adjustment to convert year-end return to an average rate of return from Schedule 6.
- (c) (a) x (b).
- (d) Excludes highlighted values.
- (e) Average of low and high values.

DIVIDEND YIELD

			(a)	(b)	
	<u>Company</u>	<u>Industry Group</u>	<u>Price</u>	<u>Dividends</u>	<u>Yield</u>
1	Church & Dwight	Household Products	\$ 84.85	\$ 1.36	1.6%
2	Coca-Cola	Beverage	\$ 40.69	\$ 1.32	3.2%
3	Colgate-Palmolive	Household Products	\$ 69.20	\$ 1.54	2.2%
4	ConAgra Foods	Food Processing	\$ 36.93	\$ 1.00	2.7%
5	Gen'l Mills	Food Processing	\$ 55.74	\$ 1.76	3.2%
7	Kellogg	Food Processing	\$ 64.57	\$ 1.96	3.0%
8	Kimberly-Clark	Household Products	\$ 108.60	\$ 3.52	3.2%
10	McDonald's Corp.	Restaurant	\$ 97.01	\$ 3.40	3.5%
11	PepsiCo, Inc.	Beverage	\$ 95.81	\$ 2.77	2.9%
12	Procter & Gamble	Household Products	\$ 82.44	\$ 2.65	3.2%
13	Smucker (J.M.)	Food Processing	\$ 116.26	\$ 2.56	2.2%
14	Verizon Com.	Telecommunications	\$ 49.42	\$ 2.20	4.5%
15	Wal-Mart Stores	Retail Store	\$ 80.28	\$ 1.96	2.4%
	<b>Average</b>				<b>2.9%</b>

(a) Average of closing prices for 30 trading days ended May 1, 2015.

(b) The Value Line Investment Survey, *Summary & Index* (May 1, 2015).

GROWTH RATES

	(a)	(b)	(c)
	<b>Earnings Growth Rates</b>		
<u>Company</u>	<u>V Line</u>	<u>IBES</u>	<u>Zacks</u>
1 Church & Dwight	9.0%	9.55%	9.50%
2 Coca-Cola	5.5%	4.83%	6.70%
3 Colgate-Palmolive	11.0%	8.03%	8.20%
4 ConAgra Foods	6.5%	8.47%	7.50%
5 Gen'l Mills	5.5%	5.66%	6.20%
6 Kellogg	5.0%	4.15%	5.00%
7 Kimberly-Clark	9.5%	6.90%	6.90%
8 McDonald's Corp.	4.0%	6.78%	7.90%
9 PepsiCo, Inc.	9.5%	6.36%	6.20%
10 Procter & Gamble	7.5%	6.73%	6.80%
11 Smucker (J.M.)	7.0%	5.36%	5.70%
12 Verizon Com.	8.0%	5.93%	8.10%
13 Wal-Mart Stores	5.0%	4.93%	5.20%

(a) The Value Line Investment Survey (Feb. 27, Mar. 20, Mar. 27, Apr. 24, May 1, 2015).

(b) [www.finance.yahoo.com](http://www.finance.yahoo.com) (retrieved May 15, 2015).

(c) [www.zacks.com](http://www.zacks.com) (Retrieved May 15, 2015).

DCF COST OF EQUITY ESTIMATES

	(a)	(a)	(a)
	<u>Cost of Equity Estimates</u>		
<u>Company</u>	<u>V Line</u>	<u>IBES</u>	<u>Zacks</u>
1 Church & Dwight	10.6%	11.2%	11.1%
2 Coca-Cola	8.7%	8.1%	9.9%
3 Colgate-Palmolive	13.2%	10.3%	10.4%
4 ConAgra Foods	9.2%	11.2%	10.2%
5 Gen'l Mills	8.7%	8.8%	9.4%
6 Kellogg	8.0%	7.2%	8.0%
7 Kimberly-Clark	12.7%	10.1%	10.1%
8 McDonald's Corp.	7.5%	10.3%	11.4%
9 PepsiCo, Inc.	12.4%	9.3%	9.1%
10 Procter & Gamble	10.7%	9.9%	10.0%
11 Smucker (J.M.)	9.2%	7.6%	7.9%
12 Verizon Communications	12.5%	10.4%	12.6%
13 Wal-Mart Stores	7.4%	7.4%	7.6%
<b>Average</b>	<b>10.1%</b>	<b>9.4%</b>	<b>9.8%</b>
<b>Midpoint (c)</b>	<b>10.3%</b>	<b>9.2%</b>	<b>10.1%</b>

- (a) Sum of dividend yield (Schedule 11, p. 1) and respective growth rate (Schedule 11, p. 2).
- (b) Average of low and high values.

UTILITY GROUP

	<b>Company</b>	<b>Mechanism</b>
1	ALLETE	FCA, PGA, FTY, ICR, Investment Pre-approval, DSM, ECA, TCR
2	Ameren Corp.	FCA, PGA, ICR, DSM, ECA, BDR, PCR, Vegetation Mgt, SCR, FRP
3	American Elec Pwr	FCA, FTY, ICR, ECA, AMS, TCR, Vegetation Mgt, SCR, RDM
4	Avista Corp.	FCA, PGA, RDM
5	Black Hills Corp.	FCA, PGA, ICR, ECA, TCR, WNA, DSM, BDR, TAX
6	CenterPoint Energy	PGA, ICR, RDM, WNA, FRP, TCR, DSM, Nuclear Decommissioning, AMS, SCR
7	CMS Energy Corp.	FCA, PGA, RDM, FTY
8	DTE Energy Co.	FCA, PGA, RDM, FTY, ICR, DSM, BDR, SCR, ECA, PCR, Line Clearance, BDR, Nuclear Decommissioning
9	Edison International	FCA, RDM, FTY, PCR, ICR, Nuclear Decommissioning, DSM, ECA, TCR
10	El Paso Electric	FCA, FTY, DSM
11	Empire District Elec	FCA, PGA, DSM, TCR, PCR, Hybrid Test Year, Vegetation Mgt, ECA, ICR
12	Great Plains Energy	FCA in Kansas (no FCA in Missouri), PCR, DSM
13	IDACORP, Inc.	FCA, RDM (Fixed Cost Adjustment Mechanism), DSM
14	NorthWestern Corp.	FCA, PGA, DSM, PCR, TAX
15	Otter Tail Corp.	FCA, FTY, DSM, ICR, TCR, ECA
16	PG&E Corp.	FCA, RDM, FTY, Nuclear Decommissioning, DSM, ECA
17	Portland General Elec.	FCA, RDM, FTY, ICR, DSM, SCR
18	Sempra Energy	FCA, PGA, RDM, FTY, ECA, DSM
19	Westar Energy	FCA, ECA, DSM

AMS--Advanced Metering System Recovery Rider

BDR -- Bad Debt Cost Recovery Rider

DSM -- Demand Side Management / Conservation / Energy Efficiency Adjustment Clause

ECA -- Environmental and/or Emissions Cost Adjustment Clause

FCA -- Fuel and/or Power Cost Adjustment Clause

FRP--Formula Rate Plan

FTY - Jurisdiction allows for future test year

ICR -- Infrastructure Investment / Renewables Cost Recovery Mechanism

PCR -- Pension Cost Recovery Mechanism

PGA -- Gas Cost Adjustment Clause

RDM -- Revenue Decoupling Mechanism

SCR - Storm Cost Recovery Tracker

TAX--Property / Franchise Tax Recovery Mechanism

TCR -- Transmission Cost Recovery Tracker

WNA -- Weather Normalization Adjustment or other mitigants

Source : 2014 Form 10-K Reports; Edison Electric Institute, *Forward Test Years for US Electric Utilities* (Aug. 2010).