BEFORE THE WASHINGTON

UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of
AVISTA CORPORATION

DOCKETS UE-140188 & UG-140189

DIRECT TESTIMONY OF STEPHEN G. HILL (SGH-1T)

ON BEHALF OF

PUBLIC COUNSEL

JULY 22, 2014

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I. INTRODUCTION / SUMMARY

Q: Please state your name and business address.

A: My name is Stephen G. Hill. My business address is P.O. Box 587, Hurricane, West Virginia 25526 [hillassociates@gmail.com].

Q: By whom are you employed and in what capacity?

A: I am Principal of Hill Associates, a consulting firm specializing in financial and economic issues in regulated industries.

Q: On behalf of whom are you testifying?

A: I am testifying on behalf of the Public Counsel Section of the Washington Attorney General's Office (Public Counsel).

Q: Briefly, what is your educational background?

A: After graduating with a Bachelor of Science degree in Chemical Engineering from Auburn University in Auburn, Alabama, I was awarded a scholarship to attend Tulane Graduate School of Business Administration at Tulane University in New Orleans, Louisiana. There, I received a Master's Degree in Business Administration. I have been awarded the professional designation of "Certified Rate of Return Analyst," by the Society of Utility and Regulatory Financial Analysts; this designation is based upon education, experience and the successful completion of a comprehensive examination. I have also served on the Board of Directors and am currently Vice President of that national organization. A more detailed account of my educational background and occupational experience appears in Exhibit No. SGH-16.

Q: Have you testified before this or other regulatory commissions?

A: Yes, I have testified in this regulatory jurisdiction and, over the past 30 years, I have testified on cost of capital, corporate finance and capital market issues in more than 300 regulatory proceedings before the following regulatory bodies: the West Virginia Public Service Commission, the Connecticut Department of Public Utility Control, the Oklahoma State Corporation Commission, the Public Utilities Commission of the State of California, the Pennsylvania Public Utilities Commission, the Maryland Public Service Commission, the Public Utilities Commission of the State of Minnesota, the Ohio Public Utilities Commission, the Insurance Commissioner of the State of Texas, the North Carolina Insurance Commissioner, the Rhode Island Public Utilities Commission, the City Council of Austin, Texas, the Texas Railroad Commission, the Arizona Corporation Commission, the South Carolina Public Service Commission, the Public Utilities Commission of the State of Hawaii, the New Mexico Corporation Commission, the Texas Public Service Commission, the Georgia Public Service Commission, the Public Service Commission of Utah, the Kentucky Public Utilities Commission, the Illinois Commerce Commission, the Kansas Corporation Commission, the Indiana Utility Regulatory Commission, the Virginia Corporation Commission, the Montana Public Service Commission, the Public Service Commission of the State of Maine, the Public Service Commission of Wisconsin, the Vermont Public Service Board, the Federal Communications Commission and the Federal Energy Regulatory Commission. I have also testified before the West Virginia Air Pollution Control Commission regarding appropriate pollution control technology and its financial impact on the company

under review and have been an advisor to the Arizona Corporation Commission on matters of utility finance.

Q: What is the purpose of your testimony in this proceeding?

A: Avista Corporation (Avista, the Company) is seeking approval from the Washington Utilities and Transportation Commission (WUTC) for a rate increase for its Washington electric and gas utility operations. As part of that rate increase, Avista is requesting recovery of a return on common equity of 10.1 percent and an after-tax overall rate of return of 7.71 percent, based on a capital structure consisting of 49 percent common equity and 51 percent long-term debt. Public Counsel has requested that I review the rate of return evidence submitted by the Company and undertake my own analysis of the current market-based cost of common equity, and an appropriate ratemaking capital structure.

In addition, because the Company is requesting in this proceeding that the Commission allow its rates to be "decoupled" from unit sales, Public Counsel has requested that I examine the reduction in revenue volatility and investment risk that will occur if decoupling is adopted. Also, because reduced volatility lowers investment risk, I have been asked to quantify the reduction in the allowed return that is necessary to balance the interests of ratepayers and stockholders if decoupling is approved.

Q: Have you prepared exhibits in support or your testimony?

A: Yes. Attached to this testimony are 18 Exhibits (Exhibit Nos. SGH-2 through SGH-19) that provide the analytical support for the conclusions reached regarding the forward-looking overall cost of capital for Avista's utility operations

discussed in the body of this testimony. These Exhibits were prepared by me and are correct to the best of my knowledge and belief.

Q: Please summarize your findings.

A: My testimony is organized into five sections. First, I discuss the cost of capital standard as a measure of the return to be allowed for regulated industries, and review the current economic environment in which the equity return estimate is made.

Second, I review the Company's requested capital structure in comparison to capital structures employed by the utility industry in general. Further, I discuss the financial risk differences and cost of capital implications of the capital structure employed by Avista's Washington operating divisions.

Third, I evaluate the cost of equity capital for similar-risk operations using Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM), Modified Earnings-Price Ratio (MEPR), and Market-to-Book Ratio (MTB) analyses.

Fourth, I discuss the cost of capital impact of decoupling utility rates from unit sales. In such a ratemaking regime, the volatility of corporate revenues normally due to changes in the service territory economy or weather (or any other exogenous factor) will be significantly reduced because the Company will be allowed to recover its revenue requirement no matter what its unit sales might be. Through a statistical examination of the Company's electric and gas utility operating results over the past decade, I have quantified the cost of equity impact of the reduced risk imparted by decoupling.

Fifth, I discuss the shortcomings contained in the cost of capital analysis presented by Avista witness Adrien McKenzie. Mr. McKenzie's cost of capital analysis is flawed and results in an equity cost estimate that substantially exceeds the actual market-based cost of equity capital, and, ultimately, does not support the Company's equity return request.

I have estimated the equity capital cost of utility operations similar in operating (business) risk to the Washington operations of Avista Corporation to be in the range of 8.75 percent to 9.50 percent, with a midpoint of 9.125 percent. Because Avista, with a higher bond rating, has lower-than-average financial risk, an equity return below the mid-point of the current cost of equity range is appropriate for ratemaking purposes. Absent the Commission's approval of the Company's requested decoupling plan, then, an appropriate return on common equity for Avista's operations in Washington would be 9.00 percent.

Finally, my analysis shows that the reduction in risk resulting from decoupling amounts to approximately 50 to 80 basis points in the Company's cost of common equity. Reducing Avista's 9.0 percent cost of common equity by 50 basis points would indicate a cost of equity of 8.50 percent. However, that result is below the lower end of what I have determined to be a reasonable range of common equity cost for similar-risk utilities. Therefore, I recommend that, if decoupling is adopted, the Commission set the Company's return on common equity at the low end of that reasonable range of equity capital cost, or 8.75 percent.

Exhibit No. SGH-15 shows that with an allowed return on common equity of 8.75 percent, and the Company's requested ratemaking capital structure consisting of 49 percent common equity and 51 percent long-term debt, the after-tax overall return would be 7.05 percent. With that overall return, the Company would be provided the opportunity to achieve a pre-tax interest coverage of 3.59 times, which is greater than the pre-tax interest coverage earned by the Company, on average, over the past few years (3.10x).[1] Therefore, the return I recommend appropriately balances the interests of the Company and its ratepayers and provides the Company an opportunity to earn a return sufficient to support its financial well-being.

Q: Why should the cost of capital serve as a basis for the proper allowed rate of return?

A: As a guide to assessing an appropriate level of profitability for regulated operations, the Supreme Court of the United States has established that investors in such firms are to be given an opportunity to earn returns that are sufficient to attract capital and are comparable to returns investors would expect in the unregulated sector for assuming the same degree of risk. The *Bluefield* and *Hope* cases provide the seminal decisions.[2] These criteria were restated in the *Permian Basin Area Rate Cases*.[3] However, the Court also makes quite clear in *Hope* that regulation does not guarantee profitability and, in *Permian Basin* that, while

[1] Avista Corporation, S.C.E. Form 10-K, 2013, Schedule 12-"Ratio of Earnings to Fixed Charges." 2009 (3.20x), 2010 (3.03x), 2011 (3.30x), 2012 (2.63x), and 2013 (3.33x); average = 3.10x.
[2] *Bluefield Water Works v. PSC*, 262 US 679 (1923); *FPC v. Hope Natural Gas Company*, 320 US 591 (1944).
[3] 390 US 747 (1968).

investor interests (profitability) are certainly pertinent to setting adequate rates, those interests do not exhaust the relevant considerations.

As a starting point in the rate-setting process, then, the cost of capital of a regulated firm represents the return investors could expect from other investments, while assuming no more and no less risk. Since financial theory holds that investors will not provide capital for a particular investment unless that investment is expected to yield their opportunity cost of capital, the correspondence of the cost of capital with the Court's guidelines for appropriate earnings is clear.

Q: The cost of equity capital is often estimated using a confusing array of economic models and algebraic formulas. Is there a simple way to understand the concept of the cost of equity capital?

A: Yes. In a regulated ratemaking context such as this, the cost of equity capital can be most easily understood as the rate of profit that should be allowed for the regulated firm. A firm's profit is the amount of money that remains from its revenues after the firm has paid all of its costs—operating costs (commodity supply costs, depreciation, equipment maintenance costs, salaries, fees, taxes, retirement obligations), as well as income taxes and interest costs. That dollar amount of profit, divided by the amount of common equity capital used to finance the firm's regulated assets produces a percentage rate of return on equity. For example, if the profit earned by a utility is $10/year and investors have provided $100 of equity capital, the firm's return on equity (ROE) is 10 percent.

The purpose of all of the economic models and formulas in cost of capital testimony is to estimate, using market data of similar-risk firms, the percentage return equity investors require for that risk-class of firms—in this case, combination gas and electric utility operations. If the percentage profit included in the rates is set equal to the cost of equity capital (the investors' required rate of return), the utility, under efficient management, will be able to attract the capital necessary to maintain the firm's financial integrity and the interests of investors and ratepayers will be balanced, as called for in the U.S. Supreme Court cases cited above.

Simply put, the amount of profit the utility should be allowed the opportunity to earn, as a percentage of the total equity investment, should be equal to the market-based cost of equity capital.

II. ECONOMIC ENVIRONMENT

Q: Why is it necessary to review the economic environment in which an equity cost estimate is made?

A: The cost of equity capital is an expectational, or *ex ante*, concept. In seeking to estimate the cost of equity capital of a firm, it is necessary to gauge investor expectations with regard to the relative risk and return of that firm, as well as that for the particular risk-class of investments in which that firm resides. Because this exercise is, necessarily, based on understanding and accurately assessing investor expectations, a review of the larger economic environment within which the investor makes his or her decision is most important. Investor expectations regarding the strength of the U.S. economy, the direction of interest rates and the

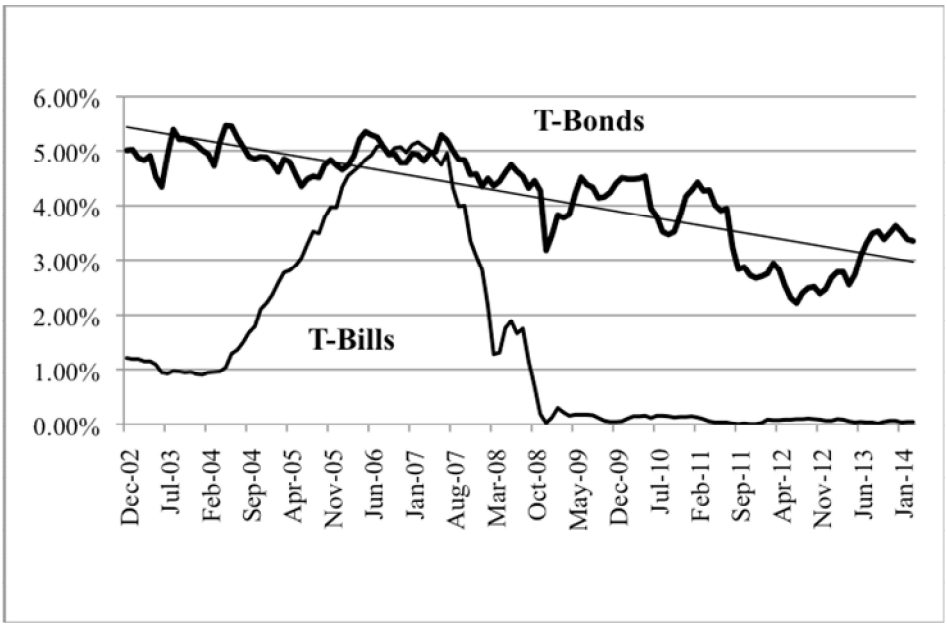
level of inflation (factors that are determinative of capital costs) are key building blocks in the investment decision. The analyst and the regulatory body should review those factors in order to assess accurately investors' required return—the cost of equity capital to the regulated firm.

Q: What is the cost of capital implications of the current market environment?

A: Although more than five years have passed since the events of late 2008 and early 2009, any review of the current economic environment and the current cost of capital must take into account what was the most significant disruption in the financial markets since the Great Depression in the 1930s. As shown in Chart I below, over the past decade there have been wide fluctuations in *short-term* interest rate levels as the Fed raised and lowered the Federal Funds rate to slow down and encourage (respectively) economic growth. However, *long-term* interest rates (20-year T-bonds) have ranged from 3.5 percent to 5 percent over most of that time period, with a slow and relatively steady downward trend. As a result of the 2008/09 economic downturn, long-term Treasury bond yields dipped, for a time, below the lower end of that historical range as the protection against default available with Treasury bonds caused investors to turn to U.S. government bonds as a "safe haven." As the economic downturn moderated and a modest recovery began to appear in 2010, long-term T-bond yields returned to their historical trend.

Chart I

Long- and Short-term U.S. Treasury Interest Rates



In the latter part of 2012, concerns about the international banking industry, centered primarily on the smaller economies in the European Union, caused long-term Treasury yields to again dip below historical trends, as shown in Chart I. However, in mid-year 2013, the expectation that the Fed would begin to reduce its secondary market purchases of Treasury securities, undertaken in order to reduce yields, caused long-term Treasury prices to fall and yields to increase to levels that exceeded the long-term trend and signaled a slowing of the downward trend in interest rates. According to the most recent Federal Reserve Statistical Release H.15, the average 30-year T-Bond yield in April 2014 was 3.52 percent.[4]

[4] http://www.federalreserve.gov/Releases/H15/Current/, May 12, 2014.

The interest rate data in Chart I also indicate that the Fed lowered short-term interest rates to near zero to attempt to lessen the impact of the recession and continues to take a very accommodative stance regarding monetary policy—with short-term T-Bills continuing to yield a near zero return. The Fed has also announced its intention to keep short-term rates low until unemployment declines significantly. Therefore, fundamental long-term capital costs have not increased as a result of the financial crisis in 2008/09 and are currently in line with the long-term downward trend in capital costs that began prior to the financial crisis.

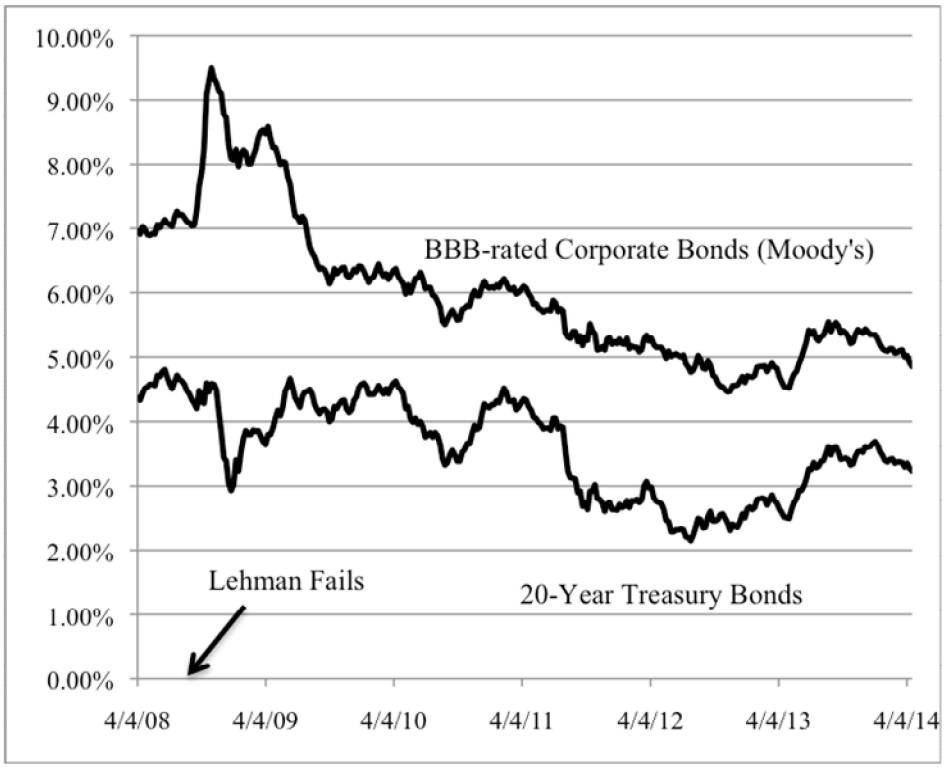
Because the market for U.S. Treasury securities remained liquid throughout the 2008/09 financial crisis and because the liquidity crisis existing during that market disruption has subsided, it is reasonable to believe that the recent yields (approximately 3.6 %) on long-term (30-year) Treasuries are representative of investors' current long-term risk-free return expectations. Therefore, that fundamental building block of capital costs (long-term T-bond yields) provides an indication that in the current economic environment, capital costs continue to be lower than they were prior to the economic troubles of late 2008 and early 2009.

A review of corporate bond yield history, however, indicates that during the financial crisis, declining yields was not the case with corporate bonds. Following the demise of Lehman Brothers and the near-collapse of the financial industry in the U.S. and abroad due to enormous debt obligations related to mortgage-back securities and credit default swaps—even with the commitment of government support of the successor financial institutions—there was a temporary

lack of liquidity in the corporate sector of the bond market. Even though the Fed was driving down short-term Treasury rates to provide additional liquidity for the economy in general, that liquidity was not passed through to the corporate bond market and, with a lack of capital supply, corporate bond yields rose sharply in late 2008 and early 2009. The relative movement of BBB-rated corporate bond yields and U.S. Treasury yields is shown in Chart II, below.

Chart II

Corporate Bonds v. U.S. Treasury Interest Rates



Following the failure of Lehman Brothers, and as the full extent of the debt/derivative risk overhang in the financial industry became known, BBB-rated corporate bond yields began to increase, even as long-term Treasury yields remained relatively steady at about 4.5 percent. According to the database of the

Federal Reserve, BBB-rated corporate bond yields rose dramatically by 250 basis points as the risk of default, and the nervousness of investors increased.

As liquidity has been restored to the corporate bond markets, initially through direct government intervention and subsequently through the return of modestly positive economic growth, corporate bond yields have declined substantially from the highs established in the fall of 2008. Over the past several years, investors' concerns have eased, the stock market has rebounded, and corporate bond yields have declined well below pre-crisis levels. As a result, the yield-spread differential between corporate bonds and long-term Treasury securities, while slightly elevated from historical levels, has declined to a more normal level, and corporate bond yields are once again closely tracking Treasury yields, as shown in Chart II. Therefore, because both the absolute level of the risk-free rate and the yield spread between Treasury bonds and corporate bonds have declined since the financial crisis, any concerns that the 2008/09 financial crisis implies continuing financial difficulty in the U.S. capital markets for utilities would not be well founded.

On balance, then, the fixed-income data available in the financial marketplace indicate that, while there were technical difficulties in the corporate bond market that drove up yields for a period of time during the financial crisis, those difficulties have not proven to be a long-term phenomenon, and the high corporate bond yields experienced in the latter part of 2008 and early 2009 do not represent investors' long-term expectations. Those data also indicate that

investors' required return for a risk-free investment and for corporate debt remain low by historical standards.

Simply put, the cost of capital continues to be low. As shown in Chart III below, even with the recent small increase in bond yields that occurred in mid-year 2013 due to investors' expectations regarding Fed "tapering" (i.e., reducing a bond-buying program that held down long-term Treasury yields), current corporate interest rates remain at levels not seen since the 1960s—more than 45 years ago.

Chart III

BBB-rated Corporate Bond Yields

Data from Federal Reserver Statistical Release H.15.

Q: What are the current expectations with regard to the economy and interest rates?

A: As noted, interest rates have remained low following the financial crisis, despite the predictions that a recovering economy would bring interest rate increases.

While that expectation for interest rate increases continues, it is contingent on an improving economy. Although the U.S. economy has shown positive growth since the 2008/09 period, that growth has been modest and not rapid enough to create the capital or commodity shortages that would drive up inflation and interest rates. Yet, as shown in Value Line's most recent quarterly forecast, the expectations for increased interest rates in the future continue.

> **Economic Growth:** As noted, our economy really stepped it up in the late stages of 2013, behind strength in various consumer and industrial categories. In fact, as we turned the calendar, the good times looked as if they would roll on with nary a let up. But Mother Nature had other ideas, and a series of harsh winter storms and record low temperatures hurt business activity in a number of key areas, including hiring, homebuilding, retail spending, and auto sales….For now, we think the likely lack-luster first quarter will be a hiccup, and that GDP growth, which may only come to 2.0%-2.5% in the first quarter, will quicken in the June period and risk another notch or two after midyear, averaging 3%, or so, by then.
>
> **Inflation**: Here, stability remains the rule. In fact, once we look past the most volatile pricing components in the producer and consumer pricing indexes (i.e., after backing out food and energy) to arrive at the so-called core PPI and CPI, we find that annual price increases remain below the 2% threshold that the Federal Reserve maintains is its long-range objective.
>
> **Interest Rates:** This is another area in which stability has been the rule. Of note, the central bank, which controls short-term interest rates directly through its federal funds rate target, has kept that target at 0.25%, or less, for years now. We think this target will remain at that level before increasing in modest increments in 2015 or 2016. Long-term interest rates, which aren't directly controlled by the Fed, but which have stayed in a tight range for some time, as well, also are likely to step up in the next ear or two, as the Fed concludes its bond buying. (The Value Line

Investment Survey, *Selection & Opinion*, February 21, 2014, pp. 4992, 3.)

In that most recent Quarterly Economic Review cited above, Value Line projects long-term Treasury bond rates will average 3.9 percent through 2014 and 4.3 percent in 2015. As noted previously, the Fed's current Statistical Release H.15 indicates that the average 30-year Treasury bond yield in April 2014 was 3.52 percent.

Therefore, the indicated expectation with regard to long-term interest rates is that they are expected to move slightly higher in the future, provided the economic recovery continues to advance at a moderate pace. Simply put, due to the pace of the economy and relatively low core inflation, capital costs are low and are expected to remain low until the economy shows more rapid growth, which Value Line now expects to occur over the next few years. If and when the long-awaited and often-predicted economic recovery does eventually appear, interest rates and capital costs are expected to increase moderately.

III. CAPITAL STRUCTURE

Q: How are the Company's Washington operations capitalized?

A: The capital structure requested by the Company in these proceedings is found on page 8 of the Direct Testimony of Company witness Mark T. Thies and consists of 49 percent common equity and 51 percent long-term debt.

Q: How does the Company's requested capital structure compare to the capital structure utilized, on average, in the electric industry today?

A: Exhibit No. SGH-2 shows the average common equity ratio of the electric companies in the industry is 47.5 percent. For the combination electric and gas companies, the average common equity ratio is 46.3 percent, and for the entire electric industry (electric companies as well as electric and gas combination companies) is 46.7 percent. The average common equity ratio of the sample group of companies selected to estimate the cost of equity for Avista is 48.0 percent.

Therefore, the Company's requested capital structure contains more common equity than average as well as slightly more common equity than the sample group used to estimate the cost of equity. That higher amount of common equity will be more costly for ratepayers because equity capital, on a pre-tax, ratemaking basis is roughly three times more costly than long-term debt capital.

Nevertheless, the Company's requested capital structure with 49 percent common equity is not unreasonable when compared to the capital structure in use by the similar-risk sample group. Moreover, the additional common equity in the capital structure can be accounted for in the allowed return by adjusting the allowed ROE downward to account for Avista's lower financial risk.

Therefore, in determining my recommended overall return in this proceeding, I will rely on the Company's requested capital structure and embedded debt cost rates.

IV. METHODS OF EQUITY COST EVALUATION

A. Discounted Cash Flow.

Q: Please describe the discounted cash flow (DCF) model you used to arrive at an estimate of the cost of common equity capital for the Company in this proceeding.

A: The DCF model relies on the equivalence of the market price of the stock (P) with the present value of the cash flows investors expect from the stock, and assumes that the percentage rate, which discounts the future cash flows (dividends) to the present value (the stock price), equals the cost of capital. The total return to the investor, which equals the required return according to this theory, is the sum of the dividend yield and the expected growth rate in the dividend.

The theory is represented by the equation,

$$k = D/P + g, \qquad (1)$$

where "k" is the equity capitalization rate (cost of equity, required return), "D/P" is the dividend yield (dividend divided by the stock price), and "g" is the expected sustainable growth rate.

Q: What growth rate (g) did you adopt in developing your DCF cost of common equity for the Company's Washington operations?

A: The growth rate variable in the traditional DCF model is quantified, theoretically, as the dividend growth rate investors expect to continue into the indefinite future. The DCF model is actually derived by 1) considering the dividend growing perpetuity, that is, a payment to the stockholder which grows at a constant rate

indefinitely, and 2) calculating the present value (the current stock price) of that perpetuity. The model also assumes that the company whose equity cost is to be measured exists in a steady state environment, i.e., the payout ratio and the expected return are constant and the earnings, dividends, book value and stock price all grow at the same rate, forever.

While that assumption seems to be unrealistic because, in the short term, growth rates in those parameters (dividends, earnings and book value) can be quite different, over the long term it has proven to be true. For example, according to Value Line's published year-by-year retrospective of the Dow Jones Industrials Index (DJI) from 1920 through 2005, the average earnings, dividend, and book value growth rates for the companies in the DJI over that time period were 5.3 percent, 4.9 percent and 5.2 percent.[5] For utility companies, over the long term, average growth rates in earnings, dividends and book value are even closer. Moody's Public Utility Manual reports that, between 1947 and 1999, average growth in earnings, dividend and book value growth of Moody's Electric Utilities was 3.34 percent, 3.22 percent and 3.66 percent, respectively.[6] Therefore, the fundamental DCF assumption that earnings, dividends and book value are expected to grow, over the long-term, at the same sustainable rate of growth is reasonable and is an accurate representation of how firms actually grow over time.

However, even though the long-term fundamental assumptions of the DCF

[5] www.valueline.com, Dow Jones Long Term Chart (PDF).
[6] Moody's ceased publication of its Public Utility Manual in 2001.

have proven to be sound, as with all mathematical models of real-world phenomena, the DCF theory does not precisely "track" reality in the shorter term. Payout ratios and expected equity returns as well as earnings and dividend growth rates do change at different rates over the short-term. Therefore, in order to properly apply the DCF model to any real-world situation and, in this case, to find the long-term sustainable growth rate called for in the DCF theory, it is essential to understand the determinants of long-run expected dividend growth.

Q: Can you provide an example to illustrate the determinants of the long-run sustainable growth called for in the DCF model?

A: Yes. In Exhibit No. SGH-17, I provide an example of the determinants of a sustainable growth rate on which to base a reliable DCF estimate, and I show how reliance on earnings or dividend growth rates alone, absent an examination of the underlying determinants of long-run dividend growth, can produce inaccurate DCF results.

Q: How have you developed an estimate of the expected long-term growth in your application of the DCF model?

A: I have calculated both the historical and projected sustainable growth rates for a sample of utility firms with similar risk to the Company, and I have incorporated other growth rate indicators into the analysis as well. To estimate an appropriate DCF growth rate, I have also relied on published data regarding both historical and projected growth rates in earnings, dividends, and book value for the sample group of utility companies. Recall that DCF theory assumes those earnings, dividends and book value all grow at the same rate. Through an examination of

all of those data, which are available to and used by investors, I estimate investors' long-term growth rate expectations. To that long-term growth rate estimate, I add any additional growth that is attributable to investors' expectations regarding the on-going sale of stock for each of the companies under review.

Q: Why have you analyzed the market data of several companies similar in risk to Avista?

A: I have used the "similar sample group" approach to cost of capital analysis because it yields a more accurate determination of the cost of equity capital than does the analysis of the data of one individual company. Any form of analysis, in which the result is an estimate, such as growth in the DCF model, is subject to measurement error, i.e., error induced by the measurement of a particular parameter or by variations in the estimate of the technique chosen. When the technique is applied to only one observation (e.g., estimating the DCF growth rate for a single company), the estimate is referred to, statistically, as having "zero degrees of freedom." This means, simply, that there is no way of knowing if any observed change in the growth rate estimate is due to measurement error or to an actual change in the cost of capital. The degrees of freedom can be increased and exposure to measurement error reduced by applying any given estimation technique to a sample of companies rather than to one single company. Therefore, by analyzing a group of firms with similar characteristics, the estimated value (the growth rate and the resultant cost of capital) is more likely to equal the "true" value for that type of operation.

Q: How were the companies selected to be included in the analysis?

A: For the similar-risk sample for Avista's Washington electric and gas operations, all of the electric utility firms followed by Value Line were screened. Companies were selected from that group that had a continuous financial history, a bond rating between "BBB-" and "A-", and had 60 percent or more of revenues generated by electric utility operations. Companies that did not have generation assets, or were in the process of merging or being acquired, or companies that had recently omitted dividends or had unstable book values were omitted from the sample. The data for the electric utility sample group were obtained from the most recent editions of Value Line Investment Survey, *Ratings and Reports*, available at the time of this analysis (February 21, March 21, and May 2, 2014), and A.U.S. Utility Reports, April 2014.

The integrated electric companies included in the similar-risk sample group for purposes of estimating the current cost of equity capital are: TECO Energy (TE), ALLETE (ALE), American Electric Power (AEP), Cleco Corporation (CNL), Entergy Corp. (ETR), OGE Energy Corp. (OGE), Westar Energy (WR), Avista Corp. (AVA), Hawaiian Electric (HE), IDACORP, Inc. (IDA), Northwestern Corp. (NWE), PG&E Corp. (PCG), Pinnacle West Capital (PNW), Portland General (POR), and Xcel Energy (XEL). The statistical data for each of the Value Line electrics, the selection criteria, and the companies selected are shown in Exhibit No. SGH-3.[7]

[7] In the Exhibits accompanying this Testimony, the sample group companies are referenced by their stock ticker symbols.

Q: How have you calculated the DCF growth rates for the sample of comparable companies?

A: Exhibit No. SGH-4, pages 1 through 5, shows the retention ratios, equity returns, sustainable growth rates, book values per share and number of shares outstanding for the comparable sample companies for the past five years. Also included in the information presented in Exhibit No. SGH-4 are Value Line's projected 2014, 2015, and 2017-2019 values for equity return, retention ratio, book value growth rates, and number of shares outstanding.

In evaluating these data, we first review the five-year average sustainable growth rate, which is the product of the earned return on equity (r) and the ratio of earnings retained within the firm (b). For example, Exhibit No. SGH-4, page 1, shows that the five-year average sustainable growth rate for American Electric Power (AEP) is 4.50 percent. The simple five-year average sustainable growth value is used as a benchmark against which we measure the company's most recent growth rate trends. Recent growth rate trends are more investor influencing than are simple historical averages. Continuing to focus on AEP, sustainable growth in 2013 was 3.67 percent—below the average growth for the five-year period. Those recent historical data, then, indicate general growth stability with a slightly moderating growth rate trend. By the 2017-2019 period, however, Value Line projects AEP's sustainable growth will reach a level just below the recent five-year average—3.75 percent. These forward-looking data indicate that investors expect AEP to grow at a rate in the future slightly lower than the growth rate that has existed, on average, over the past five years.

While the five-year projections are given consideration in estimating a proper growth rate because they are available to and are used by investors, they are not given sole consideration. Without reviewing all the data available to investors, both projected and historic, sole reliance on projected information may be misleading. Value Line readily acknowledges to its subscribers the subjectivity necessarily present in estimates of the future:

> We have greater confidence in our year-ahead ranking system, which is based on proven price and earnings momentum, than in 3- to 5-year projections. (Value Line Investment Survey, Selection and Opinion, June 7, 1991, p. 854).

Another factor to consider is that AEP's book value growth is expected to increase at a 4.5 percent rate over the next five years, after increasing at a 4.5 percent rate historically. That signals steady growth for AEP. However, as shown on Schedule 3, page 2, that company's dividend growth rate, which was 4.0 percent historically, is expected to increase to a 4.5 percent rate of growth in the future—higher than the sustainable growth rate projections, and above historical levels. That information would tend to raise investor expectations regarding growth in the future. Earnings growth rate data available from Value Line indicate that investors can expect an increase in the earnings growth rate in the future (4.5 %), a growth rate higher than that which has existed historically (only 1.0 %). Also, Zack's and IBES (investor advisory services that poll institutional analysts for growth earnings rate projections) projects earnings growth rate for AEP of approximately 4.3 percent and 4.23 percent, respectively, over the next five years.

AEP's projected sustainable growth, indicates that investors can expect more moderate growth in the future similar to that which has occurred, on average, in the past. Those projections are countered by an expectation of higher dividend and earnings growth. A long-term sustainable growth rate of 4.25 percent is a reasonable expectation for AEP.

Q: Is the internal or "b times r" growth rate the final growth rate used in the DCF analysis?

A: No. An investor's sustainable growth rate analysis does not end upon the determination of an internal growth rate from earnings retention. Investor expectations regarding growth from external sources (sales of stock) must also be considered and examined. Using the example of AEP, page 1 of Exhibit No. SGH-4 shows that the number of outstanding shares increased at about a 0.5 percent rate over the most recent five-year period. Value Line expects the number of shares outstanding to decline through the 2017-2019 period, bringing the share growth rate to 0.41 percent rate by that time. Therefore, an expectation of share growth of 0.5 percent per year is reasonable for this Company.

As shown on page 1 of Exhibit No. SGH-5, because AEP is currently trading at a market price that is greater than its book value, a long-term expectation of increasing the number of shares outstanding will also increase investors' growth expectations for that company. Multiplying the expected

growth rate in shares outstanding by (1-(Book Value/Market Value)) increases the long-term DCF growth rate for AEP by 17 basis points.[8]

The details of the sustainable growth rate analyses for AEP are discussed here as an example of the methodology used in determining the DCF growth rate for each company in the utility sample group. Exhibit No. SGH-5, page 1, shows the internal, external and resultant overall DCF growth rates for all the electric utility companies analyzed. A narrative description of the growth rate analyses for each of the companies included in the similar-risk sample group is set out in Exhibit No. SGH-18.

Q: Have you checked the reasonableness of your growth rate estimates against other, publicly available growth rate data?

A: The reasonableness of the growth rate estimates for each company are checked against other publicly available sources in Exhibit No. SGH-5, page 2, which shows the DCF growth rates used in this analysis as well as 5-year historic and projected earnings, dividends, and book value growth rates from Value Line, earnings growth rate projections from Zacks or IBES, the average of Value Line and Zacks or IBES growth rates, and the 5-year historical compound growth rates for earnings, dividends and book value for each company under study.

For the electric utility sample group, Exhibit No. SGH-5, page 2 shows that my DCF growth rate estimate for those companies is 4.75 percent. That long-

[8] According to Gordon's original DCF formula, the factor that accounts for additional growth due to sales of stock is "s" the rate of increase in shares outstanding, times "v" the equity accretion rate, defined as (1-M/B). For the utilities under study here, the "sv" term adds an additional 70 basis points to the DCF cost of equity capital.

term growth rate estimate is considerably higher than Value Line's projected average earnings, dividend, and book value growth rate (4.08 percent) but similar to the historical average of those same parameters (4.50 percent). In addition, my DCF growth rate estimate for the similar-risk electric utilities is below IBES and Zacks' earnings growth rate projections: 5.20 percent and 5.17 percent, respectively. Therefore, the average DCF growth rate for the electric utility sample companies is reasonable when compared to other publicly-available growth rate information.

Q: Some analysts rely heavily, if not exclusively, on analysts' earnings growth projections as the growth rate in the DCF; you have not done so. Can you explain why?

A: In my view, earnings growth rate projections are widely available, are used by investors, and therefore deserve consideration in an informed, accurate assessment of the investor expected growth rate to be included in a DCF model. However, projected earnings growth rates should not be used as the *only* source of a DCF growth estimate because projected earnings growth rates are influential in, but not solely determinative of, investor expectations. That is true for several reasons.

First, it is important to realize that, as I discuss in Exhibit No. SGH-17, projected earnings growth rates may over- or understate the growth that can be sustained over time by the companies under review. This is important because long-term sustainable growth is required in an accurate DCF assessment of the cost of equity capital. The efficacy of projected earnings growth rates in any

specific DCF analysis can only be determined through a study of the underlying fundamentals of growth—something that those who rely exclusively on analysts' earnings growth rate projections fail to do.

Second, the studies that support the use of analysts' earnings projections measure the ability of analysts' estimates to predict stock prices versus simple historical averages of other parameters. In that sort of simplistic comparison, analysts' projections perform better. However, I am not aware of any cost of capital analyst who relies exclusively on historical average growth rates, nor is it reasonable to believe that any astute investor would do so. Therefore, while studies do indicate that analysts' earnings growth estimates are better indicators of stock prices than simple historical averages of other growth rate parameters, those studies do not provide any basis for exclusive reliance on earnings growth projections in a DCF analysis.

Third, the sell-side institutional analysts that are polled by IBES and similar services offer relatively "rosy" expectations for the stock they follow—even when the analyst's actual expectations for the stock are not so sanguine. Simply put, some analysts overstate growth expectations to make the stocks they want to sell look more attractive. Although claims are often made that the opinions of sell-side analysts are not affected by the profits made by the other parts of the business that actually trade those securities, the "Cinderella effect" (analysts' overstating stock expectations) is not a new phenomenon, and is recognized in academia. As the authors of a widely-used finance textbook note

regarding the use of projected earnings growth rates in a DCF analysis:

> Estimates of this kind are only as good as the long-term forecasts on which they are based. For example, several studies have observed that security analysts are subject to behavioral biases and their forecasts tend to be over-optimistic [See, for example, A. Dugar and S. Nathan, "The Effect of Investment Banking Relationships on Financial Analysts' Earnings Investment Recommendations, *Contemporary Accounting Research* 12 (1995), pp. 131-160]. If so, such DCF estimates of the cost of equity should be regarded as upper estimates of the true figure."[9]

As Chan and Lakonishok note in "The Level and Persistence of Growth Rates," published in the *Journal of Finance* (Vol. LVIII, No. 2, April 2003, p. 643), "[t]here is no persistence in long-term earnings growth beyond chance, and there is low predictability even with a wide variety of predictor variables. Specifically, IBES growth forecasts are overly optimistic and add little predictive power." This concern regarding investors' use of analysts' growth estimates is also underscored by an investor's service sponsored by the *Wall Street Journal*:

> You should be careful when looking at analyst recommendations for several reasons. First of all, many analysts suffer from a conflict of interest between the firm that employs them and the company whose stock they track. Often times, an analyst will be responsible for issuing reports on a company that is a current or potential client of their employer (usually an investment bank). Since they know that their employer would like to keep the client's business, the analyst may be tempted to issue a rosier outlook for the stock than what it really deserves.[10]

[9] Brealey, Meyers, Allen, Principles of Corporate Finance, 8th Ed., McGraw-Hill Irwin, Boston, MA, (2006), p. 67.
[10] (Investorguide.com, "University," Analysts and Earnings Estimates, www.investorguide.com/igustockanalyst.html).

Also, as reported in an April 2010 article in McKinsey Quarterly, entitled "Equity Analysts: Still too bullish," over the past 25 years the equity analysts polled by IBES have projected long-term earnings growth of 10 percent to 12 percent for unregulated companies, whereas actual (realized) growth has been about 6.0 percent.[11]

Fourth, much of the academic work touted as support for reliance on earnings growth is based on data from the IBES database (now owned by Thomson); however, academic research recently published in the *Journal of Finance* indicates that there have been non-random, systematic errors in that database, which call into question the reliability of research (such as the research on the reliability of analysts' earnings estimates) based on those data. The researchers document that the historical contents of the IBES data base have been "quite unstable over time," and state:

> Data are the bedrock of empirical research in finance. When there are questions about the accuracy or completeness of a data source, researchers routinely go to great lengths to investigate measurement error, selection bias, or reliability. But what if the very contents of a historical database were to change, in error, over time? Such changes to the historical record would have important implications for empirical research. They could undermine the principle of replicability, which in the absence of controlled experiments is the foundation of empirical research in finance. They could result in over- or underestimates of the magnitude of empirical effects, leading researchers down blind alleys. Also to the extent that financial-market participants use academic research for trading purposes, they could lead to resource allocation…. We document that the historical contents of the I/B/E/S

[11] McKinsey & Company is a global management-consulting firm.

> recommendations database have been quite unstable over time.[12]

Therefore, even the research that purports to show that analysts' earnings growth rates are "superior" to simple historical average growth rates is called into question due to the above-cited flaws in the historical IBES database.

In summary, exclusive reliance on projected earnings growth for determining a DCF growth rate in a cost of capital analysis is not a reliable method of analysis and is likely to lead to an equity cost estimate that overstates the actual market-determined cost of equity capital.

Q: Does this conclude the growth rate portion of your DCF?

A: Yes.

Q: How have you calculated the DCF dividend yields?

A: The current dividend yields for each of the sample group companies are shown in Exhibit No. SGH-6. The per share dividend is that projected over the next year by Value Line, and the stock price is the daily closing average stock price for each company over the most recent six-week period. Exhibit No. SGH-6 shows that the average dividend yield of the similar-risk sample group of integrated electric companies is 3.90 percent.

Q: What is the cost of equity capital estimate for the electric utility sample group utilizing the DCF model?

A: Exhibit No. SGH-7 combines the long-term sustainable growth rate for each of the companies in the sample group with the expected dividend yield. The result is

[12] Lungqvist, Malloy, Marston, "Rewriting History," *The Journal of Finance*, Vol. 64, No. 4, August 2009, pp. 1935-1960.

an average DCF equity cost estimate of 8.65 percent.

Q: Have you provided an additional DCF analysis based solely on forward-looking growth rate projections?

A: Yes. In an effort to minimize the impact of judgment on the outcome of the cost of equity estimate for Avista, I have also employed a "mechanical" DCF analysis. This type of DCF analysis utilizes dividend yield and growth rate data provided in investor-service publications as the basis for determining a DCF equity cost estimate. Data for all the electric utilities followed for Value Line are utilized—the entire publicly-traded electric utility industry is included in the analysis. All growth-rate data are projected. That is, both dividend yields and growth rates are projected for the future (as called for in DCF theory). The projected year-ahead dividend yield for each company is published in The Value Line Investment Survey. In addition, Value Line also publishes projected earnings, dividend, book value and sustainable (or "b x r") growth rates for each of the electric utilities it follows. In addition to those growth rates, projected earnings growth rates for each company published by IBES and Zack's are also used to determine the DCF growth rate for each company.

Exhibit No. SGH-8 shows that the projected year-ahead dividend yield for each electric company is added to the average of all available projected growth rates (Value Line's earnings, dividends, book value and "b x r" growth, as well as, Zack's and IBES earnings growth rate projections). The only growth rates that are not included in the analysis are those that are non-positive (i.e., zero or negative), because it is reasonable to believe that investors would not expect long-

term negative growth in a viable investment.

The result of the mechanical DCF shown in Exhibit No. SGH-8, based on the entire electric industry and all forward-looking dividend yield and growth rate projections is an average DCF equity cost estimate of 8.42 percent.

B. Capital Asset Pricing Model.

Q: Please describe the Capital Asset Pricing Model (CAPM) you used to arrive at an estimate for the cost rate of equity capital for Avista in this proceeding.

A: The CAPM states that the expected rate of return on a security is determined by a risk-free rate of return plus a risk premium, which is proportional to the non-diversifiable (systematic) risk of a security. Systematic risk refers to the risk associated with movements in the macro-economy (the economic "system") and thus, cannot be eliminated through diversification by holding a portfolio of securities. The beta coefficient (β) is a statistical measure that attempts to quantify the non-diversifiable risk of the return on a particular security against the returns inherent in general stock market fluctuations. The formula is expressed as follows:

$$k = r_f + \beta(r_m - r_f), \qquad (2)$$

where "k" is the cost of equity capital of an individual security, "r_f" is the risk-free rate of return, "β" is the beta coefficient (a measure of relative volatility), "r_m" is the average market return and "$r_m - r_f$" is the market risk premium.

Q: What have you chosen for a risk-free rate of return in your CAPM analysis?

A: As the CAPM is designed, the risk-free rate is that rate of return investors can

realize with certainty. The nearest analog in the investment spectrum is the 13-week U. S. Treasury bill. However, T-Bills can be heavily influenced by Federal Reserve policy, as they have been over the past three years. While longer-term Treasury bonds have equivalent default risk to T-Bills, those longer-term government securities carry maturity risk that the T-Bills do not have. When investors tie up their money for longer periods of time, as they do when purchasing a long-term Treasury, they must be compensated for future investment opportunities forgone as well as the potential for future changes in inflation. Investors are compensated for this increased investment risk by receiving a higher yield on T-Bonds. When T-Bills and T-Bonds exhibit a "normal" (historical average) spread of about 1.5 percent to 2 percent, the results of a CAPM analysis that matches a higher market risk premium with lower T-Bill yields or a lower market risk premium with higher T-Bond yields, are very similar.

As noted in the previous discussion of the macro-economy, in an attempt to fend off a recession and to inject liquidity into the financial system, the Fed acted vigorously over the past four years to lower short-term interest rates. Recently, T-Bills have produced an average yield just above zero. Also, as noted in my discussion of the current economic environment, the current yield for long-term T-Bonds is 3.62 percent. In addition, Value Line reports that the average yield on 30-year Treasury bonds over the most recent six-week period (March 21, 2014 through April 25, 2014) is 3.55 percent. Therefore, for purposes of a forward-looking CAPM analysis in this proceeding, 3.75 percent will serve as a reasonable estimate of investors' current long-term risk-free rate.

Q: What market risk premium have you used in your CAPM analysis?

A: In their 2011 edition of Stocks, Bonds, Bills and Inflation, Morningstar indicates that the average market risk premium between stocks and T-Bills over the 1926–2010 time period is 6.0 percent (based on an arithmetic average), and 4.4 percent (based on a geometric average). Those long-term average values are widely used as an estimate of the forward-looking market risk premium in the CAPM analysis.

As noted previously, immediately following the 2008/09 financial crisis and again last year, investor worries regarding the international financial system caused investors to be more concerned about default risk and seek the safety of risk-free investments. Because of that fact, the yields on long-term U.S. Treasury bonds declined more rapidly than the yields on corporate debt (see Chart II). For that reason, it is reasonable to rely on the upper-most end of the historical risk premium range (6.0 %) published by Morningstar/Ibbotson in calculating a current cost of equity capital.

Q: What values have you chosen for the beta coefficients in the CAPM analysis?

A: With regard to the CAPM beta coefficient, Value Line reports beta coefficients for all the stocks it follows. Value Line's beta is derived from a regression analysis between weekly percentage changes in the market price of a stock and weekly percentage changes in the New York Stock Exchange Composite Index over a period of five years. The average beta coefficient of the sample of the electric utility companies is 0.77.

Q: What is your cost of equity estimate for the sample of electric utility companies using the CAPM?

A: Exhibit No. SGH-9 shows that the combination of a 3.75 percent risk-free rate, with an average beta of 0.77 and a market risk premium of 6.0 percent is 8.37 percent. That result is lower than the DCF results previously presented.

C. Modified Earnings Price Ratio.

Q: Please describe the modified earnings-price ratio (MEPR) analysis you use to estimate the cost of equity capital.

A: The earnings-price ratio is the expected earnings per share divided by the current market price. In cost of capital analysis, the earnings-price ratio alone (which is one portion of this MEPR analysis) can be useful in a corroborative sense, since it can be a good indicator of the proper range of equity costs when the market price of a stock is near its book value. When the market price of a stock is *above* its book value, the earnings-price ratio *understates* the cost of equity capital. Exhibit No. SGH-10 contains mathematical proof for this concept. The opposite is also true, i.e.; the earnings-price ratio *overstates* the cost of equity capital when the market price of a stock is *below* book value.

Under current market conditions, the electric utilities under study have an average market-to-book ratio of 1.51 and, therefore, the average earnings-price ratio, alone, will understate the cost of equity for the sample group. However, the earnings-price ratio is not used alone as an indicator of equity capital cost rates. Because of the relationship among the earnings-price ratio, the market-to-book ratio and the investor-expected return on equity, described mathematically in Exhibit No. SGH-10, the earnings-price ratio is modified by averaging projected equity returns with the current earnings-price ratio for the companies under study.

It is that modified analysis that will assist in estimating an appropriate range of equity capital costs in this proceeding.

Q: What is the relationship between the earnings-price ratio, the expected return on equity, and the market-to-book ratio?

A: When the expected return (ROE) approximates the cost of equity, the market price of the utility approximates its book value and the earnings-price ratio provides an accurate estimate of the cost of equity. As the investor-expected return on equity for a utility (ROE) begins to exceed the investor-required return (the cost of equity capital), the market price of the firm will tend to exceed its book value. Also as explained above, the earnings-price ratio understates the cost of equity capital in that instance.

Conversely, in situations where the expected equity return is below what investors require, market prices fall below book value. Further, when market-to-book ratios are below 1.0, the earnings-price ratio overstates the cost of equity capital. Thus, the expected rate of return on equity and the earnings-price ratio tend to move in a countervailing fashion around a central locus, and that central locus is the cost of equity capital. Therefore, the average of the expected book return and the earnings price ratio provides a reasonable estimate of the cost of equity capital.

These relationships represent general rather than precisely quantifiable tendencies but are useful in corroborating other cost of capital methodologies. The Federal Energy Regulatory Commission, in its generic rate of return hearings, found this technique useful and indicated that under the circumstances of market-

to-book ratios exceeding unity, the cost of equity is bounded above by the expected equity return and below by the earnings-price ratio (e.g., 50 Fed Reg, 1985, p. 21822; 51 Fed Reg, 1986, pp. 361, 362; 37 FERC ¶ 61,287). The mid-point of these two parameters, therefore, produces an estimate of the cost of equity capital which, when market-to-book ratios are different from unity, is far more accurate than the earnings-price ratio alone.

Q: Is there theoretical support for the use of an earnings-price ratio in conjunction with an expected return on equity as an indicator of the cost of equity capital?

A: Yes. Elton and Gruber, Modern Portfolio Theory and Investment Analysis (New York University, Wiley & Sons, New York, 1995, pp. 401-404) provide support for reliance on the modified earnings price ratio analysis.

The Elton and Gruber text posits the following formula,

$$k = (1-b)E/(1-cb)P, \text{ where} \qquad (3)$$

"k" is the cost of equity capital, "b" is the retention ratio, "E" is earnings, "P" is market price, and "c" is the ratio of the expected return on equity to the cost of equity capital (ROE/k). This formula shows that when ROE = k, "c" equals 1.0, and the cost of equity capital equals the earnings-price ratio. Moreover, in that case, ROE is greater than "k" (as it is in today's market), "c" is greater than 1.0, and the earnings-price ratio will understate the cost of equity. Also, the more that ROE exceeds "k," the more the earnings price ratio will understate "k." In other words, those two parameters, the earnings-price ratio and the expected return on

equity (ROE), orbit around the cost of equity capital, with the cost of equity as the locus, and fluctuate so that their mid-point approximates the cost of equity capital.

Assuming an industry average retention ratio of about 30 percent (i.e., 70 percent of earnings are paid out as dividends), the stochastic relationship between the expected return (ROE) and the earnings price ratio can be determined from Equation (3), above, as shown in Table I below. Most importantly, Equation (3) shows that the average of the EPR and ROE (which is my MEPR analysis) will approximate "k," the cost of equity capital.

Table I

SUPPORT FOR THE MODIFIED EARNINGS PRICE RATIO ANALYSIS

Cost of Equity	Retention Ratio	ROE	ROE/k	Earn-Price Ratio	M.E.P.R. (ROE+EPR)/2
[1]	[2]	[3]	[4]=[3]/[1]	[5]	[6]=([3]+[5])/2
10.00%	35.00%	13.00%	1.3	8.38%	10.69%
10.00%	35.00%	12.00%	1.2	8.92%	10.46%
10.00%	35.00%	11.00%	1.1	9.46%	10.23%
10.00%	35.00%	10.00%	1.0	10.00%	10.00%
10.00%	35.00%	9.00%	0.9	10.54%	9.77%
10.00%	35.00%	8.00%	0.8	11.08%	9.54%
10.00%	35.00%	7.00%	0.7	11.62%	9.31%

[5] From Equation (3): $E/P = k(1-cb)/(1-b)$

As the data in Table I show, the average of the expected return (ROE) and the earnings price ratio (EPR) produces an MEPR estimate of the cost of common equity capital of sufficient accuracy to serve as a check of other analyses, which is how I use the model in my testimony.

Q: What are the results of your MEPR analysis for the sample group?

A: Exhibit No. SGH-11 shows the IBES projected 2015 per share earnings for each of the firms in the sample groups. Recent average market prices (the same market prices cited in the DCF analysis), and Value Line's projected return on equity for 2014 and 2017-2019 for each of the water companies are also shown.

The average earnings-price ratio for the electric utility sample group, 6.59 percent, is below the cost of equity for those companies due to the fact that their average market-to-book ratio is currently well above unity (average M/B = 1.51). The sample gas companies' 2015 expected book equity return averages 9.20 percent. For the entire gas sample group, then, the mid-point of the earnings-price ratio and the current equity return is 7.90 percent.

Exhibit No. SGH-11 also shows that the average expected book equity return for the sample of electric utilities over the next three- to five-year period is 9.67 percent. The midpoint of that long-term projected return on book equity (9.67 %) and the current earnings-price ratio (6.59 %) is 8.12 percent. Both of those results are below the cost of equity estimate provided by the DCF, indicating the DCF result may be somewhat overstated.

D. Market-To-Book Ratio Analysis.

Q: Please describe your market-to-book (MTB) analysis of the cost of common equity capital for the sample group.

A: The Market-to-Book Ratio (MTB) technique of cost of equity analysis is a derivative of the DCF model that adjusts the capital cost derived for inequalities that might exist in the market-to-book ratio. This method is derived algebraically

from the DCF model and therefore, cannot be considered a strictly independent check of that method. However, the MTB analysis is useful in a corroborative sense. The MTB seeks to determine the cost of equity using market-determined parameters in a format different from that employed in the DCF analysis. In the DCF analysis, the available data is "smoothed" to identify investors' long-term sustainable expectations. The MTB analysis, while based on the DCF theory, relies instead on different point-in-time data projected one year and five years into the future and thus, offers a practical corroborative check on the traditional DCF. The MTB formula is derived as follows:

Solving for "P" from Equation (1), the standard DCF model, we have

$$P = D/(k-g). \quad (6)$$

But the dividend (D) is equal to the earnings (E) times the earnings payout ratio, or one minus the retention ratio (b), or

$$D = E(1-b). \quad (7)$$

Substituting Equation (7) into Equation (6), we have

$$P = \frac{E(1-b)}{k-g} \quad . \quad (8)$$

The earnings (E) are equal to the return on equity (r) times the book value of that equity (B). Making that substitution into Equation (8), we have

$$P = \frac{rB(1-b)}{k-g} \quad . \qquad (9)$$

Dividing both sides of Equation (9) by the book value (B) and noting from Equation (3) that g = br+sv,

$$\frac{P}{B} = \frac{r(1-b)}{k-br-sv} \quad . \qquad (10)$$

Finally, solving Equation (10) for the cost of equity capital (k) yields the MTB formula:

$$k = \frac{r(1-b)}{P/B} + br + sv. \qquad (11)$$

Equation (11) indicates that the cost of equity capital equals the expected return on equity multiplied by the payout ratio, divided by the market-to-book ratio plus growth. Exhibit No. SGH-12 shows the results of applying Equation (11) to the defined parameters for the similar-risk electric utility firms in the comparable sample group. Page 1 of Exhibit No. SGH-12 utilizes current year (2014) data for the MTB analysis, while page 2 utilizes Value Line's 2017-2019 projections. The

MTB cost of equity for the sample of electric utility firms, recognizing a current average market-to-book ratio of 1.51 is 8.59 percent using the current year data, and 8.75 percent using projected three- to five-year data. Those point-in-time estimates are equal to or greater than the DCF equity cost estimates derived previously.

E. Summary.

Q: Please summarize the results of your equity capital cost analyses for the sample group of similar-risk companies.

A: The results of the cost of equity analyses described herein are shown below.

Table II

Method	Cost of Equity
Traditional DCF	8.65%
Mechanical DCF	8.42%
Capital Asset Pricing Model	8.37%
Modified Earnings Price Ratio	7.90%/8.13%
Market-to-Book Ratio	8.59%/8.75%

The traditional DCF, which is the most reliable indicator of the current cost of equity, indicates a cost of equity capital of 8.65 percent. The Mechanical DCF equity cost estimate is lower at 8.42 percent. The average of the corroborating analyses (CAPM, MEPR, and MTB) indicates a cost of equity ranging from 8.31 percent to 8.44 percent. That information indicates that the 8.65 percent traditional DCF result may be somewhat overstated as an estimate of the current cost of common equity capital.

Given the results described and rounding to the nearest quarter percent, a reasonable point-estimate for the current cost of common equity capital for an electric utility with risk characteristics similar to the sample group analyzed is 8.75 percent. As noted in the discussion of the economic environment, the expectation with regard to the economy and interest rates is that with a continued economic expansion, interest rates will increase over the next two years. Therefore, a reasonable range for setting equity capital cost rates ranges from 8.75 percent to 9.50 percent. The mid-point of that range is 9.125 percent.

The average bond rating of the sample group of companies used to estimate the cost of common equity is BBB+ (Standard & Poor's) and Baa1 (Moody's). Avista's bond rating is "A-"from S&P and "Baa1" from Moody's. Therefore, Avista's bond rating is slightly higher than that of the sample group. In addition, the Company's requested common equity ratio (49 %) is higher than the average common equity ratio of the sample group of companies (48 %). For these reasons, absent approval by this commission of a decoupling regulatory regime for Avista's Washington operations, a return on common equity below the mid-point established by the sample group would be appropriate. In this instance, absent the approval of decoupling by this Commission, an allowed return on common equity of 9.0 percent is reasonable for Avista's electric and gas utility operations.

Q: If the Commission elects to grant the Company's request to decouple revenues from unit sales, should the allowed return on common equity be lower than it would be under traditional regulation, i.e., if decoupling is not

allowed?

A: Yes. As I explain the next section, and in more detail in Exhibit No. SGH-19, decoupling will lower revenue volatility, which lowers the Company's operating risk. Lower risk calls for a lower allowed return.

V. EQUITY COST IMPACT OF DECOUPLING

Q: Please explain how decoupling reduces a utility's investment risk and why lowering the allowed return is necessary in order to balance the interests of ratepayers and stockholders.

A: Decoupling mechanisms decrease the operational risk of a utility. Through decoupling, the revenues determined to be necessary in the rate proceedings will be earned no matter what the kWh sales are. The utility, therefore, is far more likely to earn its allowed return and that probability is unaffected by the types of exogenous events (weather, economic downturns) that would, absent decoupling, affect the utility's revenue stream. The lower revenue volatility created by decoupling affords the utility a greater opportunity to earn its allowed return and also tends to reduce volatility in the utility's income stream.

In addition, because operating risk (the risks related to the operations of the utility) is a fundamental indicator of risk, lower operating risk also contributes to lower financial risk. For example, if operating risk is reduced to zero (i.e., if revenues and income in the future are known with absolute certainty) there is no financial risk even if the firm is capitalized with a high percentage of debt. Even in that high-debt case, the future debt service will be met because the monies available for that purpose are known with certainty and there is no probability that

debt service will not be met. In that case, then, the use of debt financing does not contribute to the investment risk of the firm. Therefore, the more certain the future revenue and income stream (the lower the operating risk) the more certain it is that firm will be able to meet its fixed financial obligations and both business (operating) and financial risk are lowered.

Decoupling will lower the Company's operating risk compared to traditional regulation. It lowers risk by helping to ensure that the revenue approved for recovery through rates will be realized—no matter how many kWh or Mcf are sold. If the Company does not sell enough kilowatt-hours to generate the promised revenues due to abnormal economic conditions, or weather, or unexpected customer conservation (or any other exogenous factor that might depress sales), rates will be adjusted so that the Company fully recovers its authorized revenue requirement. Having a fully assured revenue requirement recovery through decoupling significantly reduces the Companies' revenue volatility, which translates into more certain, less risky income stream for investors. As will be discussed in more detail subsequently, reducing the Companies' revenue volatility lowers the cost of common equity.

Revenue stabilization, through decoupling, produces significant reduction in the risk borne by investors, as discussed in detail and quantified in Exhibit No. SGH-19.

Q: Absent a reduction in the allowed return to account for the lower risk imparted by decoupling, would a shift in risk between stockholders and ratepayers occur?

A: Yes, absent a downward adjustment to the allowed return on equity there would be a shifting of risk from stockholders to ratepayers. There is no risk-shifting from the Company and its stockholders to ratepayers as long as the reduced investment risk afforded by the decoupling mechanism is recognized in the return on equity or profit the Company is allowed to earn. The decoupling mechanisms will lower the Companies' investment risk but, if the allowed returns are not reduced to recognize that lower risk, ratepayers will provide, through rates, a return on equity that overstates the Company's actual cost of capital. Moreover, in that case, stockholders will be unnecessarily advantaged by receiving an allowed return higher than that which they require and higher than the Company's cost of common equity capital.

Q: Have you undertaken an analysis to estimate the equity cost impact on Avista's Washington gas and electric operations?

A: Yes, that analysis is contained in Exhibit Nos. SGH-13, SGH-14, and SGH-19. The volatility of the net revenue stream of Avista's electric and gas operations (i.e., gross revenues less fuel expenses, which are recovered under a different regulatory mechanism) was measured over the 2000-2012 period—a period long enough to provide a normal range of revenue volatility for the Company but recent enough to be representative of Avista as it currently exists. That statistical examination of the gas and electric operations actual historical revenue volatility allowed a determination of a range three standard deviations above and below the historical net revenue trend. Given those historical results it was possible to

determine the average volatility of the net revenue streams.[13]

Due to the fact that all risk may not be captured in the analysis of historical data, a small percentage of the companies in the sample group have some sort of decoupling rate regime the analysis assumes, conservatively, that the actual historical net revenue variance will be reduced by approximately one-half by decoupling. With that assumption it was possible to calculate the reduction in probability of any extreme negative outcome occasioned by the reduction in net revenue volatility. Using the historical average rate base and capital structure, that reduction in net revenues was translated into a reduction in net income and, then, in to a percentage return on equity.

The analysis contained in Exhibit No. SGH-19 and shown in Exhibits Nos. SGH-13 and SGH-14 indicate that an appropriate ROE decrement to account for the lower risks of decoupling for Avista's Washington electric operations is approximately 50 basis points and for Avista's Washington gas utility operations is approximately 80 basis points.

Q: You indicated previously that, absent decoupling, a 9.0 percent return on equity for the Company would be reasonable. What is the appropriate return on common equity for Avista with decoupling?

A: The range I have determined for the current cost of common equity for companies similar in risk to Avista ranges from 8.75 percent to 9.50 percent. Absent decoupling, a reasonable estimate of Avista's cost of equity is 9.0 percent.

[13] I introduced the methodology used here to assess the cost of equity impact of the reduced net revenue volatility afforded by decoupling in 1992 at the NARUC 4th National Conference on Integrated Resource Planning.

Reducing that cost of equity by 50 to 80 basis points would produce a cost of equity of 8.20 percent for Avista's gas utility operations and 8.50 percent for the Company's Washington electric utility operations. However, both of those results would be below the lower end of what I believe is, currently, a reasonable range of the cost of equity capital. Therefore, I recommend that the Commission not employ the full decoupling decrement and, instead, in order to affirmatively recognize the lower risk of decoupling, allow the Company an ROE at the low end of the reasonable range—8.75 percent.

Q: Are there published studies that show that decoupling increases rather than reduces investment risk for utilities?

A: Yes. There is such a study, published in 2011 by the Brattle Group, that indicates decoupling does not reduce risk. However, the decoupling study performed by the Brattle Group is not a reliable indication of the cost of equity capital impact of decoupling. There are several reasons why the study is not a reliable basis for ratemaking:

1. The conclusion of the study, i.e., decoupling *increases* the cost of equity, is simply antithetical to modern financial theory. A reduction in revenues and earnings volatility that result from the application of decoupling will reduce operating risks. Any first-year finance student would be able to confirm that investment risk is directly related to the volatility of the income stream of that investment, because that concept is a basic tenet of finance. Yet, the Brattle Group study concludes that a reduction in volatility due to decoupling actually raises risk and investors' required

returns. That conclusion, and the study, could be disregarded on that basis alone.

2. The conclusions of the study are based on the cost of equity estimates presented in testimony by the members of the Brattle Group and, thus, do not serve as independent, unbiased, estimates subject to arms-length analysis.

3. The study is based on equity cost estimates for gas utilities, not electric utilities, and the market-traded companies included in the study were allowed to have as much as 50 percent of the earnings provided by unregulated operations. Attempting to discern small movements in cost of capital estimates for regulated operations is very difficult when the entity being examined also contains unregulated operations which are affected by different factors than the regulated operations.

4. The Brattle Group cost of equity study period encompasses the recent 2008/2009 "great recession." Any attempt to discern movements in equity capital costs due to one particular aspect of regulation would have to be characterized as difficult, at best.

5. The study includes gas companies that have varying amounts of decoupling as well as varying types of decoupling (some have full decoupling, some have "weather-related" decoupling, some have decoupling related to conservation initiatives), not all of which carry the same risk-reducing aspects. In fact, the Brattle Group study shows that 63 percent of the regulated subsidiaries included in the sample had no decoupling at all.

6. Finally, the ultimate capital cost measure used by the Brattle Group was the overall after-tax weighted-average cost of capital (ATWACC) rather than the cost of equity. Moreover, the ATWACC calculated by the Brattle Group is based on market-value capital structures and, because utility stock prices substantially exceed book values, that measure serves to exaggerate the cost of capital. Rate base/rate of return regulation is based on book values, not market values and using the latter to attempt to discern capital cost differences that may arise from changes in regulatory business risk is improper and would lead to an unreliable result.

In summary, the illogical result and questionable analysis of the Brattle Group study does not provide a reliable basis for this Commission to assess the equity cost impact of decoupling.

Q: Have other regulatory commissions lowered allowed returns to recognize the lower risks of a decoupling rate regime?

A: Yes. According to a December 2012 report by Pamela Morgan of Graceful Systems, the Commissions that have awarded an explicit reduction in the allowed return on common equity have done so within a range of 10 to 50 basis points.[14] However, as that same report points out, most of the decoupling decisions—even those where risk reduction is recognized by the parties in the proceeding—do not include an explicit reduction:

> Just over half of the time a utility has adopted decoupling, it has been as the result of commission approval of multi-party settlement agreements. It is

[14] Morgan, P., "A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs and Observations," Graceful Systems, LLC, December 2012, p. 14.

> impossible to know what the settling parties discussed in the course of reaching a settlement but one can conclude that the level of benefits to the utility and customers satisfied all signing parties. Settlements resolved the issue in favor of no ROE reduction in Arkansas, Colorado, Georgia, Idaho, Indiana, Maryland (for Washington Gas Light), Michigan (for Upper Peninsula Power), New Jersey, New York, North Carolina, Ohio, Oregon, Utah, Washington, and Wisconsin. In virtually all these cases, the commission's consideration of the issue is limited to a determination whether the settlement in its entirety is in the public interest.
>
> The next most common reason for the lack of an [explicit] ROE reduction is Commission rejection of making such an adjustment separately from all of the other considerations that result in an ROE decision. In Massachusetts, Connecticut and Hawaii, the Commissions found that decoupling reduces the utility's business risk but declined any specific quantification and considered this along with model results, comparisons to proxy companies, and other considerations such as management quality and public policy changes in choosing an ROE within the range to which experts had testified.[15]

The Morgan study also notes that, while decoupling causes rate adjustments that are both up and down, across all electric and gas utilities 63 percent of all adjustments to bring rates to authorize were surcharges and 37 percent were refunds. The surcharges to customers from decoupling outnumber the refunds two-to-one. Therefore, the shift in risk from the utility to the ratepayer afforded by decoupling, on average, causes rates to increase. That risk shift should be offset by a reduction in the allowed ROE.

[15] pp. 14-15.

As noted above, my analysis indicates that a reduction in the allowed ROE from 50 to 80 basis points is reasonable. However, in this instance, due to constraints imposed by the designated range of reasonableness for the cost of equity capital, the recommended decoupling-related ROE reduction is 25 basis points—from 9.0 percent to 8.75 percent.

Q: What is the overall return produced with your recommended return on equity of 8.75 percent?

A: Exhibit No. SGH-15 shows that with an allowed a return on common equity of 8.75 percent, and the Company's requested ratemaking capital structure consisting of 49 percent common equity and 51percent long-term debt, the after-tax overall return would be 7.05 percent. With that overall return, and assuming a 35 percent Federal tax rate, the Company would have the opportunity to achieve a pre-tax interest coverage of 3.39 times. That level of interest coverage is greater than the pre-tax interest coverage earned by the Company, on average, over the past five years (3.10x).[16] Therefore, the return I recommend balances the interests of the Company and its ratepayers, includes a decrement to recognize the lower risk of decoupling and provides the Company an opportunity to earn a return sufficient to support its financial position as called for in *Hope* and *Bluefield*.

Q: Is it reasonable to apply the reduction to the allowed return on equity when the decoupling policy is implemented?

A: Yes. The Company's risk is reduced when the manner in which the collect

[16] Avista Corporation, S.C.E. Form 10-K, 2013, Schedule 12-"Ratio of Earnings to Fixed Charges." 2009 (3.20x), 2010 (3.03x), 2011 (3.30x), 2012 (2.63x), and 2013 (3.33x); average = 3.10x.

revenues is changed. Because the cost of equity is forward-looking, or expectational, a change in ratemaking policy now portends substantial changes that will exist in the future. As such, at the point when those changes are implemented the cost of capital will change. If the ROE is not lowered concurrently with the change in revenue collection, the utility will be unnecessarily advantaged by being allowed to collect an equity return in rates that is higher than the cost of that type of capital. Ratepayers will be unnecessarily disadvantaged by providing an equity return in rates that is higher than the utility's cost of capital.

VI. COMPANY COST OF CAPITAL ANALYSIS

Q: What methods has Company witness Mr. McKenzie used to estimate the cost of equity capital in this proceeding?

A. Mr. McKenzie has based his equity return recommendation for Avista's Washington operations on a DCF analysis of a sample group of BBB-rated electric utilities. In addition, Mr. McKenzie has relied on an Empirical CAPM (ECAPM) analysis, along with a Risk Premium analysis based on allowed returns. For corroboration purposes, Mr. McKenzie also prepared a traditional CAPM analysis and a Comparable Earnings analysis, which he terms an "expected earnings approach." Finally, Mr. McKenzie also includes an analysis of the cost of equity of unregulated firms.

With those methods, Mr. McKenzie estimates the current cost of equity for Avista to be in the range of 9.50 percent to 11 percent. To that estimate, he adds 15 basis points for flotation costs to reach a recommended cost of equity

range of 9.65 percent to 11.15 percent. Within that range, the Company has selected a 10.1 percent return on common equity on which to base the rate request in this proceeding.

Mr. McKenzie's equity cost analyses suffer from flaws that cause his equity cost estimates to be overstated. I will discuss the shortcomings of each of Mr. McKenzie's cost of capital methods in the order in which they are presented in his Direct Testimony: DCF, ECAPM, Risk Premium, CAPM, Expected (Comparable) Earnings, and the DCF analysis of firms that are not rate-regulated.

A. Mr. McKenzie's DCF Analysis.

Q: What are your comments regarding Mr. McKenzie's DCF analysis?

A: Mr. McKenzie's DCF analysis of electric utility companies, shown in his Exhibit No. AMM-6, overstates the cost of equity for two primary reasons. First, his DCF results rely primarily on projected earnings growth. While, as I discussed in Section III of my testimony, sell-side analysts' projected earnings growth overstates actual long-term growth. Even though the overstatement with utility companies is less than that with unregulated firms, relying only on projected earnings growth will tend to provide a DCF cost of equity estimate that is overstated.

The fact that analysts' projected earnings growth rates overstate the cost of capital is shown on page 3 of Mr. McKenzie's Exhibit No. AMM-6. That Exhibit shows that the average of Mr. McKenzie's three earnings-centric DCF results is 9.7 percent, while the DCF result for his sustainable growth (br+sv) analysis is 8.6 percent--fully 100 basis points less.

Second, Mr. McKenzie's DCF analysis is statistically flawed. After selecting a group of similar-risk utility companies, a method for calculating a dividend yield, and a method of calculating investors' long-term expected growth (three earnings projections and one sustainable growth measure), he throws out 35 percent of the results—the vast majority (97 percent) of which are low. This is not a statistically reliable method of analysis. Once the companies are selected and the analyst chooses the methodology, the analyst is not free to simply select results to exclude. It changes the analytical results, post-hoc, and effectively changes the sample group making it different for every growth rate selected, skewing the results. Finally, when 97 percent of the DCF results eliminated are "low" results, the estimate is skewed upward by analyst intervention and is no longer reliable.

The fundamental reason that an analyst utilizes a large number of similar risk companies is that random errors in the estimation process—both high and low—will tend to off-set and the average result will be more likely to equal the cost of equity capital. However, when the analyst is able to pick and choose the results he or she prefers after the analysis has been completed, the analysis ceases to be statistically reliable.

The actual average DCF result for all the utility companies in Mr. McKenzie's Exhibit No. AMM-6, i.e. adding up all the DCF results and dividing by the number of companies, is 8.0 percent. The DCF result Mr. McKenzie reports to the Commission, after excluding 35 percent of the DCF estimates (97 % of which are lower than the average), is 9.4 percent.

Q: Isn't it reasonable to eliminate results that are below current "BBB" bond ratings?

A: While that adjustment seems reasonable, if imposed after-the-fact (i.e., after the analysis has been implemented), then the result of creating a "low cut off" is simply to skew the results upward by relying only on selected higher results. The average result created by the original sample of companies and the original selected growth rates are changed by the post-hoc decision to eliminate the low results.

However, it is possible to eliminate results that are below current "BBB" bond yields in a statistically reliable fashion. If the low cut-off is paired with a high cut-off that is statistically equi-distant from the sample average, then the sample results are truncated in a reliable fashion, which would produce a more statistically reliable result.

For example, the standard deviation of all of Mr. McKenzie's DCF results is 3.36 percent. As noted the average DCF result of all the companies in his sample group is 8.0 percent. If we subtracted one-half of one standard deviation unit (3.36%/2 = 1.68%) from the average DCF result (8.0 percent) to create an above-debt-cost cut-off, that would indicate that all DCF results above 6.32 percent would be included in the average (8.0% - 1.68% = 6.32%). Using that same statistical measure (1/2 of one standard deviation unit, or 1.68 %) added to the original average (8.0 %) to form an upper cut-off, would produce an upper limit of acceptable DCF results of 9.68 percent (8.0% + 1.68%). Adding up all of Mr. McKenzie's DCF results between 6.32 percent and 9.68 percent and dividing

by the number of companies (60) yields an average DCF result of 8.10 percent. That result would be statistically sound; Mr. McKenzie's reported DCF results are not.

Mr. McKenzie's DCF analysis of his electric utility sample utilizes a lower cut-off but does not utilize an upper bound cut-off, and the analysis is made to produce a higher result that does not represent the centrality of the DCF results he presents. While Mr. McKenzie does eliminate one extremely high result (25.6%) he elects to include DCF results of 14.5 percent, 12.0 percent, 12.5 percent, 12.2 percent, 11.7 percent and 11.4 percent in his DCF averages. Those results are 350 basis points or more higher than the actual average DCF (8.0%), while his cut-off for "low" results is 7.4 percent, only 60 basis points below the sample average DCF. Mr. McKenzie's DCF results are overstated and statistically unreliable.

Q: Are there other aspects of Mr. McKenzie's DCF analysis in this proceeding that you believe are overstated or misleading?

A: Yes. Mr. McKenzie reports a "midpoint" result along with his DCF averages. The "midpoint" results are approximately 100 basis points higher than Mr. McKenzie's DCF results, which, as noted above, are exaggerated.

Both the "midpoint" in Mr. McKenzie's analysis as well as his average, it is important to recall, are based on results that he has substantially altered by eliminating results that are "too low." Therefore, the "midpoint," which he calculates as the average of the highest DCF result and lowest (remaining) DCF

result does not measure the actual midpoint of the sample. Rather it measures the midpoint of the truncated sample, altered to remove low results.

In addition, the mid-point is actually the result of Mr. McKenzie's DCF analysis of only two companies. It is reasonable to believe that Mr. McKenzie selected a sample group of 25 electric utilities in order that his cost of equity results would be more statistically reliable that an analysis of one or two companies. Yet, his "midpoint" results, which he displays as the upper part of his DCF range, is the average of only two results—far less reliable information.

If Mr. McKenzie were looking for a reliable indication of the centrality of his DCF results that is different from his average, the median, or middle value, has the advantage of using all the DCF results and providing an alternate measure of the "middle" of those data. The median results for Mr. McKenzie's unadjusted DCF results are: 8.5 percent (Value Line), 7.8 percent (IBES), 8.3 percent (Zacks), and 8.0 percent (br + sv). The overall average median or middle value of Mr. McKenzie's DCF results is 8.14 percent.

B. Mr. McKenzie's Empirical CAPM Analysis.

Q: What are your comments regarding Mr. McKenzie's Empirical Capital Asset Pricing Model?

A: The "Empirical" CAPM (ECAPM) is designed to account for the fact that the Capital Market Line (the general risk/return relationship that forms the basis of asset pricing theory) is believed to have a lower slope than postulated theoretically. A lower slope for the Capital Market Line implies that the traditional CAPM understates the equity cost rate for low beta stocks like utilities

and over-estimates the equity cost rate for high beta stocks like "dot-com" companies. While that theory may have some validity, a primary flaw in Mr. McKenzie's ECAPM analysis is that he uses "adjusted" betas in his ECAPM analysis while the research on the "low slope" theory on which the ECAPM is grounded is based on betas that are not adjusted.

Beta estimates published by Value Line are adjusted for the theoretical tendency for beta coefficients to migrate toward the market average of 1.0. "Adjusted" betas are higher for low-beta stocks like utilities and lower for high-beta stocks like "dot-com" companies. In other words, when low betas are adjusted upward and high betas are adjusted downward, that has the same effect as lowering the slope of the Capital Market Line, i.e., raising the cost of equity estimate for low-beta stocks like utilities. Therefore, by using "adjusted" betas along with an ECAPM analysis, Mr. McKenzie has double-counted the effect of changing the slope of the Capital Market Line.

While the ECAPM "slope" adjustment and the Value Line beta adjustment originate from different theoretical underpinnings, they have the same ultimate effect on the cost of equity estimate for utilities—raising it. Increasing low betas and lowering high betas (the result of Value Line's bayesian beta "adjustment"), works to effectively lower the slope of the Capital Market Line, which is also the result of the ECAPM. Therefore, Mr. McKenzie is incorrect to assume that using adjusted betas in an ECAPM calculation does not double-count the Capital Market Line slope-lowering effect—it does. Using adjusted betas in an ECAPM calculation results in an overstated cost of equity estimate.

For example, the average Value Line adjusted beta coefficient of the 25 electric companies in Mr. McKenzie's sample is 0.74. The average beta published by Zacks (an investor service also used as representative of investor opinion by Mr. McKenzie in his cost of equity analysis in this proceeding) is 0.44. Substituting Zack's beta coefficients in Mr. McKenzie's Exhibit No. AMM-8–and changing nothing else—produces an ECAPM equity cost estimate of 8.8 percent.

Q: Are there other aspects of Mr. McKenzie's ECAPM that cause his results to be overstated?

A: Yes. Mr. McKenzie's market risk premium of 8.5 percent is overstated. As I noted in Section III of my testimony, the long-term historical difference between the return on common stocks and the return on long-term Treasury bonds ranges from 4 percent to 6 percent, depending on the averaging technique used to measure the difference, according to the data published by Morningstar (formerly Ibbotson Associates, a source also used by Mr. McKenzie). If one compares the return on stocks to the yield on bonds the higher (arithmetic) average of the return difference is 6.7 percent. That measure of the historical market risk premium is somewhat overstated because it is based on an apples-to-oranges comparison of an earned return on equity to a bond yield. Even if we ignore that technical miss-match for purposes of getting a perspective on the magnitude of the overstatement in Mr. McKenzie's market risk premium, the historical record from 1926 through 2010 indicates that a range of 4 percent to 6.7 percent is the difference between stock returns and bond returns/yields that investors can expect. Mr. McKinsey apparently believes that 85 years of actual market returns are no longer indicative

of investor expectation, and instead, relies on his own market risk premium estimates of 8.5 percent, which are 200 to 450 basis points higher than has existed historically in the U.S.

Much of the market risk premium discussion in the literature of financial economics over the past two decades has supported the notion that investor's market risk premium expectations are *below* those long-term historical averages (4%-6.7%) published by Morningstar. Confirming the fact that investors expect the market risk premium to be lower than it has been historically is the quarterly survey of corporate finance officers undertaken by Duke University and *CFO Magazine*, under the direction of Professors John Graham and Campbell Harvey—finance professors at Duke and former co-editors of the *Journal of Finance*. The latest (March 2014) publication of that survey indicates that corporate chief financial officers believe that long-term (10-year) returns for the S&P 500 will be approximately 6.5 percent. With a current T-Bond yield of 3.5 percent, that expected S&P return implies a market risk premium of 3 percent—at the lower end of historical averages.

Q: Is Mr. McKenzie's estimate of the expected market return in his ECAPM based on the same DCF methodology used in his DCF analysis of the cost of equity?

A: No. In his DCF analysis, Mr. McKenzie used projected dividend, earnings (three sources) and sustainable growth rates to determine investor-expected long-term growth for the companies in his utility sample group. In his ECAPM analysis, he utilizes a DCF analysis to estimate the expected return on the S&P 500, but uses

only projected earnings growth from one source. As I noted previously in my discussion of DCF growth rates, sole reliance on projected earnings growth can result in overstated equity cost estimates, and the earnings projections for unregulated companies (those included in the S&P 500) are significantly overstated. Judging from the disparity between Mr. McKenzie's S&P 500 return estimate (12.4%) and that evidenced in the recent survey of Chief Financial Officers, referenced above, (6% to 7%), Mr. McKenzie's DCF results for the S&P 500, and therefore his market risk premium and his CAPM results, are overstated.

Q: Mr. McKenzie's ECAPM also contains a "size risk" adjustment. Is that necessary?

A: No, it is not. Mr. McKenzie elects to increase his ECAPM equity cost estimate by 100 basis points due to a size risk adjustment based on the historical evidence published in Morningstar that small firms have earned higher returns than large firms historically. It is interesting to note that, while Mr. McKenzie elects to rely on the long-term historical evidence that smaller firms have earned greater returns than large firms, he also elects to ignore the long-term market risk premium information published by the same source—Morningstar (Ibbotson Associates). However, there are several problems with applying a size risk adjustment to a utility operation.

First, the evidence on which the "size effect" logic is based (the historical return difference between large and small companies) suffers from "survivor bias." The studies that posit the existence of a consistently higher return for small companies (e.g., Morningstar/Ibbotson data) are based on broad market indices

such as the New York Stock Exchange (NYSE) Index. In order for a small company to break into a national stock index like the NYSE it has to be *very* successful. Therefore, it is reasonable to believe that the returns of the small companies being measured—the ones that ultimately get to be listed—are considerably higher than the returns of the many small firms that were not successful enough to be listed on the NYSE or failed altogether. There are many firms that succeed but don't make it to the "big board" as well as many firms that fail and go out of business. The returns of those less successful companies are not measured in the data set that forms the basis of the size premium theory, but surely must be considered possible outcomes for investors. Therefore, simply measuring the returns of the very successful small companies—a subset of the actual returns—does not accurately portray investor expectations with regard to small companies.

Second, the "size effect" is also called the "January effect" because virtually all of the small stock effect occurs only in the month of January.[17] This is a truly puzzling phenomenon, which, to my knowledge, has escaped definitive explanation. However, an article in the December 2006 edition of the *Journal of Finance* indicates that the January/small firm effect is due to year-end tax loss selling and subsequent re-purchasing in January, the beginning of the next tax year.[18] In other words, it is reasonable to assume that the "small firm effect" is due to brokers selling "losers" before the end of the year for tax purposes and re-

[17] Ibbotson Associates, 2001 SBBI Yearbook, p. 138.
[18] Starks, L., Yong, L., Zhen, L., "Tax-Loss Selling and the January Effect: Evidence from Municipal Bond Closed-End Funds," Vol. 61, No. 6, pp. 3049-67.

balancing portfolios at the beginning of the next tax year—not firm size. Therefore, the "excess" returns that "size risk" proponents claim are attributable only to firms' size are also equally attributable to the month of January. If those data support regulatory action, then a return premium for a "small" firm would only be appropriate one month of the year—January. Of course, that would be neither a reasonable nor a manageable course of action.

Third, the "size effect" has been extremely variable over the past 80 years, occurring in one period and not occurring in the next and more importantly, has disappeared over the past twenty years. On page 157 of its 2005 Valuation Edition of Stock, Bonds, Bills and Inflation, Ibbotson Associates indicates that over several of the most recent 20-year rolling periods, "small capitalization stocks have *not* outperformed large-capitalization stocks." In other words, in the most recent economic environment large company stocks have earned higher returns than small company stocks. Therefore, for more than the past 20 years, the "size effect" has apparently been on hiatus. This fact is confirmed in the Dimson, et al, recent textbook, Triumph of the Optimists:

> The 'discovery' of the size effect in the United States by Banz (1981) and Reinganum (1981), and the publication and dissemination of their research, lead to considerable interest in small-caps among investors in the United States. This spurred the launch of significant new small-cap investment vehicles led by Dimensional Fund Advisors, who raised several billion dollars within a couple of years of their 1981 launch. This honeymoon period lasted for approximately two years, until the end of 1983, and during much of this period, US small-caps continued to

> outperform. But subsequently, and over much of the period since, US small-caps have underperformed.[19]

Fourth, the unreliability of the "size effect" (also called the small-firm effect) is also confirmed in the financial literature:

> This response to the small-firm effect is of particular interest because the small-firm effect has been called too time-period specific and overly dependent on the month of January for high returns. As an example of the time-period specificity, research has found that between 1975 and 1983, small-capitalization stocks averaged a 35.3 percent annual return, more than twice the 15.7 percent return of large-cap stocks. During the same time period, compounded total returns on small-cap stocks exceeded 1,400 percent [footnote omitted]. However, from 1984 to 1997, small-cap stocks (as defined by Ibbotson and Associates 1998) increased by 526.9 percent while large-cap stocks (S&P 500) were up 902.8 percent. When one strips the 1975-83 period out of the Ibbotson and Associates data, small-cap stocks *fell* one-third below large-cap stocks from 1926 through 1997.[20]

Fifth, the types of analyses performed by scholars that study the "size effect" examine market aggregates without regard to whether or not the companies included are from regulated or competitive industries. Even if one assumes the "size effect" were a valid theory, research has shown that it does not apply to regulated utility operations.[21] Mr. McKenzie's addition of 100 basis points to his ECAPM results due to "size risk" is unnecessary.

[19] Dimson, Marsh, Staunton, Triumph of the Optimists: 101 Years of Global Investment Returns, Princeton University Press, Princeton NJ, 2002, p. 131.
[20] Block, S. B. "A Study of Financial Analysts: Practice and Theory," Association for Investment Management and Research, July/August 1999, pp. 86-92.
[21] Wong, A., "Utility Stocks and the Size Effect: An Empirical Analysis," *Journal of the Midwest Finance Association*, 1993, pp. 95-101; Davidson, Ferris, Reichenstein, "A Note on the Relationship Between Firm Size and Return in the Electric Utility Industry", *Journal of Accounting, Auditing & Finance* Vol. 8, Issue 3 (Summer 1993), pp. 193-202.

C. Mr. McKenzie's Allowed Return Risk Premium Analysis.

Q: The third primary methodology used by Mr. McKenzie to estimate the cost of equity is an historical risk premium based on allowed returns for electric utilities and utility bond yields. What are your comments regarding that analysis?

A: Mr. McKenzie's Allowed Return Risk Premium compares historical allowed equity returns to annual average utility bond yields. Over the past 40 years, Mr. McKenzie's Exhibit No. AMM-9, page 3, shows that allowed equity returns have exceeded current bond yields by 3.53 percent. Therefore, with current BBB-rated utility bond yields at approximately 4.72 percent[22], Mr. McKenzie's historical risk premium of 3.53 percent indicates a cost of equity of 8.25 percent. However, Mr. McKenzie concludes that a negative correlation exists between current bond yields and risk premiums and, due to that relationship, imputes a larger (4.59%) risk premium to reach an equity cost estimate of 11.19 percent (based on a projected utility yield of 6.60%).[23]

It is important to understand at the outset that the annual cost rate differences between the allowed returns and utility bond yields are not necessarily reliable indicators of investor-expected risk premiums. First, the allowed returns are simply averaged over all the available rate case decisions during a calendar year. That means that the capital market data that the regulatory body considered was drawn from a time prior to the decision rendered and the allowed return

[22] Value Line *Selection & Opinion*, 20-year BBB-rated Utility Bond Yields, most recent six-week average (Apr. 11, through May 16, 2014).
[23] Exhibit No. AMM-9, p. 2 of 4.

might not correlate with decision-time-specific macro-economic events. In some cases, that period of time between the hearing and the decision can be substantial.

Second, the allowed return can overstate the cost of capital, and given the fact that the market price of electric utilities over the time period studied by Mr. McKenzie has been substantially above book value, it is reasonable to believe that allowed returns have overstated the actual cost of equity. Therefore, equity cost estimates based on that history produce results that are similarly overstated.

Third, the relative risk of the utility for which the equity return was determined is not a factor in Mr. McKenzie's analysis. His allowed return data is drawn from Regulatory Research Associates. For example, that publication shows a median allowed return for electric utilities in 2006 of 10.25 percent.[24] However, that figure includes an allowance of 11.90 percent for a wind-generating facility for Mid-America Energy. Clearly an allowed return for a generating facility is not a metric that should be used to determine the cost of capital in this proceeding. Yet, those sorts of data are included in Mr. McKenzie's allowed return risk premium.

Fourth, while the inclusion of an outlier may not be problematic in years in which there are many rate case decisions, that would not be the case in years in which the number of decisions is small. Also it is reasonable to believe that changes in the regulatory structure in some states over the past 35 years have complicated historical data comparability.

[24] Regulatory Research Associates, "Regulatory Focus, Major Rate Case Decisions—January 2005-December 2006, Supplemental Study."

Q: You noted that Mr. McKenzie places emphasis on a negative correlation between bond yields and risk premiums in reaching his Risk Premium equity cost estimate. Please comment on that issue.

A: Mr. McKenzie subtracts average bond yields for utilities from the equity returns allowed utility companies over the past 40 years. Then, through a regression analysis, he posits a relationship between bond yields and risk premiums and uses that relationship, with the current cost of debt, to estimate the Company's cost of equity. Aside from the problems that exist generally with the data used in the analysis, as noted above, there are additional problems with this particular approach. Those problems illustrate that Mr. McKenzie's adjustments to historically-derived risk premiums are not reliable for equity cost estimation purposes.

Although Mr. McKenzie's regression analysis shows a relatively strong correlation between risk premium and bond yields ($r^2 = 0.84$, i.e. 84% of the risk premium variation is explained by the variation in bond yields), that is not surprising because the resultant risk premium is a direct arithmetic function of the prevailing bond yield and a high correlation would be expected.

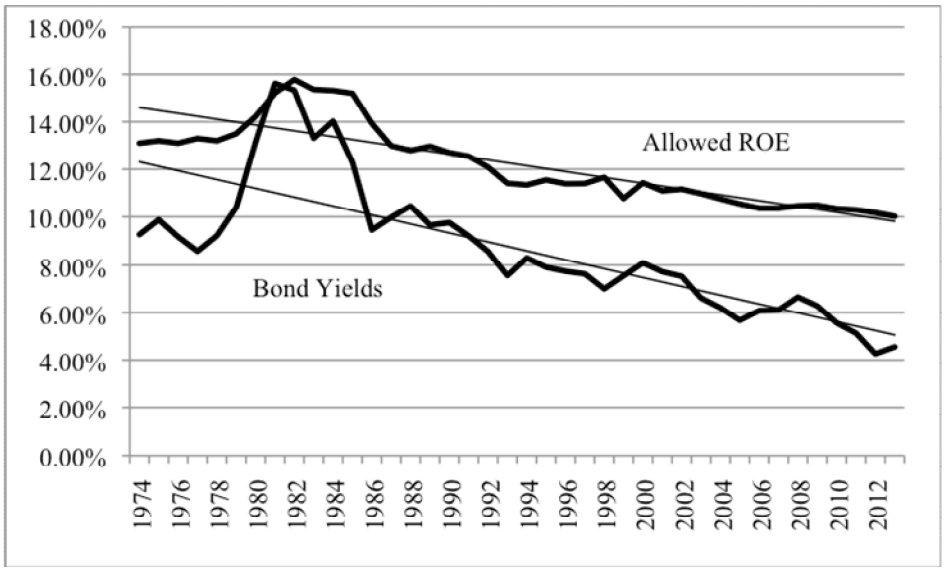
Also, while Mr. McKenzie's review of allowed returns for utilities shows a negative correlation with bond yields, as shown in Chart IV below, what Mr. McKenzie's risk premium regression analysis has actually captured is simply the tendency of regulatory allowed returns to move more slowly than aggregate bond yield changes—regulatory caution, if you will. As shown in Chart IV, the downward trend in allowed ROEs has been slower than the downward trend in

fundamental capital costs (bond yields). Moreover, regulatory caution is also seen in the early portion of Mr. McKenzie's risk premium study period (1974-1983) when interest rates were rising. There too, regulators' allowed returns lagged the interest rate changes, just as they have done since the mid-1980s when U.S. interest rates began their long-term decline. Therefore, Mr. McKenzie's regression analysis has simply captured regulators' cautionary approach to changing allowed returns rather than any fundamental stochastic relationship between investor-required risk premiums and bond yields.

Chart IV

Allowed ROE and Utility Bond Yields

Data From Mr. McKenzie Exhibit No. AMM-9



Q: Is there other, more recent evidence that counters Mr. McKenzie's assumption that expected risk premiums vary inversely with interest rates?

A: Yes. In discussing the witness' ECAPM analysis, I mentioned an on-going survey by professors at Duke University. Professors John Graham and Campbell

Harvey, in conjunction with *CFO Magazine* have, since 1999, polled corporate financial officers regarding their expectations for the expected market risk premium. In addition to the fact that Graham and Harvey found risk premiums to range from 2.5 percent to 4.5 percent (well below the historical risk premiums used by Mr. McKenzie), they also found that the expected risk premium varies directly with interest rates. That is, as interest rates decline, so too do expected risk premiums. Therefore, there is recently published evidence in the financial literature that counters Mr. McKenzie's historical analysis, which indicates risk premiums increase when interest rates decline.

Finally, in some respects, the notion of risk premiums varying inversely with interest rates is counter-intuitive. Let's assume that investors require a 4 percent premium to invest in utility stocks in today's capital market environment with utility bonds at 5.0 percent. Now, suppose some dramatic international event occurred that caused economic turmoil and sent utility bond yields to their 1982 levels of almost 16 percent. In that extremely unstable economic environment—in which investors have to be induced to invest in utility bonds by means of a 16 percent return—it is simply not logical to believe that the risk premium investors require for common stocks in that environment would *decline*. Yet, that is the foundation of Mr. McKenzie's thesis here. With the added uncertainty and higher interest rates, it is reasonable to believe that investors would require increased risk premiums. That logic is confirmed in the Graham and Harvey studies cited above.

Q: Does this complete your comments on Company witness Mr. McKenzie's primary analyses?

A: Yes, it does. However, Mr. McKenzie also elects to add an additional 15 basis points to his equity cost estimates for flotation costs.

Q: Is an explicit adjustment to the market-based cost of equity capital for flotation costs necessary?

A: No. An explicit adjustment to the allowed return on common equity for flotation costs is inappropriate. First, it is often said that flotation costs associated with common stock issues are like flotation costs associated with bonds (e.g., McKenzie Exhibit AMM-1T, p. 36). That is not a correct statement, however, because bonds have a fixed cost and common stock does not. Moreover, the current relationship between the electric utility sample group's stock price and its book value would indicate a flotation cost reduction to the market-based cost of equity, not an increase. For example, when a bond is issued at a price that exceeds its face (book) value, and that difference between market price and the book value is greater than the flotation costs incurred during the issuance, the embedded cost of that debt (the cost to the company) is *lower* than the coupon rate of that debt.

In the current economic environment for the electric utility common stocks studied to determine the cost of equity in this proceeding, those stocks are selling at a market price approximately 50 percent above book value.[25] The difference between the market price of electric utility stock and book value is

[25] Exhibit No. SGH-4 at p. 1.

larger than any issuance expense the companies might incur. If common equity flotation costs were considered to be like flotation costs with bonds and if an explicit adjustment to the cost of common equity were, therefore necessary, then the adjustment should be downward, not upward.

Second, flotation cost adjustments are usually predicated on the prevention of the dilution of stockholder investment. However, the reduction of the book value of stockholder investment due to issuance expenses can occur only when the utility's stock is selling at a market price at or below its book value. As noted, the companies under review are selling at a substantial premium to book value. Therefore, every time a new share of that stock is sold, existing shareholders realize an *increase* in the per share book value of their investment. No dilution occurs, even without any explicit flotation cost allowance.

Third, the vast majority of the issuance expenses incurred in any public stock offering are "underwriter's fees" or "discounts." Underwriter's discounts are not out-of-pocket expenses for the issuing company. On a per share basis, they represent only the difference between the price the underwriter receives from the public and the price the utility receives from the underwriter for its stock. As a result, underwriter's fees are not an expense incurred by the issuing utility and recovery of such "costs" should not be included in rates.

In addition, the amount of the underwriter's fees are prominently displayed on the front page of every stock offering prospectus and, as a result, the investors who participate in those offerings (e.g., brokerage firms) are quite aware that a portion of the price they pay does not go to the company but goes, instead,

to the underwriters. By electing to buy the stock with that understanding, those investors have effectively accounted for those issuance costs in their risk-return framework by paying the offering price. Therefore, they do not need any additional adjustments to the allowed return of the regulated firm to "account" for those costs.

Fourth, research has shown that a specific adjustment for issuance expenses is unnecessary.[26] There are other transaction costs which, when properly considered, eliminate the need for an explicit issuance expense adjustment to equity capital costs. The transaction cost that is improperly ignored by the advocates of issuance expense adjustments is brokerage fees. Issuance expenses occur with an initial issue of stock in a primary market offering. Brokerage fees occur in the much larger secondary market where pre-existing shares are traded daily. Brokerage fees tend to increase the price of the stock to the investor to levels above that reported in the Wall Street Journal, i.e., the market price analysts use in a DCF analysis. Therefore, if brokerage fees were included in a DCF cost of capital estimate they would raise the effective market price, lower the dividend yield and lower the investors' required return. Under a symmetrical treatment, if transaction costs that, supposedly, raise the required return (issuance expenses) are included, then those costs that lower the required return (brokerage fees) should also be included. As shown by the research noted above, those transaction costs essentially offset each other and no specific equity

[26] "A Note on Transaction Costs and the Cost of Common Equity for a Public Utility," Habr, D., National Regulatory Research Institute Quarterly Bulletin, January 1988, pp. 95-103.

capital cost adjustment is warranted.

D. Mr. McKenzie's Corroborative Methodologies.

Q: What other methods has Mr. McKenzie used to estimate the cost of equity capital in this proceeding?

A: In addition to the methods outlined above, Mr. McKenzie has used a traditional CAPM analysis, a Comparable Earnings analysis, which he terms an "expected earnings analysis," and a DCF analysis of unregulated companies. I will comment briefly on each method.

Q: What are your concerns with Mr. McKenzie's standard CAPM?

A: While Mr. McKenzie's standard CAPM does not suffer the problem of double counting the shift in the Capital Market Line endemic to his ECAPM analysis, and, therefore, produces results about 80 basis points less, it still contains the exaggerated market risk premium and an unnecessary adjustment for "size risk." Both of those factors, for the reasons previously stated in my discussion of Mr. McKenzie's ECAPM, result in significant overstatements of the current cost of equity capital. For example, if the market risk premium in Mr. McKenzie's standard CAPM were 6.7 percent (the highest recommended by Morningstar) the result of his CAPM analysis, with out any adjustment for size risk would be 8.8 percent--far below the 11.1 percent to 11.2 percent he reports in Exhibit No. AMM-10.

Q: What are your comments on Mr. McKenzie's "expected earnings" approach?

A: Mr. McKenzie's Expected Earnings Approach is simply an average of Value Line's projected 2016-2018 accounting return for each of his electric utility sample group companies. These accounting returns do not represent the market-based cost of capital. As I have discussed, when market prices of utility stocks are above book value, the expected return on common equity (the accounting returns that Mr. McKenzie has averaged) will overstate the cost of common equity. A simple example will explain why that is the case.

Assume a utility has a $10/share book value and is expected to earn $1 in the coming year for a return on book value of 10 percent. If investors require a 10 percent return for that type of stock they would be willing to pay a market price of $10 for that stock. In that case, the accounting return (10% ROE) is equal to the investors' required market return (10% Cost of Equity) and the market price of the stock ($10/share) is equal to the book value ($10/share).

Now assume our utility was expected to earn $2/share in the next year. The book value is still $10/share and the expected accounting return (ROE) is 20 percent. If investors still require a 10 percent return, the market price will be bid up through arbitrage until it reaches $20/share, at which point the investors' will earn their required return. At that point, the accounting return (20% ROE) is substantially greater than the required market return (10% Cost of Equity) and the market price ($20/share) is twice the book value ($10/share).

This latter case more closely represents the current market conditions for Mr. McKenzie's sample group of electric utilities. According to the April 2014 edition of AUS Utility Reports, the current average stock price of Mr.

McKenzie's electric utility sample group is 55 percent higher than the book value of those companies, i.e. the current market-to-book ratio of those companies is 1.55. The average expected return on equity (Value Line's projected accounting return for the 2016-2018 period) for those companies is 9.4 percent (according to Mr. McKenzie's Exhibit No. AMM-11. If investors are providing stock prices for Mr. McKenzie's companies that are 55 percent *higher* than book value, and those companies are expected to earn a 9.4 percent return on book value, the investor *cannot* expect to earn that 9.4 percent return. He or she must expect to earn a return on the market price paid for those companies and, if the market price is higher than book value, which it is, that return will be *below* 9.4 percent. Because the cost of equity capital is the investors' required market-based return, the cost of equity capital must also be below the 9.4 percent projected accounting return. Mr. McKenzie's Expected Earnings Analysis overstates the current cost of equity for his electric utility sample group, and serves to confirm the reasonableness of the range of the current cost of equity I provide in this testimony—8.75 percent to 9.50 percent.

Q: Mr. McKenzie's final corroborative method consists of a DCF analysis of unregulated companies. Does that analysis provide a useful corroborative estimate of the cost of equity of Avista's Washington utility operations?

A: No. In his testimony in this proceeding, Mr. McKenzie has included a DCF analysis of the cost of equity of unregulated industrial companies like Colgate-Palmolive, food service companies like McDonald's and the discount chain store Walmart.

While Mr. McKenzie elects to screen these competitive companies with risk criteria that are similar, on average, to utilities (e.g., beta, bond rating), no individual risk measure is a perfect indicator of relative investment risk for different types of companies. For example, a regulated and an unregulated company may have a similar bond rating, but the unregulated company, due to much higher business risk, will have to carry a very high common equity ratio to earn an investment grade bond rating. But that similar bond rating does not mean those two companies have similar equity investment risk (which is Mr. McKenzie's assumption).

One important risk factor left out of Mr. McKenzie's selection process is market share. Avista's Washington operations enjoy very large market shares in their service territories, while the competitive companies in Mr. McKenzie's sample group, like McDonald's, do not enjoy such protection. For example, one could buy lunch at McDonald's or, very easily, some other type of food from many other companies to satisfy one's hunger. However, when one flips on the light in the morning in Spokane—one's options as to the source of that electricity are very limited. The point is clear: Mr. McKenzie's sample group of unregulated firms is not comparable in competitive risk and, therefore, overall investment risk to Avista or any of the other utilities in Mr. McKenzie's similar-risk utility sample group. An analysis of the cost of equity of unregulated companies does not offer the Commission any information that would be useful in its determination of the appropriate return to be allowed for rate-setting purposes for Avista's Washington operations in this proceeding.

Q: Does that conclude your discussion of Company witness Mr. McKenzie's cost of equity analysis, Mr. Hill?

A: Yes, it does.

Q: Please summarize your testimony.

A: Using standard market-based methodologies applied to the market data of a sample group of utilities similar in risk to Avista's electric and gas utility operations, I have determined that the current cost of equity falls in the range of 8.75 percent to 9.50 percent. Due to Avista's lower financial risk, it's cost of equity capital, without decoupling should be below the mid-point for the group and 9.0 percent is reasonable in that regard.

My analysis also shows that a revenue decoupling regulatory regime will significantly reduce the Company's revenue and income volatility and will result in a reduction in the cost of common equity ranging from 50 to 80 basis points. Because the application of an ROE decrement of that magnitude to the current cost of common equity would place the Company's ROE is a range below that which I have determined to be reasonable, if decoupling is allowed, the Company's allowed return should be moved to the lower end of the reasonable range, or 8.75 percent. That equity return effectively imputes a reduction in the allowed ROE for Avista of 25 basis points for decoupling.

Using a current cost of equity of 8.75 percent in conjunction with the Company's requested capital structure and embedded cost of debt indicates a reasonable overall return of 7.05 percent. That overall return affords the

Company an opportunity to achieve a level of interest coverage similar to that which it has realized over the past five years and will, therefore, be supportive of its financial position.

Finally, my testimony analyzes the cost of capital testimony of Company witness Mr. McKenzie and details several problems in that testimony. Chief among them is Mr. McKenzie's after-the-fact adjustment of his results, which increases his ROE recommendation while simultaneously making those results less statistically reliable. Mr. McKenzie's cost of equity estimate is overstated and should not serve as a basis for setting the equity return to be included in rates in this proceeding.

Q: Does this conclude your testimony?

A: Yes, it does.