**BEFORE THE**

**WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

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| WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant,v.AVISTA CORPORATION, DBAAVISTA UTILITIES,Respondent. | ))))))))))))) | DOCKETS UE-160228 andUG-160229 (*Consolidated*)  |

**RESPONSE TESTIMONY OF MICHAEL P. GORMAN**

**ON BEHALF OF**

**THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES**

**August 17, 2016**

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**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

**A.** Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

**Q. WHAT IS YOUR OCCUPATION?**

**A.** I am a consultant in the field of public utility regulation and a Managing Principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

**A.** These are set forth in Exhibit No. MPG-2.

**Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

**A.** I am appearing on behalf of the Industrial Customers of Northwest Utilities (“ICNU”), an association of large industrial businesses, some of whom are customers of Avista Corporation (“Avista” or the “Company”).

**Q. WHAT IS THE PURPOSE OF YOUR RESPONSE TESTIMONY?**

**A.** My testimony will address the current market cost of equity, and resulting overall rate of return, for Avista. In my analyses, I consider the results of several market models and the current economic environment and outlook for the electric utility industry as well as the financial integrity of Avista given my recommended return on equity and overall rate of return.

I will also respond to Avista witness Mr. Adrien McKenzie’s recommended return on equity range of 9.93% to 10.93% and Avista’s requested return on equity of 9.90%.

The fact that I do not address any particular issue should not be interpreted as tacit approval of any position taken by Avista.

# I. SUMMARY

**Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

**A.** I recommend the Washington Utilities and Transportation Commission (the “Commission”) award a return on common equity of 9.10%, which is the midpoint of my recommended range of 8.70% to 9.40%. My recommended return on equity will fairly compensate Avista for its current market cost of common equity, and it will mitigate the claimed revenue deficiency in this proceeding by fairly balancing the interests of all stakeholders.

**Q. WHAT IS YOUR RECOMMENDED OVERALL RATE OF RETURN?**

**A.** Based on my recommended return on equity of 9.10%, and the Company’s embedded cost of debt and capital structure, I recommend an overall rate of return of 7.25% as developed on my Exhibit No. MPG-3.

# II. RATE OF RETURN

**Q. PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.**

**A.** In this section of my testimony, I will explain the analysis I performed to determine the reasonable rate of return in this proceeding and present the results of my analysis. I begin my estimate of a fair return on equity by reviewing the authorized returns approved by the regulatory commissions in various jurisdictions, and the market assessment of the regulated utility industry investment risk, credit standing, and stock price performance. I used this information to get a sense of the market’s perception of the risk characteristics of regulated utility investments in general, which is then used to produce a refined estimate of the market’s return requirement for assuming investment risk similar to Avista’s utility operations.

 As described below, I find the credit rating outlook of the industry to be strong, supportive of the industry’s financial integrity, and access to capital. Further, regulated utilities’ stocks have exhibited strong price performance over the last several years, which is evidence of utility access to capital.

 Based on this review of credit outlooks and stock price performance, I conclude that the market continues to embrace the regulated utility industry as a safe‑haven investment and views utility equity and debt investments as low-risk securities.

# II.A. Electric Industry Authorized Returns on Equity,

#   Access to Capital, and Credit Strength

**Q. PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN AUTHORIZED RETURNS ON EQUITY FOR ELECTRIC UTILITIES, ELECTRIC UTILITIES’ CREDIT STANDING, AND ELECTRIC UTILITIES’ ACCESS TO CAPITAL TO FUND INFRASTRUCTURE INVESTMENT.**

**A.** Authorized returns on equity for electric utilities have been steadily declining over the last 10 years as illustrated in the graph below. More recent authorized returns on equity for electric utilities have declined down to about the 9.6% to 9.5% area, which approaches the high-end of my recommended range in this proceeding.



 As illustrated on the graph above, excluding the Virginia rider decisions and limited issue riders, the authorized return on equity for electric utilities has steadily declined in 2015/2016 from preceding periods.

 While the declines in authorized returns on equity is public knowledge, and align with declining capital market costs, utilities are maintaining strong investment grade credit standing, and have been able to attract large amounts of capital at low costs to fund very large capital programs.

**Q. PLEASE DESCRIBE THE TREND IN CREDIT RATING CHANGES IN THE ELECTRIC UTILITY INDUSTRY OVER THE LAST FIVE YEARS.**

**A.** As shown below in Table 1, over the period 2010-2015, the electric utility industry has experienced a significant number of upgrades in credit ratings by all of the major credit rating agencies (Fitch Ratings, Moody’s, and Standard & Poor’s).



 As noted above in Table 1, the upgrades in utility credit ratings started outpacing downgrades in 2011, and more recently, the number of upgrades substantially exceeds the amount of downgrades. For example, in 2014, there were 103 upgrades and only three downgrades. In 2015, the number of upgrades was more than twice the number of downgrades (at 35 upgrades and 15 downgrades).

**Q ARE THESE UPGRADES HAVING A SIGNIFICANT IMPACT ON THE CREDIT STANDING OF THE REGULATED UTILITY COMPANIES?**

A Yes. As shown below in Table 2, the regulated utility companies followed by the Edison Electric Institute (“EEI”) are strengthening considerably and predominantly falling in the range of A- to BBB.



 As shown in the table above, since 2005, the number of below investment grade regulated utility companies has dropped from over 17% of the industry down to only 6%. Further, the number of A- rated regulated utility companies has increased from 8% to 22%. Also significantly, the number of BBB+ and BBB rated regulated utility companies has increased from around 47% up to over 67%. The number of below investment grade, or minimum investment grade regulated utility companies has dropped dramatically.

**Q. HAVE CREDIT RATING AGENCIES COMMENTED ON DECLINING AUTHORIZED RETURNS ON EQUITY?**

**A.** Yes. Credit rating agencies recognize the declining trend in authorized returns and the expectation that regulators will continue lowering the returns for U.S. utilities while maintaining a stable credit profile. Specifically, Moody’s states:

**Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles**

The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector’s profitability by lowering its authorized returns on equity (ROE).[[1]](#footnote-1)/

 Further, in a recent report, S&P states:

**2. Earned returns will remain in line with authorized returns**

Authorized returns on equity granted by U.S. utility regulators in rate cases this year have been steady at about 9.5%. Utilities have been adept at earning at or very near those authorized returns in today’s economic and fiscal environment. A slowly recovering economy, natural gas and electric prices coming down and then stabilizing at fairly low levels, and the same experience with interest rates have led to a perfect “non-storm” for utility ratepayers and regulators, with utilities benefitting alongside those important constituencies. Utilities have largely used this protracted period of favorable circumstances to consolidate and institutionalize the regulatory practices that support earnings and cash flow stability. We have observed and we project continued use of credit-supportive policies such as short lags between rate filings and final decisions, up-to-date test years, flexible and dynamic tariff clauses for major expense items, and alternative ratemaking approaches that allow faster rate recognition for some new investments.[[2]](#footnote-2)/

**Q. HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT INFRASTRUCTURE CAPITAL PROGRAMS?**

**A.** Yes. While cost of capital and authorized returns on equity were declining, the utility industry has been able to fund substantial increases in capital investments needed for infrastructure modernization and expansion. EEI reported in a 2015 financial review of the electric industry financial performance that in 2011 electric “industry-wide capex has more than doubled since 2005.”[[3]](#footnote-3)/

 EEI also observed that, despite this nearly tripling of capital expenditures during the period 2005-2015, a majority of the funding for utilities’ capital expenditures has been provided by internal funds. EEI reports approximately 25% of funding needed to meet these increasing capital expenditures has been derived from external sources and 75% of these capital expenditures have been funded by internal cash. Further, despite nearly tripling capital expenditures, the electric utility industry debt interest expense has declined by approximately 1.9% despite increases in the amount of outstanding debt.[[4]](#footnote-4)/ This is clear proof that capital market costs have declined.

**Q. IS THERE EVIDENCE OF ROBUST VALUATIONS OF ELECTRIC UTILITY SECURITIES?**

**A.** Yes. These robust valuations are an indication that utilities can sell securities at high prices, which is a strong indication that they can access capital under reasonable terms and conditions, and at relatively low cost. As shown on my Exhibit No. MPG-4, the historical valuation of the electric utilities based on a price-to-earnings ratio, price-to-cash flow ratio and market price-to-book value ratio, indicates utility security valuations today are very strong and robust relative to the last 10 to 15 years. These strong valuations of utility stocks indicate that utilities have access to equity capital under reasonable terms and costs.

**Q. HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN ASSESSING A FAIR RETURN FOR AVISTA?**

**A.** Market evidence is quite clear that capital market costs are near historically low levels. Authorized returns on equity have fallen to the low to mid 9.0% area, and utilities continue to have access to large amounts of external capital to fund large capital programs, and utilities’ investment grade credit standings are stable to improving. The Commission should carefully weigh all this important observable market evidence in assessing a fair return on equity for Avista.

# II.B. Regulated Utility Industry Market Outlook

**Q. PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED UTILITIES.**

**A.** Regulated utilities’ credit ratings have improved over the last few years and the outlook has been labeled “Stable” by credit rating agencies. Credit analysts have also observed that utilities have strong access to capital at attractive pricing (i.e., low capital costs), which has supported very large capital programs.

 Standard & Poor’s (“S&P”) recently published a report titled “Corporate Industry Credit Research: Industry Top Trends 2016, Utilities.” In that report, S&P noted the following:

**Ratings Outlook.** Stable with a slight bias toward the negative. Utilities in the U.S. continue to enjoy a confluence of financial, economic, and regulatory environments that are tailor-made for supporting credit quality. Low interest rates, modest economic growth, and relatively stable commodity costs make for little pressure on rates and therefore on the sunny disposition of regulators.

**• Credit Metrics.** We see credit metrics remaining within historic norms for the industry as a whole and do not project overall financial performance that would affect the industry’s creditworthiness.

**• Industry Trends.** Taking advantage of the favorable market conditions, utilities have been maintaining aggressive capital spending programs to bolster system safety and reliability, as well as technological advances to make the systems “smarter.” The elevated spending has not led to large rate increases, but if macro conditions reverse and lead to rising costs that command higher rates, we would expect utilities to throttle back on spending to manage regulatory risk.[[5]](#footnote-5)/

Similarly, Fitch states:

**Stable Financial Performance:** The stable financial performance of Utilities, Power & Gas (UPG) issuers continues to support a sound credit profile for the sector, with 93% of the UPG portfolio carrying investment-grade ratings as of June 30, 2015, including 65% in the ‘BBB’ rating category. Second-quarter 2015 LTM [Long-Term Maturity] leverage metrics remained relatively unchanged year over year (YOY) while interest coverage metrics modestly improved. Fitch Ratings expects this trend to broadly sustain for the remainder of 2015, driven by positive recurring factors.

**Low Debt-Funded Costs:** The sustained low interest rate environment has allowed UPG companies to refinance high-coupon legacy debt with lower coupon new debt. Gross interest expense on an absolute value represented approximately 4.6% of total adjusted debt as of June 30, 2015, a decline of about 150 bps from the 6.1% recorded in the midst of the recession. Fitch believes a rise in interest rates would largely be neutral to credit quality, as issuers have generally built enough headroom in coverage metrics to withstand higher financing costs.

**Capex Moderately Declining:** Fitch expects the capex/depreciation ratio to be at the lower end of its five-year historical range of 2.0x–2.5x in the near term, reflecting a moderate decline in projected capex from the 2011–2014 highs. The capex depreciation ratio was relatively flat YOY at about 2.4x. Capex targets investments toward base infrastructure upgrades, utility-scale renewables and transmission investments.

**\* \* \***

Key credit metrics for IUCs [investor-owned utility companies] remained relatively stable YOY and continue to support the sound credit profiles and Stable Outlooks characteristic of the sector. EBITDAR [Earnings Before Interest, Taxes, Depreciation, Amortization and Rent] and FFO [Funds From Operations] coverage ratios were 5.6x and 5.9x, respectively, for the LTM ended second-quarter 2015, while adjusted debt/EDITDAR and FFO-adjusted leverage were 3.5x and 3.4x, respectively.[[6]](#footnote-6)/

Moody’s recent comments on the U.S. Utility Sector state as follows:

Our outlook for the US regulated utilities industry is stable. This outlook reflects our expectations for fundamental business conditions in the industry over the next 12 to 18 months.

» **The credit-supportive regulatory environment is the main reason for our stable outlook.** We expect that the relationship between regulators and utilities in 2016 will remain credit-supportive, enabling utilities to recover costs in a timely manner and maintain stable cash flows.

» **We estimate that the ratio of cash flow from operations (CFO) to debt will hold steady at about 21%, on average for the industry, over the next 12 to 18 months.** The use of timely cost-recovery mechanisms and continued expense management will help utilities offset a lack of growth in electricity demand and lower allowed returns on equity, enabling financial metrics to remain stable. Tax benefits tied to the expected extension of bonus depreciation will also support CFO-to-debt ratios.

\* \* \*

» **Utilities are increasingly using holding company leverage to drive returns, a credit negative.** Although not a driver of our outlook, utilities are using leverage at the holding company level to invest in other businesses, make acquisitions and earn higher returns on equity, which could have negative implications across the whole family.[[7]](#footnote-7)/

**Q. PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE LAST SEVERAL YEARS.**

**A.** As shown in the graph below, SNL Financial has recorded utility stock price performance compared to the market. The industry’s stock performance data from 2004 through March 2016 shows that the SNL Electric Company Index has outperformed the market in downturns and trailed the market during recovery. This relatively stable price performance for utilities supports my conclusion that utility stock investments are regarded by market participants as a moderate- to low‑risk investment.



**Q. HAVE ELECTRIC UTILITY INDUSTRY TRADE ORGANIZATIONS COMMENTED ON ELECTRIC UTILITY STOCK PRICE PERFORMANCE?**

**A.** Yes. In its 4th Quarter 2015 Financial Update, The Edison Electric Institute (“EEI”) stated the following concerning the EEI Electric Utility Stock Index (“EEI Index”):

EEI Index returns during 2015 embodied the larger pattern seen in Table I since the 2008/2009 financial crisis, as industry business models have migrated to an increasingly regulated emphasis. The industry has generated consistent positive returns but has lagged the broader markets when markets post strong gains, which in turn have been sparked both by slow but steady U.S. economic growth and corporate profit gains and by the willingness of the Federal Reserve to bolster markets with historically unprecedented monetary support in the form of three rounds of quantitative easing and near-zero short-term interest rates. While the Fed did raise short-term rates in December 2015 for the first time since 2006 (from zero to a range of 0.25% to 0.50%), this hardly effects longer-term yields, which remain at historically low levels and are influenced more by the level of inflation and economic strength than by the Fed’s short-term rate policy.

\* \* \*

**Regulated Fundamentals Remain Stable**

The rate stability offered by state regulation and the ability to recover rising capital spending in rate base shield regulated utilities from the volatility in the competitive power arena and turn the growth of renewable generation (and the resulting need for new and upgraded transmission lines) into a rate base growth opportunity for many industry players.

\* \* \*

In the shorter-term, analysts continue to see opportunity for 4-6% earnings growth for regulated utilities in general along with prospects for slightly rising dividends (with a dividend yield now at about 4% for the industry overall). That formula has served utility investors quite well in recent years, delivering long-term returns equivalent to those of the broad markets but with much lower volatility. Provided state regulation remains fair and constructive in an effort to address the interests of ratepayers and investors, it would appear that the industry can continue to deliver success for all stakeholders, even in an environment of flat demand and considerable technological change.[[8]](#footnote-8)/

**Q. WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS ASSESSMENT OF UTILITY INDUSTRY CREDIT AND INVESTMENT RISK OUTLOOKS?**

**A.** Credit rating agencies consider the regulated utility industry to be “Stable” and believe investors will continue to provide an abundance of low-cost capital to support utilities’ large capital programs at attractive costs and terms. All of this reinforces my belief that utility investments are generally regarded as safe-haven or low-risk investments and the market continues to embrace and demand low-risk investments such as utility securities. The ongoing demand for low-risk investments can reasonably be expected to continue to provide attractive low-cost capital for regulated utilities.

# II.C. Avista Investment Risk

**Q. PLEASE DESCRIBE THE MARKET’S ASSESSMENT OF THE INVESTMENT RISK OF AVISTA.**

**A.** The market’s assessment of Avista’s investment risk is described by credit rating analysts’ reports. Avista’s current corporate bond ratings from S&P and Moody’s are BBB and Baa1, respectively. Both rating agencies have a Stable outlook for Avista.

 Specifically, S&P states:

**Business Risk: Strong**

In our assessment, Avista's business risk profile is "strong" based on what we consider the utility's "satisfactory" competitive position, "very low" industry risk of the regulated utility industry, and "very low" country risk of the U.S. where the company operates.

**Financial Risk: Significant**

We base our financial risk profile assessment of "significant" on the medial volatility financial ratio benchmarks. Our assessment takes into consideration the mostly steady cash flows from the utility business. Our base case indicates that capital spending along with dividend payments will lead to negative discretionary cash flow over the next few years. External funding will be needed to cover the deficit since internally generated cash flow is insufficient.[[9]](#footnote-9)/

# II.D. Avista’s Proposed Capital Structure

**Q. WHAT IS AVISTA’S PROPOSED CAPITAL STRUCTURE?**

**A.** Avista’s proposed capital structure is shown in Table 3 below:

|  |
| --- |
| **TABLE 3****Avista’s Proposed Capital Structure****(June 30, 2017)** |
| **Description    \_** | **Weight** |
| Total Debt | 51.50% |
| Common Equity |  48.50% |
|  Total Regulatory Capital Structure | 100.00% |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Source: Direct Testimony of Mark Thies at 18. |

 Avista’s proposed capital structure is sponsored by Avista witness Mark Thies. Avista’s proposed capital structure is based on average projected balances for 2017.

# II.E. Embedded Cost of Debt

**Q. WHAT IS THE EMBEDDED COST OF DEBT THAT THE COMPANY IS PROPOSING IN THIS PROCEEDING?**

**A.** The Company is proposing an embedded total debt cost of 5.51%. The embedded debt cost is sponsored by Company witness Mr. Thies, who supports the proposed embedded cost of debt on his Exhibit No.\_\_\_(MTT-2), page 3.

# III. RETURN ON EQUITY

**Q. PLEASE DESCRIBE WHAT IS MEANT BY A “UTILITY’S COST OF COMMON EQUITY.”**

**A.** A utility’s cost of common equity is the expected return that investors require on an investment in the utility. Investors expect to earn their required return from receiving dividends and through stock price appreciation.

**Q. PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED UTILITY’S COST OF COMMON EQUITY.**

**A.** In general, determining a fair cost of common equity for a regulated utility has been framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm’n of W. Va., 262 U.S. 679 (1923)andFed. Power Comm’n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

 These decisions identify the general financial and economic standards to be considered in establishing the cost of common equity for a public utility. Those general standards provide the authorized return should: (1) be sufficient to maintain financial integrity; (2) attract capital under reasonable terms; and (3) be commensurate with returns investors could earn by investing in other enterprises of comparable risk.

**Q. PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE AVISTA’S COST OF COMMON EQUITY.**

**A.** I have used several models based on financial theory to estimate Avista’s cost of common equity. These models are: (1) a constant growth Discounted Cash Flow (“DCF”) model using consensus analysts’ growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model (“CAPM”). I have applied these models to a group of publicly traded utilities with investment risk similar to Avista.

# III.A. Risk Proxy Group

**Q. PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT COULD BE USED TO REASONABLY REFLECT THE INVESTMENT RISK OF AVISTA AND USED TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY.**

**A.** I relied on the same proxy group developed by Avista witness Mr. McKenzie with a few exceptions. I excluded Otter Tail because it did not have analysts’ growth rates from Zacks, SNL Financial, or Reuters at the time I developed my studies. I eliminated Dominion Resources because, in February 2016, it confirmed its intent to purchase Questar Corp. Finally, I excluded Westar Energy because it is in the process of being acquired by Great Plains Energy, as announced on May 31, 2016.

**Q. WHY IS IT IMPORTANT TO LIMIT THE PROXY GROUP COMPANIES TO THOSE THAT HAVE CONSENSUS ANALYSTS’ GROWTH RATES PUBLISHED BY ZACKS, SNL FINANCIAL OR REUTERS?**

**A.** Selecting companies that have consensus analysts’ growth rate projections from at least one of these three sources is an indication that market participants are following the security and there is adequate liquidity and market demand for the security to support the assumption that the market valuation of the security is based on fundamental valuation principles. A stock that is thinly traded, or is not widely followed by the market, may have an observable market price inconsistent with fundamental valuation principles.

**Q. WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES WHICH ARE INVOLVED IN MERGER AND ACQUISITION (“M&A”) ACTIVITY FROM THE PROXY GROUP?**

**A.** M&A activity can distort the market factors used in DCF and risk premium studies. M&A activity can have impacts on stock prices, growth outlooks, and relative volatility in historical stock prices if the market was anticipating or expecting the M&A activity prior to it actually being announced. This distortion in the market data thus impacts the reliability of the DCF and risk premium estimates for a company involved in M&A.

 Moreover, companies generally enter into M&A in order to produce greater shareholder value by combining companies. The enhanced shareholder value normally could not be realized had the two companies not combined.

 When companies announce an M&A, the public assesses the proposed merger and develops outlooks on the value of the two companies after the combination based on expected synergies or other value adds created by the M&A.

 As a result, the stock value before the merger is completed may not reflect the forward-looking earnings and dividend payments for the company absent the merger or on a stand-alone basis. Therefore, an accurate DCF return estimate on companies involved in M&A activities cannot be produced because their stock prices do not reflect the stand-alone investment characteristics of the companies. Rather, the stock price more likely reflects the shareholder enhancement produced by the proposed transaction. For these reasons, it is appropriate to remove companies involved in M&A activity from a proxy group used to estimate a fair return on equity for a utility.

**Q. PLEASE DESCRIBE WHY YOU BELIEVE YOUR PROXY GROUP IS REASONABLY COMPARABLE IN INVESTMENT RISK TO AVISTA.**

**A.** The proxy group is shown in Exhibit No. MPG-5. The proxy group has an average corporate credit rating from S&P of BBB and a rating of Baa1 from Moody’s. These average ratings are identical to Avista’s corporate credit rating from S&P and Moody’s. Based on this information, I believe my proxy group is reasonably comparable in investment risk to Avista.

 The proxy group has an average common equity ratio of 46.2% (including short-term debt) from SNL Financial (“SNL”) and 48.5% (excluding short-term debt) from *The Value Line Investment Survey* (“*Value Line*”) in 2015.

 The proxy group common equity ratio is comparable to Avista’s proposed capital structure 48.5% equity ratio.

# III.B. Discounted Cash Flow Model

**Q. PLEASE DESCRIBE THE DCF MODEL.**

**A.** The DCF model posits that a stock price is valued by summing the present value of expected future cash flows discounted at the investor’s required rate of return or cost of capital. This model is expressed mathematically as follows:

 P0 = D1 + D2 . . . . D∞ (Equation 1)

 (1+K)1 (1+K)2 (1+K)∞

 P0 = Current stock price

 D = Dividends in periods 1 - ∞

 K = Investor’s required return

 This model can be rearranged in order to estimate the discount rate or investor-required return otherwise known as “K.” If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

 K = D1/P0 + G (Equation 2)

 K = Investor’s required return

 D1 = Dividend in first year

 P0 = Current stock price

 G = Expected constant dividend growth rate

 Equation 2 is referred to as the annual “constant growth” DCF model.

**Q. PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.**

**A.** As shown in Equation 2 above, the DCF model requires a current stock price, expected dividend, and expected growth rate in dividends.

**Q. WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH DCF MODEL?**

**A.** I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on June 10, 2016. An average stock price is less susceptible to market price variations than a price at a single point in time. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not reflect the stock’s long‑term value.

 A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflects current market expectations but the period is not so short as to be susceptible to market price variations that may not reflect the stock’s long‑term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

**Q. WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?**

**A.** I used the most recently paid quarterly dividend as reported in *Value Line*.[[10]](#footnote-10)/ This dividend was annualized (multiplied by 4) and adjusted for next year’s growth to produce the D1 factor for use in Equation 2 above.

**Q. WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?**

A There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required return on common equity, one must attempt to estimate investors’ consensus about what the dividend, or earnings growth rate, will be and not what an individual investor or analyst may use to make individual investment decisions.

  As predictors of future returns, security analysts’ growth estimates have been shown to be more accurate than growth rates derived from historical data.[[11]](#footnote-11)/ That is, assuming the market generally makes rational investment decisions, analysts’ growth projections are more likely to influence investors’ decisions which are captured in observable stock prices than growth rates derived only from historical data.

 For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts’ earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts’ growth rate estimates from three sources: Zacks, SNL, and Reuters. All such projections were available on July 22, 2016, and all were reported online.

 Each consensus growth rate projection is based on a survey of security analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst’s projection does not as reliably predict consensus investor outlooks as does a consensus of market analysts’ projections. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts’ earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts’ projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

**Q. WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?**

**A.** The growth rates I used in my DCF analysis are shown in Exhibit No. MPG-6. The average growth rate for my proxy group is 5.42%.

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

**A.** As shown in Exhibit No. MPG-7, the average and median constant growth DCF returns for my proxy group for the 13-week analysis are 8.66% and 8.73%, respectively.

**Q. DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?**

**A.** Yes. The constant growth DCF analysis for my proxy group is based on a group average long‑term sustainable growth rate of 5.42%. The three- to five-year growth rates are higher than my estimate of a maximum long-term sustainable growth rate of 4.35%, which I discuss later in this testimony. I believe the constant growth DCF analysis produces a reasonable high-end return estimate.

**Q. HOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?**

**A.** A long-term sustainable growth rate for a utility stock cannot exceed the growth rate of the economy in which it sells its goods and services. Hence, the long-term maximum sustainable growth rate for a utility investment is best proxied by the projected long-term Gross Domestic Product (“GDP”). *Blue Chip Financial Forecasts* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow approximately 4.35%. These GDP growth projections reflect a real growth outlook of around 2.2% and an inflation outlook of around 2.1% going forward. As such, the average growth rate over the next 10 years is around 4.35%, which I believe is a reasonable proxy of long-term sustainable growth.[[12]](#footnote-12)/

 In my multi-stage growth DCF analysis, I discuss academic and investment practitioner support for using the projected long-term GDP growth outlook as a maximum sustainable growth rate projection. Hence, recognizing the long-term GDP growth rate as a maximum sustainable growth is logical, and is generally consistent with academic and economic practitioner accepted practices.

# III.C. Sustainable Growth DCF

**Q. PLEASE DESCRIBE HOW YOU** **ESTIMATED A SUSTAINABLE LONG‑TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.**

**A.** A sustainable growth rate is based on the percentage of the utility’s earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

 The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings.

 The payout ratios of the proxy group are shown in my Exhibit No. MPG‑8. These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long‑term earnings retention ratio will help gauge whether analysts’ current three- to five-year growth rate projections can be sustained over an indefinite period of time.

 The data used to estimate the long-term sustainable growth rate is based on the Company’s current market-to-book ratio and on *Value Line*’s three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

 As shown in Exhibit No. MPG-9, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.55%.

**Q. WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM GROWTH RATES?**

**A.** A DCF estimate based on these sustainable growth rates is developed in Exhibit No. MPG-10. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results for the 13-week period of 7.77% and 7.43%, respectively.

# III.D. Multi-Stage Growth DCF Model

**Q. HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?**

**A.** Yes. My first constant growth DCF is based on consensus analysts’ growth rate projections so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on this constant growth DCF model is that it cannot reflect a rational expectation that a period of high or low short-term growth can be followed by a change in growth to a rate that is more reflective of long‑term sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

**Q. WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?**

**A.** Analyst-projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which in turn accelerates earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows and its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

 As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because rate base growth will slow and the utility has limited human and capital resources available to expand its construction program. Therefore, the three- to five-year growth rate projection should be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

**Q. PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.**

**A.** The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth periods: (1) a short-term growth period consisting of the first five years; (2) a transition period, consisting of the next five years (6 through 10); and (3) a long‑term growth period starting in year 11 through perpetuity.

 For the short-term growth period, I relied on the consensus analysts’ growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor reflecting the difference between the analysts’ growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company’s growth would converge to the maximum sustainable long-term growth rate.

**Q. WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?**

**A.** Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities’ earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth. Sales growth, in turn, is tied to economic growth in their service areas.

 The U.S. Department of Energy, Energy Information Administration (“EIA”) has observed utility sales growth tracks the U.S. GDP growth, albeit at a lower level, as shown in Exhibit No. MPG-11. Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a very conservative proxy for utility sales growth, rate base growth, and earnings growth. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility.

**Q. IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY’S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?**

**A.** Yes. This concept is supported in published analyst literature and academic work. Specifically, in a textbook titled “Fundamentals of Financial Management,” published by Eugene Brigham and Joel F. Houston, the authors state as follows:

The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[[13]](#footnote-13)/

 The use of the economic growth rate is also supported by investment practitioners as outlined as follows:

**Estimating Growth Rates**

One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.

\* \* \*

Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate’s component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.[[14]](#footnote-14)/

**Q. IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE NOTION THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?**

**A.** Yes. This is evident by a comparison of the compound annual growth of the U.S. GDP compared to the geometric growth of the U.S. stock market. Morningstar measures the historical geometric growth of the U.S. stock market over the period 1926-2015 to be approximately 5.8%. During this same time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.2%.[[15]](#footnote-15)/

 As such, the compound geometric growth of the U.S. nominal GDP has been higher but comparable to the nominal growth of the U.S. stock market capital appreciation. This historical relationship indicates the U.S. GDP growth outlook is a conservative estimate of the long-term sustainable growth of U.S. stock investments.

**Q. HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE THAT REFLECTS THE CURRENT CONSENSUS OUTLOOK OF THE MARKET?**

**A.** I relied on the consensus analysts’ projections of long-term GDP growth. *Blue Chip Financial Forecasts* publishes consensus economists’ GDP growth projections twice a year. These consensus analysts’ GDP growth outlooks are the best available measure of the market’s assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP and are likely the most influential on investors’ expectations of future growth outlooks. The consensus economists’ published GDP growth rate outlook is 4.35% over the next 10 years.[[16]](#footnote-16)/

 Therefore, I propose to use the consensus economists’ projected 5- and 10‑year average GDP consensus growth rates of 4.35%, as published by *Blue Chip Financial Forecasts*, as an estimate of long‑term sustainable growth. *Blue Chip Financial Forecasts* projections provide real GDP growth projections of 2.2% and GDP inflation of 2.1%[[17]](#footnote-17)/ over the 5-year and 10‑year projection periods. These consensus GDP growth forecasts represent the most likely views of market participants because they are based on published consensus economist projections.

**Q. DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP GROWTH?**

**A.** Yes, and these sources corroborate my consensus analysts’ projections, as shown below in Table 4.

|  |
| --- |
| **TABLE 4****GDP Forecasts** |
| **Source** | **Term** | **Real****GDP** | **Inflation** | **Nominal****GDP** |
|  |  |  |  |  |
| EIA – Annual Earnings Outlook18 | 25 Yrs | 2.4% | 1.8% | 4.2% |
| Congressional Budget Office19 | 10 Yrs | 2.0% | 2.0% | 4.0% |
| Moody’s Analytics20 | 30 Yrs | 2.0% | 2.0% | 4.1% |
| Social Security Administration21 | 50 Yrs |  |  | 4.5% |
| The Economist Intelligence Unit22 | 35 Yrs | 1.9% | 2.0% | 3.9% |
| *Blue Chip Financial Forecasts* | 5-10 Yrs | 2.2% | 2.1% | 4.3% |
|  |  |  |  |  |

 The EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its 2015 Annual Report, the EIA projects real GDP through 2040 to be in the range of 1.8% to 2.9% with a midpoint or reference case of 2.4% and a long-term GDP price inflation projection of 1.8%. The EIA data supports a long-term nominal GDP growth outlook of 4.2%.[[18]](#footnote-18)/

 Also, the Congressional Budget Office (“CBO”) makes long-term economic projections. The CBO is projecting real GDP growth to be 2.0% during the next 10 years with a GDP price inflation outlook of 2.0%.[[19]](#footnote-19)/ The CBO 10-year outlook for nominal GDP based on this projection is 4.0%.

 Moody’s Analytics also makes long-term economic projections. In its recent 30-year outlook to 2045, Moody’s Analytics is projecting real GDP growth of 2.0% with GDP inflation of 2.0%.[[20]](#footnote-20)/ Based on these projections, Moody’s is projecting nominal GDP growth of 4.1% over the next 30 years.

 The Social Security Administration (“SSA”) makes long-term economic projections out to 2090. The SSA’s nominal GDP projection, under its intermediate cost scenario of 50 years, is 4.5%.[[21]](#footnote-21)/  This projection is in line with the consensus economists.

 The Economist Intelligence Unit, a division of *The Economist* and a third-party data provider to SNL Financial, makes a long-term economic projection out to 2050.[[22]](#footnote-22)/ The Economist Intelligence Unit is projecting real GDP growth of 1.9% with an inflation rate of 2.0% out to 2050. The real GDP growth projection is in line with the consensus economists. The long-term nominal GDP projection based on these outlooks is approximately 3.9%.

 The real GDP and nominal GDP growth projections made by these independent sources support the use of the consensus economist 5-year and 10-year projected GDP growth outlooks as a reasonable estimate of market participants’ long‑term GDP growth outlooks.

**Q. WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?**

**A.** I relied on the same 13-week average stock prices and the most recent quarterly dividend payment data discussed above. For stage one growth, I used the consensus analysts’ growth rate projections discussed above in my constant growth DCF model. The first stage growth covers the first five years, consistent with the term of the analyst growth rate projections. The second stage, or transition stage, begins in year 6 and extends through year 10. The second stage growth transitions the growth rate from the first stage to the third stage using a linear trend. For the third stage, or long‑term sustainable growth stage, starting in year 11, I used a 4.35% long-term sustainable growth rate based on the consensus economists’ long-term projected nominal GDP growth rate.

**Q. WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?**

**A.** As shown in Exhibit No. MPG-12, the average and median DCF returns on equity for my proxy group using the 13-week average stock price are 7.79% and 7.91%, respectively.

**Q. PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.**

**A.** The results from my DCF analyses are summarized in Table 5 below:

|  |
| --- |
| **TABLE 5****Summary of DCF Results** |
|  | **Proxy Group** |
| **Description** | **Average** | **Median** |
|  |  |  |
| Constant Growth DCF Model (Analysts’ Growth) | 8.66% | 8.73% |
| Constant Growth DCF Model (Sustainable Growth) | 7.77% | 7.43% |
| Multi-Stage Growth DCF Model | 7.79% | 7.91% |
|  Average | 8.07% | 8.02% |

 I concluded my DCF studies support a return on equity of 8.7%, primarily based on my constant growth DCF result, which I find as a reasonable high‑end DCF return estimate.

# III.E. Risk Premium Model

**Q. PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.**

**A.** This model is based on the principle investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be riskier than bond securities.

 This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between the required return on utility common equity investments and U.S. Treasury bonds. The difference between the required return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period January 1986 through June 2016. The common equity required returns were based on regulatory commission-authorized returns for electric utility companies. Authorized returns are typically based on expert witnesses’ estimates of the contemporary investor-required return.

 The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary “A” rated utility bond yields by Moody’s. I selected the period January 1986 through June 2016 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Exhibit No. MPG-13, which shows the market-to-book ratio since 1986 for the electric utility industry was consistently above a multiple of 1.0x. Over this period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value. This is an indication that regulatory authorized returns on common equity supported a utility’s ability to issue additional common stock without diluting existing shares. It further demonstrates utilities were able to access equity markets without a detrimental impact on current shareholders.

 Based on this analysis, as shown in Exhibit No. MPG-14, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.46%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity for a risk premium methodology.

 I incorporated five-year and 10-year rolling average risk premiums over the study period to gauge the variability over time of risk premiums. These rolling average risk premiums mitigate the impact of anomalous market conditions and skewed risk premiums over an entire business cycle. As shown on my Exhibit No. MPG-14, the five-year rolling average risk premium over Treasury bonds ranged from 4.25% to 6.70%, while the 10-year rolling average risk premium ranged from 4.38% to 6.38%.

 As shown on my Exhibit No. MPG-15, the average indicated equity risk premium over contemporary Moody’s utility bond yields was 4.08%. The five-year and 10-year rolling average risk premiums ranged from 2.88% to 5.53% and 3.20% to 5.02%, respectively.

**Q. DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE EQUITY RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM ACCURATE CONCLUSIONS ABOUT CONTEMPORARY MARKET CONDITIONS?**

**A.** Yes. The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using “expectational” data.

 Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value is an indication the authorized returns on equity and the corresponding equity risk premiums were supportive of investors’ return expectations and provided utilities access to the equity markets under reasonable terms and conditions. Further, this time period is long enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

 Alternatively, some studies, such as Duff & Phelps referred to later in this testimony, have recommended that use of “actual achieved investment return data” in a risk premium study should be based on long historical time periods. The studies find that achieved returns over short time periods may not reflect investors’ expected returns due to unexpected and abnormal stock price performance. Short-term, abnormal actual returns would be smoothed over time and the achieved actual investment returns over long time periods would approximate investors’ expected returns. Therefore, it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors’ expected returns.

 My risk premium study is based on expectational data, not actual investment returns, and, thus, need not encompass a very long historical time period.

**Q. BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE AVISTA’S COST OF COMMON EQUITY IN THIS PROCEEDING?**

**A.** The equity risk premium should reflect the relative market perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Exhibit No. MPG-16, where I show the yield spread between utility bonds and Treasury bonds over the last 37 years. As shown in this schedule, the average utility bond yield spreads over Treasury bonds for “A” and “Baa” rated utility bonds for this historical period are 1.52% and 1.96%, respectively. The utility bond yield spreads over Treasury bonds for “A” and “Baa” rated utilities for 2016 were 1.39% and 2.30%, respectively. The current average “A” rated utility bond yield spread over Treasury bond yields is now lower than the 37‑year average spread. The current “Baa” rated utility bond yield spread over Treasury bond yields is higher than the 37-year average spread.

 A current 13-week average “A” rated utility bond yield of 3.78% when compared to the current Treasury bond yield of 2.45% as shown in Exhibit No. MPG‑17, page 1, implies a yield spread of around 133 basis points. This current utility bond yield spread is lower than the 37-year average spread for “A” rated utility bonds of 1.52%. The current spread for the “Baa” rated utility bond yield of 2.30% is higher than the 37‑year average spread of 1.96%. However, when compared to the projected Treasury bond yield of 3.40%, the current “Baa” utility yield (4.43%) spread to Treasury bond yield is around 1.03%, which is lower than the 37-year average of 1.96%.

 These utility bond yield spreads are evidence that the market perception of utility risk is about average relative to this historical time period and demonstrate that utilities continue to have strong access to capital in the current market.

**Q. HOW DO YOU DETERMINE WHERE A REASONABLE RISK PREMIUM IS IN THE CURRENT MARKET?**

**A.** I observed the spread of Treasury securities relative to public utility bonds and corporate bonds in gauging whether or not the risk premium in current market prices is relatively stable relative to the past. What this observation of market evidence clearly provides is that the valuations in the current market place an above average risk premium on securities that have greater risk.

 This market evidence is summarized below in Table 6, which shows the utility bond yield spreads over Treasury bond yields on average for the period 1980 through the first six months of 2016. I also show the bond yield spreads for Aaa corporates and Baa corporates.

|  |
| --- |
| **TABLE 6****Comparison of Yield Spreads Over Treasury Bonds** |
|  | **Utility** | **Corporate** |
| **Description** | **A** | **Baa** | **Aaa** | **Baa** |
|  |  |  |  |  |
| Average Historical Spread | 1.52% | 1.96% | 0.84% | 1.95% |
|  |  |  |  |  |
| Jan-June, 2016 Spread | 1.39% | 2.30% | 1.12% | 2.34% |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Source: Exhibit No. MPG-16. |

 The observable yield spreads shown in the table above illustrate securities of greater risk have above average risk premiums relative to the long-term historical average risk premium. Specifically, A-rated utility bonds to Treasuries, a relatively low-risk investment, have a yield spread in 2016 that is comparable to but below the long-term historical yield spread. This is an indication that low risk investments like Aaa corporate bond yield and A-rated utility bond yield have premium values relative to minimal risk Treasury securities.

 In contrast, the higher risk Baa utility and corporate bond yields currently have an above-average yield spread of approximately 35 basis points (2.30% vs. 1.96%). The higher risk Baa utility bond yields do not have the same premium valuations as their lower risk A-rated utility bond yields, and thus the yield spread for greater risk investments is wider than lower risk investments.

 This illustrates securities with greater risk such as Baa yields versus A yields are commanding above average risk premium spreads in the current marketplace. Utility equity securities are greater risk than Baa utility bonds. Because greater risk securities appear to support an above-average risk premium relative to historical averages, this would support an above-average risk premium in measuring a fair return on equity for a utility stock or equity security.

**Q. WHAT IS YOUR RECOMMENDED RETURN FOR AVISTA BASED ON YOUR RISK PREMIUM STUDY?**

**A.** To be conservative, I am recommending more weight to the high-end risk premium estimates than the low-end. I state this because of the relatively low level of interest rates now but relative upward movements of utility yields more recently. Hence, I propose to provide 75% weight to my high-end risk premium estimates and 25% to the low‑end. Applying these weights, the risk premium for Treasury bond yields would be approximately 6.1%,[[23]](#footnote-23)/ which is considerably higher than the 31‑year average risk premium of 5.46% and reasonably reflective of the 3.4% projected Treasury bond yield. A Treasury bond risk premium of 6.1% and projected Treasury bond yield of 3.4% produce a risk premium estimate of 9.50%.

Similarly, applying these weights to the utility risk premium indicates a risk premium of 4.9%.[[24]](#footnote-24)/ This risk premium is above the 31-year historical average risk premium of 4.08%. This risk premium in connection with the current Baa observable utility bond yield of 4.43% produces an estimated return on equity of 9.30%.

 Based on this methodology, my Treasury bond risk premium is 9.50% and my utility bond risk premium indicates a return of 9.30%. Hence, this methodology produces a return on equity in the range of 9.50% to 9.30% with a midpoint of 9.40%.

# III.F. Capital Asset Pricing Model (“CAPM”)

**Q. PLEASE DESCRIBE THE CAPM.**

**A.** The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

 Ri = Rf + Bi x (Rm - Rf) where:

 Ri = Required return for stock i

 Rf = Risk-free rate

 Rm = Expected return for the market portfolio

 Bi = Beta - Measure of the risk for stock

 The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

 The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and referred to as systematic risks. Risks that can be eliminated by diversification are non-systematic risks. In a broad sense, systematic risks are market risks and non-systematic risks are business risks. The CAPM theory suggests the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk investors will be compensated for are systematic or non‑diversifiable risks. The beta is a measure of the systematic or non‑diversifiable risks.

**Q. PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.**

**A.** The CAPM requires an estimate of the market risk-free rate, the Company’s beta, and the market risk premium.

**Q. WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?**

**A.** As previously noted, *Blue Chip Financial Forecasts*’ projected 30-year Treasury bond yield is 3.40%.[[25]](#footnote-25)/ The current 30-year Treasury bond yield is 2.45%, as shown in Exhibit No. MPG-17. I used *Blue Chip Financial Forecasts*’ projected 30‑year Treasury bond yield of 3.40% for my CAPM analysis.

**Q. WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE OF THE RISK-FREE RATE?**

**A.** Treasury securities are backed by the full faith and credit of the United States government so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

 Treasury bond yields, however, do include risk premiums related to unanticipated future inflation and interest rates. A Treasury bond yield is not a risk‑free rate. Risk premiums related to unanticipated inflation and interest rates are systematic of market risks. Consequently, for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

**Q. WHAT BETA DID YOU USE IN YOUR ANALYSIS?**

**A.** As shown in Exhibit No. MPG-18, the proxy group average *Value Line* beta estimate is 0.72.

**Q. HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?**

**A.** I derived two market risk premium estimates: a forward-looking estimate and one based on a long-term historical average.

 The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

 Duff & Phelps’ *2016 Valuation Handbook* estimates the historical arithmetic average real market return over the period 1926 to 2015 as 8.7%.[[26]](#footnote-26)/ A current consensus analysts’ inflation projection, as measured by the Consumer Price Index, is 2.3%.[[27]](#footnote-27)/ Using these estimates, the expected market return is 11.20%.[[28]](#footnote-28)/  The market risk premium then is the difference between the 11.20% expected market return and my 3.40% risk-free rate estimate, or approximately 7.8%.

 My historical estimate of the market risk premium was also calculated by using data provided by Duff & Phelps in its *2016 Valuation Handbook*. Over the period 1926 through 2015, the Duff & Phelps study estimated that the arithmetic average of the achieved total return on the S&P 500 was 12.0%[[29]](#footnote-29)/ and the total return on long‑term Treasury bonds was 6.00%.[[30]](#footnote-30)/ The indicated market risk premium is 6.0% (12.0% - 6.0% = 6.0%).

**Q. HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY DUFF & PHELPS?**

**A.** The Duff & Phelps analysis indicates a market risk premium falls somewhere in the range of 5.5% to 6.9%. My market risk premium falls in the range of 6.0% to 7.8%. My average market risk premium of 6.9% is the same as the high-end of the Duff & Phelps range.

**Q. HOW DOES DUFF & PHELPS MEASURE A MARKET RISK PREMIUM?**

**A.** Duff & Phelps makes several estimates of a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2015 as well as normalized data. Using this data, Duff & Phelps estimates a market risk premium derived from the total return on large company stocks (S&P 500), less the income return on Treasury bonds. The total return includes capital appreciation, dividend or coupon reinvestment returns, and annual yields received from coupons and/or dividend payments. The income return, in contrast, only reflects the income return received from dividend payments or coupon yields. Duff & Phelps claims the income return is the only true risk-free rate associated with Treasury bonds and is the best approximation of a truly risk‑free rate.[[31]](#footnote-31)/  I disagree with this assessment from Duff & Phelps because it does not reflect a true investment option available to the marketplace and therefore does not produce a legitimate estimate of the expected premium of investing in the stock market versus that of Treasury bonds. Nevertheless, I will use Duff & Phelps’ conclusion to show the reasonableness of my market risk premium estimates.

 Duff & Phelps’ range is based on several methodologies. First, Duff & Phelps estimates a market risk premium of 6.9% based on the difference between the total market return on common stocks (S&P 500) less the income return on Treasury bond investments over the 1926-2015 period.

 Second, Duff & Phelps updated the Ibbotson & Chen supply-side model which found that the 6.9% market risk premium based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings (“P/E”) ratios relative to earnings and dividend growth during the period, primarily over the last 25 years. Duff & Phelps believes this abnormal P/E expansion is not sustainable.[[32]](#footnote-32)/ Therefore, Duff & Phelps adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings. Based on this alternative methodology, Duff & Phelps published a long-horizon supply-side market risk premium of 6.03%.[[33]](#footnote-33)/

 Finally, Duff & Phelps develops its own recommended equity, or market, risk premium by employing an analysis that takes into consideration a wide range of economic information, multiple risk premium estimation methodologies, and the current state of the economy by observing measures such as the level of stock indices and corporate spreads as indicators of perceived risk. Based on this methodology, and utilizing a “normalized” risk-free rate of 4.0%, Duff & Phelps concludes the current expected, or forward-looking, market risk premium is 5.5%, implying an expected return on the market of 9.5%.[[34]](#footnote-34)/

**Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?**

**A.** As shown in Exhibit No. MPG-19, based on my low market risk premium of 6.0% and my high market risk premium of 7.8%, a risk-free rate of 3.40%, and a beta of 0.72, my CAPM analysis produces a return of 7.74% to 9.04%. As discussed above, due to the significant risk premium observable in the market securities, I recommend the high-end CAPM return of 9.04% as a reasonable return for Avista in this case. This produces a recommended CAPM return estimate of approximately 9.04%.

# III.G. Return on Equity Summary

**Q. BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR AVISTA?**

**A.** Based on my analyses, I estimate Avista’s current market cost of equity to be 9.1%.

|  |
| --- |
| **TABLE 7****Return on Common Equity Summary** |
| **Description** | **Results** |
| DCF | 8.70% |
| Risk Premium | 9.40% |
| CAPM | 9.04% |

 My recommended return on common equity of 9.10% is at the approximate midpoint of my estimated range of 8.70% to 9.40%. As shown in Table 7 above, the high-end of my estimated range is based on my risk premium studies. The low-end is based on my DCF studies. The CAPM return falls near my recommended midpoint.

 My return on equity estimates reflect observable market evidence, the impact on Federal Reserve policies on current and expected long-term capital market costs, an assessment of the current risk premium built into current market securities, and a general assessment of the current investment risk characteristics of the electric utility industry, and the market’s demand for utility securities.

# III.H. Financial Integrity

**Q. WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN INVESTMENT GRADE BOND RATING FOR AVISTA?**

**A.** Yes. I have reached this conclusion by comparing the key credit rating financial ratios for Avista, at my proposed return on equity, and the Company’s capital structure, to S&P’s benchmark financial ratios using S&P’s new credit metric ranges.

**Q. PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT METRIC METHODOLOGY.**

**A.** S&P publishes a matrix of financial ratios that correspond to its assessment of the business risk of utility companies and related bond ratings. On May 27, 2009, S&P expanded its matrix criteria by including additional business and financial risk categories.[[35]](#footnote-35)/

 Based on S&P’s most recent credit matrix, the business risk profile categories are “Excellent,” “Strong,” “Satisfactory,” “Fair,” “Weak,” and “Vulnerable.” Most utilities have a business risk profile of “Excellent” or “Strong.”

 The financial risk profile categories are “Minimal,” “Modest,” “Intermediate,” “Significant,” “Aggressive,” and “Highly Leveraged.” Most of the utilities have a financial risk profile of “Aggressive.” Avista has a “Strong” business risk profile and a “Significant” financial risk profile.

**Q. PLEASE DESCRIBE S&P’S USE OF THE FINANCIAL BENCHMARK RATIOS IN ITS CREDIT RATING REVIEW.**

**A.** S&P evaluates a utility’s credit rating based on an assessment of its financial and business risks. A combination of financial and business risks equates to the overall assessment of Avista’s total credit risk exposure. On November 19, 2013, S&P updated its methodology. In its update, S&P published a matrix of financial ratios that defines the level of financial risk as a function of the level of business risk.

 S&P publishes ranges for two primary financial ratios that it uses as guidance in its credit review for utility companies. The two core financial ratio benchmarks it relies on in its credit rating process include: (1) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization (“EBITDA”); and (2) Funds From Operations (“FFO”) to Total Debt.[[36]](#footnote-36)/

**Q. HOW DID YOU APPLY S&P’S FINANCIAL RATIOS TO TEST THE REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?**

**A.** I calculated each of S&P’s financial ratios based on Avista’s cost of service for its retail jurisdictional operations. While S&P would normally look at total consolidated Avista financial ratios in its credit review process, my investigation in this proceeding is not the same as S&P’s. I am attempting to judge the reasonableness of my proposed cost of capital for rate-setting in Avista’s retail regulated utility operations. Hence, I am attempting to determine whether my proposed rate of return will in turn support cash flow metrics, balance sheet strength, and earnings that will support an investment grade bond rating and Avista’s financial integrity.

**Q. DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT EQUIVALENTS?**

**A.** Yes. I included approximately $109 million of off-balance sheet debt related to purchased power agreements and operating leases and their associated depreciation and interest expenses, as shown on Standard & Poor’s credit portal online.

**Q. PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS AS IT RELATES TO AVISTA.**

**A.** The S&P financial metric calculations for Avista at a 9.10% return are developed on Exhibit No. MPG-20, page 1. The credit metrics produced below, with Avista’s financial profile score from S&P of “Significant” and business risk score by S&P of “Strong” will be used to assess the strength of the credit metrics based on Avista’s retail operations in Washington.

 Avista’s adjusted total debt ratio is approximately 53%. As shown on page 2 of Exhibit No. MPG-20, this adjusted debt ratio is a comparable debt ratio based on S&P’s median debt ratio of approximately 55.13% for BBB rated utilities, and 51% to 52% for BBB+ to A rated utilities. Hence, I concluded this capital structure reasonably supports Avista’s current investment grade bond rating. This adjusted total debt ratio will support an investment grade bond rating.

 Based on an equity return of 9.10%, Avista will be provided an opportunity to produce a debt to EBITDA ratio of 3.9x. This is at the approximate midpoint of S&P’s “Significant” guideline range of 3.5x to 4.5x.”[[37]](#footnote-37)/ This ratio supports an investment grade credit rating.

 Avista’s retail operations FFO to total debt coverage at a 9.10% equity return is 19%, which is within S&P’s “Significant” metric guideline range of 13% to 23%.[[38]](#footnote-38)/ This FFO/total debt ratio will support an investment grade bond rating.

 At my recommended return on equity of 9.10% and the Company’s embedded debt cost and capital structure, Avista’s financial credit metrics continue to support credit metrics at an investment grade utility level.

# IV. RESPONSE TO AVISTA WITNESS MR. ADRIEN MCKENZIE

# IV.A. Summary of Rebuttal

**Q. WHAT IS AVISTA’S RETURN ON EQUITY RECOMMENDATION?**

**A.** Avista recommends a return on equity of 9.9%, which is approximately the low-end of the Company’s return on equity witness, Mr. McKenzie’s recommended range of 9.93% to 10.93% after including a flotation cost adjustment. Mr. McKenzie’s range is based on a range of 9.8% to 10.8%, plus a 13 basis point flotation cost adjustment. (McKenzie Direct at 6).

 Mr. McKenzie’s recommended range, and his proposed flotation cost adjustment, are unreasonable and should be rejected. For the reasons discussed below, the 13 basis point flotation cost adjustment is not shown to be a known and measurable expense for Avista, and his range of 9.93% to 10.93% overstates a fair return on equity for Avista. Support for these findings is described in detail below.

# IV.B. Flotation Costs

**Q. DID MR. MCKENZIE INCLUDE A FLOTATION COST ADJUSTMENT IN HIS RECOMMENDED RETURN FOR AVISTA?**

**A.** Yes. Mr. McKenzie asserts that it is appropriate to include a flotation cost adjustment to historical equity issues regardless if the utility is planning on issuing additional shares of stock, or not, to support his position.[[39]](#footnote-39)/ He acknowledges there is no standard method for reflecting flotation costs in return on equity methodology,[[40]](#footnote-40)/ so he proposes a methodology advocated in certain regulatory finance books and that used by Morgan Stanley. In effect, he grows his proxy group’s average dividend yield of 3.6% by a historical average flotation cost of 3.6% observed by Morgan Stanley. This produces a flotation-adjusted dividend yield of 3.73%, or a difference of approximately 13 basis points. This flotation cost adjustment is intended to recover the actual cost a utility incurs by issuing additional stock to the public.

**Q. WHY IS MR. MCKENZIE’S FLOTATION COST ADJUSTMENT FLAWED?**

**A.** Mr. McKenzie’s flotation cost adjustment is not based on the recovery of prudent and reasonable flotation expenses for Avista. As discussed at pages 37-40 of Mr. McKenzie’s direct testimony, he derives a flotation cost adjustment based on generic cost information of other companies based on a published study. Because he does not show that his adjustment is based on Avista’s actual and verifiable flotation expenses, there are no means of verifying whether Mr. McKenzie’s proposal is reasonable or appropriate. Stated differently, Mr. McKenzie’s flotation cost adder is not based on known and measurable Avista costs. Therefore, the Commission should reject Mr. McKenzie’s proposed flotation expense return on equity adder.

# IV.C. Return on Equity

**Q. HOW DID MR. MCKENZIE DEVELOP HIS RETURN ON EQUITY RANGE?**

**A.** Mr. McKenzie developed his return on equity recommendation by applying the DCF, the Empirical CAPM (“ECAPM”), the traditional CAPM, and Risk Premium model, and an Expected Earnings analysis to his utility proxy group. Then he corroborates his results by developing a non-utility DCF model.

 As shown below in Table 8, Mr. McKenzie’s analyses produce a return on equity in the range of 9.8% to 10.8%. However, reasonable adjustments to Mr. McKenzie’s DCF, ECAPM, CAPM, and Risk Premium studies reduces his return on equity estimate for Avista to no higher than my recommended return on equity of 9.10%.

|  |
| --- |
| **TABLE 8****Mr. McKenzie’s ROE Analysis** |
| **Model** | **Average** | **Adjusted** |
|  | **(1)** | **(2)** |
| DCF  | 8.8% - 10.4% | 8.4% - 9.2% |
|  Midpoint |  | 8.8% |
|  |  |  |
| ECAPM (Current) |  |  |
| Unadjusted | 9.8% | 8.4% |
| Size Adjusted | 10.8% | 8.1% |
|  |  |  |
| ECAPM (Projected) |  |  |
| Unadjusted | 10.0% | Reject |
| Size Adjusted | 11.0% | Reject |
|  |  |  |
| CAPM (Current) |  |  |
| Unadjusted | 9.3% | 9.3% |
| Size Adjusted | 10.3% | 8.1% |
|  |  |  |
| CAPM (Projected) |  |  |
| Unadjusted | 9.6% | Reject |
| Size Adjusted | 10.6% | Reject |
|  |  |  |
| Risk Premium |  |  |
| Current | 10.7% | 9.0% |
| Projected | 11.7% | 9.4% |
|  |  |  |
| Expected Earnings | 10.4% | Reject |
|  |  |  |
| Non-Utility DCF | 9.9% - 10.7% | Reject |
|  |  |  |
| **Range** | **9.8% - 10.8%** | **8.8% - 9.4%** |
|  |  |  |
| Flotation Cost Adder | 0.13% | Reject |
|  |  |  |
| Adjusted Range | 9.93% - 10.93% | 8.7% - 9.4% |
|  |  |  |
| **Recommended ROE** | **9.9%** | **9.1%** |
|  |  |  |
| **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Source: Exhibit No.\_\_\_\_(AMM-4). |

**Q. PLEASE DESCRIBE MR. MCKENZIE’S DCF ANALYSIS.**

**A.** Mr. McKenzie applied the traditional DCF model to his utility proxy group. Based on his utility proxy group, the DCF results average in the range of 8.8% to 10.4%.

 In developing his recommended DCF range, Mr. McKenzie excluded what he found to be outlier results. Of his DCF results, Mr. McKenzie removed eight low-end outliers without removing any high-end outliers. Therefore, his estimated DCF range is biased and overstated.

**Q. CAN MR. MCKENZIE’S DCF ANALYSIS BE ADJUSTED TO PRODUCE MORE REASONABLE RESULTS?**

**A.** Yes. As noted above, Mr. McKenzie biased his DCF results by removing eight of his DCF results, that he considered to be too low, thus inflating his overall result. It is unbalanced and unreasonable to remove DCF results which are low, but not remove DCF results which are high. Doing this simply does not describe the results of the DCF study on the proxy group.

A more accurate method of measuring the central tendency of the proxy group’s results would be to measure the median of all the DCF return estimates. In doing so, this would lower Mr. McKenzie’s DCF range of 8.8% to 10.4% down to 8.4% to 9.2% for his utility proxy group. Therefore, the midpoint of all his DCF return estimates will result in a return on equity of 8.8%, which is similar to my DCF return result.

**Q. PLEASE DESCRIBE MR. MCKENZIE’S CURRENT AND PROJECTED EMPIRICAL CAPM ANALYSES.**

**A.** Mr. McKenzie developed an Empirical CAPM analysis based on current and projected Treasury bond yields. Mr. McKenzie estimates a projected return on the market of 11.2%. From this market return estimate he subtracts his current and projected risk-free rates of 3.0% and 4.2%, to arrive at current and projected market risk premiums of 8.2% and 7.0%, respectively. (Exhibit No.\_\_\_\_(AMM-8)).

 He then uses an ECAPM model that applies a 25% weighting factor to the market beta of one, and a 75% weighting factor to the utility beta.

 He relies on the *Value Line* utility betas for the companies included in his proxy groups to produce an average cost of equity for his utility proxy groups of 9.8% to 10.0%.[[41]](#footnote-41)/

 He then adds a size adjustment to his Empirical CAPM return estimate of approximately 1.0% to arrive at his cost of equity for the proxy group of 10.8% to 11.0%.

**Q. ARE MR. MCKENZIE’S CURRENT AND PROJECTED EMPIRICAL CAPM ANALYSES REASONABLE?**

**A.** No. Mr. McKenzie’s ECAPM analysis is flawed because his model was developed using adjusted utility betas. An ECAPM analysis flattens the security market line, and is designed for raw beta estimates, not adjusted betas. Beta adjustments, on their own, accomplish virtually the same thing as an ECAPM analysis. They flatten the security market line, and increase the intercept at the risk-free rate. ECAPM analysis is not designed to be used with adjusted betas, but rather is designed to be used with unadjusted betas. Mr. McKenzie’s proposal to use adjusted betas within an ECAPM analysis is unreasonable and double counts the attempt to flatten the security market line and increase beta estimates for companies with betas below 1, and decrease CAPM estimates for companies with betas greater than 1.

**Q. PLEASE DESCRIBE WHY MR. MCKENZIE’S ECAPM ANALYSIS DOUBLE COUNTS THE ATTEMPT TO FLATTEN THE SECURITY MARKET LINE, AND INCREASE THE CAPM RETURN ESTIMATES FOR COMPANIES WITH BETAS LESS THAN 1.**

**A.** This flattening of the security market line, or the CAPM return estimate, is redundant with the use of *Value Line*’s adjusted betas and, therefore, is unreasonable. The *Value Line* beta Mr. McKenzie relied on to estimate a utility beta is already adjusted for the tendencies of betas lower than 1 to increase toward the market beta of 1 over time. That is, an adjusted beta will increase a CAPM return estimate for companies with raw betas less than 1, and decrease CAPM return estimates for companies with raw betas greater than 1. A raw beta is an unadjusted beta. *Value Line* adjusts its raw beta by weighting the raw beta with a market beta of 1. Specifically, *Value Line*’s adjusted beta formula is to apply a weight as follows:

Adjusted Beta = Raw Beta x 67% + Market Beta x 35%.

 The practical effect of *Value Line*’s beta adjustment is that it flattens the security market line in the same way that the ECAPM does. Consequently, *Value Line*’s beta adjustment formula accomplishes the same thing as the ECAPM analysis. Hence, the use of *Value Line* adjusted betas in an ECAPM double-counts this return adjustment. Indeed, comparison is made of the implied ECAPM beta estimate, versus traditional *Value Line* beta estimates as follows:

CAPM (VL) = Rf + (.35 + .67 Br) \* MRP

CAPM (Empirical) = Rf + (.25 + .75 Br) \* MRP

 Mr. McKenzie’s use of an adjusted beta in an ECAPM analysis double-counts the increase to a CAPM return estimate for utility betas less than 1.

ECAPM (McKenzie) = Rf + 0.25 + [0.75 \* (0.35 + 0.67 Br)] \* MRP

 I am unaware of any peer-reviewed academic support for use of an adjusted beta in an ECAPM analysis. Consequently, Mr. McKenzie’s application of an ECAPM analysis with an adjusted beta distorts and erroneously increases the CAPM return estimate for his utility proxy group. As a result, his ECAPM analysis is flawed, and should be rejected.

**Q. IS MR. MCKENZIE’S PROPOSAL TO INCREASE HIS CAPM RETURN ESTIMATE BY APPROXIMATELY A 1.0% SIZE ADJUSTMENT RETURN ADDER APPROPRIATE?**

**A.** No. Mr. McKenzie’s size adjustment return on equity adder is based on estimates made by Morningstar’s *2015 Ibbotson SBBI Market Report*. Morningstar estimates various size adjustments based on differentials in beta estimates tied to the size of a company. There are two problems with this size adjustment. First, the size adjustment, as applied by Mr. McKenzie, is not risk comparable for Avista. Second, Mr. McKenzie did not fully apply the buildup methodology. Morningstar’s buildup methodology, now published in the Duff & Phelps Valuation Handbook, includes many external adjustments including: (1) a size adjustment as recognized by Mr. McKenzie, and (2) also an industry risk premium adjustment to reflect the unique risk characteristics of the industry the company operates within. Mr. McKenzie ignored the industry risk premium factor recommended by Morningstar in its CAPM build-up methodology. Rather than recognizing all relevant adjustments provided by Morningstar, Mr. McKenzie cherry-picked the size adjustment to increase the results.

**Q. WHY IS MR. MCKENZIE’S SIZE ADJUSTMENT TO HIS ECAPM RETURN NOT RISK COMPARABLE TO AVISTA?**

**A.** His size adjustment reflects risks that are not reflective of Avista. The size adjustment recommended by Mr. McKenzie reflects companies that have beta estimates in excess of 1.00.[[42]](#footnote-42)/ These beta estimates are substantially higher than the average beta of 0.79 for the utility proxy group used by Mr. McKenzie as reflective of Avista’s investment risk. Therefore, his size adjustment produces a CAPM return estimate that does not produce a risk appropriate return for Avista and therefore, is not a reasonable and fair return for Avista.

**Q. PLEASE DESCRIBE WHY MR. MCKENZIE’S PROPOSED SIZE ADJUSTMENT IS AN INCOMPLETE APPLICATION OF THE BUILD-UP METHODOLOGY.**

**A.** Ibbotson Associates’ and Duff & Phelps’ build-up methodology includes adjustments to the raw CAPM estimate for both size and industry risk differentials. Mr. McKenzie only included the size adjustment. However, failing to reflect the reduced risk associated with the regulated utility industry results in a significant overstatement of a fair CAPM return estimate for Avista.

 Specifically, Mr. McKenzie estimates a size adjustment that is appropriate for Avista of an ECAPM return adder of approximately 1.0%. However, the regulated utility industry risk premium estimate advocated by Ibbotson Associates and Duff & Phelps would be a reduction to the ECAPM and CAPM return estimate in the range of 4.1% to 5.8%.[[43]](#footnote-43)/ As such, a balanced application of Ibbotson’s proposed CAPM build-up methodology would have a medium increase in the CAPM return estimate for a size adjustment, but a significant decrease in the CAPM return estimate to reflect the low-risk nature of the regulated utility industry. Mr. McKenzie’s proposed size adjustment is imbalanced and inaccurate, without reflecting the return on equity reduction appropriate with low-risk regulated industries as proposed by Ibbotson.

**Q. HOW WOULD MR. MCKENZIE’S CURRENT AND PROJECTED EMPIRICAL CAPM RETURN ESTIMATES CHANGE IF THE CORRECT BETA WERE USED?**

**A.** Applying Mr. McKenzie’s average market risk premium estimate of 7.6%, a raw beta of 0.66, and using *Blue Chip*’s projected risk‑free rate of 3.4% will produce an ECAPM return of 8.4%.

 Also, as shown in Table 9 below, reflecting all adjustments complete the build up as recommended by Ibbotson and Duff & Phelps, which includes the risk-free rate, an equity risk premium, a size adjustment and an industry risk premium, Mr. McKenzie’s size-adjusted ECAPM return estimates would decline from 10.8% and 11.0% down to 8.1%. It should be noted that the market risk premium is not adjusted by beta in the completed build up model because the industry risk premium is already adjusted by a full-information beta.

|  |
| --- |
| **TABLE 9****Buildup Return Estimates** |
| **Description** | **Current** | **Projected** |
| Risk-Free Rate1 | 3.0% | 4.2% |
| Equity RP1 | 8.2% | 7.0% |
| Avg Size RP1 | 1.0% | 1.0% |
| Industry RP2 | (4.1%) | (4.1%) |
|  | 8.1% | 8.1% |
| \_\_\_\_\_\_\_\_\_\_\_\_Sources:1Exhibit No.\_\_\_\_(AMM-8).*2Duff & Phelps 2016 Valuation Handbook* at Appendix 3a. |

**Q. DID MR. MCKENZIE ALSO PERFORM A TRADITIONAL CAPM ANALYSIS?**

**A.** Yes. Mr. McKenzie performed a traditional CAPM analysis that relied on the same market risk premiums of 8.2% and 7.0%, the same current and projected risk-free rates of 3.0% and 4.2%, respectively, and the same average *Value Line* betas that he used in his current and projected ECAPM analyses. His unadjusted traditional CAPM range is 9.3% to 9.6%. His size-adjusted range is 10.3% to 10.6%.

**Q. ARE MR. MCKENZIE’S CURRENT AND PROJECTED TRADITIONAL CAPM ANALYSES REASONABLE?**

**A.** No. Mr. McKenzie’s traditional CAPM analyses share some of same flaws as his ECAPM analyses. As described above, his market return outlook of 11.2% and resulting market risk premiums are not reasonable. Further, Mr. McKenzie’s proposal to adjust the traditional CAPM result upward applying a size adjustment is inappropriate and should be rejected for the same reasons discussed in response to his ECAPM.

**Q. HOW WOULD MR. MCKENZIE’S CURRENT AND PROJECTED TRADITIONAL CAPM RETURN ESTIMATES CHANGE IF A REASONABLE MARKET RISK PREMIUM WERE USED?**

**A.** Applying a market risk premium of 7.6%, an average *Value Line* beta of 0.77, and using *Blue Chip*’s projected risk-free rate of 3.4% will produce a CAPM return of 9.3%.

 Also, reflecting a complete build-out as recommended by Ibbotson and Duff Phelps on a basic CAPM return estimate, which includes the risk-free rate, market risk premium, a size adjustment and an industry risk premium, Mr. McKenzie’s size-adjusted CAPM return estimates would decline from 10.3% and 10.6% to 8.1% and 9.0% for his utility proxy group.

**Q. PLEASE DESCRIBE MR. MCKENZIE’S UTILITY RISK PREMIUM ANALYSIS.**

**A.** Mr. McKenzie’s utility bond yield versus authorized return on common equity risk premium is shown in his Exhibit No.\_\_\_\_(AMM-10). As shown on page 3 of this exhibit, Mr. McKenzie estimated an annual equity risk premium by subtracting Moody’s utility bond yield from the electric utility regulatory commission authorized return on common equity over the period 1974 through 2015. Based on this analysis, Mr. McKenzie estimates an average indicated equity risk premium over utility bond yields of 3.62%.

 Mr. McKenzie then adjusts this average equity risk premium using a regression analysis based on an expectation that there is an ongoing inverse relationship between interest rates and equity risk premiums. Using this regression analysis, Mr. McKenzie increases his equity risk premium from 3.62%, up to 5.26% and 4.52% relative to current and projected Baa rated bond yields.[[44]](#footnote-44)/ He then adds these inflated equity risk premiums to the current and projected Baa rated utility bond yield of 5.41% to 7.14%, to produce a return on equity of 10.67% to 11.66%.[[45]](#footnote-45)/

 Mr. McKenzie’s risk premium analysis is overstated because of a highly suspect and inflated projected Baa bond yield of 7.14%, and his development of risk premiums is based on the flawed and incomplete assumption that equity risk premiums change by only changes in interest rates. Academic literature is clear that equity risk premiums change based on differences in the perceived risk of equity securities versus bond securities, not simply caused by only changes in nominal interest rates.

**Q. DO YOU HAVE ANY COMMENTS CONCERNING MR. MCKENZIE’S PROJECTED UTILITY YIELD OF 7.14%?**

**A.** Yes. Mr. McKenzie uses a projected AA utility bond yield for the period 2016 through 2020 in the range of 5.67% to 6.17%, with a midpoint of 5.92%. He then adds a current yield spread for BBB-rated and AA-rated utility bond yields of 1.22% to produce his projected yield of 7.14%. This projected yield is stale and incomplete.[[46]](#footnote-46)/ Current AA utility bond yields are approximately 3.5% as of the 13-week period ending July 22, 2016. Mr. McKenzie’s projected increase to AA utility bond yields does not reflect consensus market outlooks.

**Q. WHY IS MR. MCKENZIE’S USE OF A SIMPLE INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS UNREASONABLE?**

**A.** Mr. McKenzie’s belief that there is a simple inverse relationship between equity risk premiums and interest rates is unsupported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship with these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply changes to interest rates.[[47]](#footnote-47)/

 In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at that time. Interest rate volatility currently is much lower than it was in the 1980s.[[48]](#footnote-48)/ As such, when interest rates were more volatile, the relative perception of bond investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.

 In today’s marketplace, interest rate variability is not as extreme as it was during the 1980s. Nevertheless, changes in the perceived risk of bond investments relative to equity investments still drive changes in equity premiums. However, a relative investment risk differential cannot be measured simply by observing nominal interest rates. Changes in nominal interest rates are highly influenced by changes to inflation outlooks, which also change equity return expectations. As such, the relevant factor needed to explain changes in equity risk premiums is the relative changes to the risk of equity versus debt securities investments, not simply changes to interest rates.

 Importantly, Mr. McKenzie’s analysis ignores investment risk differentials. He bases his adjustment to the equity risk premium exclusively on changes in nominal interest rates. This is a flawed methodology and does not produce accurate or reliable risk premium return on equity estimates. His results should be rejected by the Commission.

**Q. CAN MR. MCKENZIE’S RISK PREMIUM ANALYSES BASED ON PROJECTED YIELDS BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?**

**A.** Yes. By eliminating the inverse relationship adjustment to the equity risk premium of 3.62% and relying on Mr. McKenzie’s current BBB rated utility yield of 5.41%, this will result in a risk premium return on equity of 9.03% (3.62% + 5.41%), rounded to 9.0%. Although, importantly, Mr. McKenzie’s projected BBB bond yield of 5.41% is considerably higher than the current observable market BBB yield of 4.43%.

 The median equity premium based on the last 10 years is approximately 5.00%. Using current observable Baa bond yields of 4.43%, this would imply a common equity return of 9.43%. I believe this more reasonably captures a fair equity risk premium estimate using the data in Mr. McKenzie’s study.

**Q. PLEASE DESCRIBE MR. MCKENZIE’S EXPECTED EARNINGS ANALYSIS.**

**A.** Mr. McKenzie’s expected earnings analysis is based on *Value Line*’s projected earned return on book equities for his proxy groups, adjusted to reflect average year equity returns. Based on a review of projected earnings over the next three to five years, Mr. McKenzie estimates a return on equity for Avista in the range of 10.4% to 10.8% (Exhibit No.\_\_\_\_(AMM-11)).

**Q. IS THE EXPECTED EARNINGS ANALYSIS A REASONABLE METHOD FOR ESTIMATING A FAIR RETURN ON EQUITY FOR AVISTA?**

**A.** No. An expected earnings analysis does not measure the return an investor requires in order to make an investment. Rather, it measures the earned return on book equity that companies have experienced in the past or are projected to achieve in the future. The returns investors require in order to assume the risk of an investment are measured from prevailing stock market prices. An expected earnings analysis measures an accounting return on book equity. Therefore, such a return is not developed from observable market data. A return estimate using an expected earnings analysis can differ significantly from the return investors currently require. Therefore, Mr. McKenzie’s expected earnings approach should be rejected.

**Q. DO YOU HAVE ANY ADDITIONAL COMMENTS IN REGARDS TO MR. MCKENZIE’S RETURN ESTIMATES?**

**A.** Yes. Mr. McKenzie also performed a DCF model on a non-utility proxy group, which he found to be a reasonable risk proxy for Avista. I disagree. I find his non-utility group unreasonable.

**Q. WHY DO YOU CONSIDER MR. MCKENZIE’S NON-UTILITY GROUP UNREASONABLE?**

**A.** The companies included in Mr. McKenzie’s non-utility proxy group are subject to risks that are different from those affecting Avista’s utility operations. As noted by the major credit rating agencies, the utility industry has relatively low risk in comparison with the market. Indeed, the regulatory process itself provides an effective mechanism to mitigate some of the market risks influencing the U.S. economy. Therefore, using Mr. McKenzie’s non‑utility proxy group, which is much riskier than the utility industry, will produce an unreliable and inflated return on equity for a low-risk utility like Avista. Therefore, the Commission should disregard the results of Mr. McKenzie’s non‑utility group DCF.

**Q. CAN YOU PROVIDE AN EXAMPLE OF WHY MR. MCKENZIE’S** **NON‑UTILITY GROUP IS NOT A REASONABLE RISK PROXY GROUP FOR AVISTA?**

**A.** Yes. One criterion that Mr. McKenzie uses to select a comparable risk non-utility group in order to estimate Avista’s return on equity, is to compare Avista’s bond rating to that of the non-regulated group.[[49]](#footnote-49)/ While this is a reasonable method of estimating and identifying comparable proxy groups within the industry, doing it across industries is not as straightforward and not as reliable. For example, if bond rating alone would adequately help to identify comparable risk companies across industries, then there should not be any observable clear differences in the investment cost for securities that had different bond ratings. However, the industry or circumstances behind the security have a material role in the market’s assessment of a fair compensation.

 While “AAA” corporate bonds and U.S. Treasuries have comparable bond ratings, the risk differential is significant largely because of the operating risk differences between the securities. The U.S. government has virtually minimal default risk on its bond issuances, whereas even a “AAA” rated corporate bond has measurable default risk. Similarly, regulated utility operations and the ability to adjust prices to cost of service provide far less default risk than that of non‑regulated companies. A regulated company generally has a franchise to a monopolistic service territory, the ability to set prices based on reasonable and prudent costs, and minimal competition. In significant contrast, a non-regulated entity does not have a franchised or monopolistic customer base, must price its services consistent with what the market will permit, and has far more uncertainty of selling products that produce cash flows that support financial obligations. Therefore, the DCF results produced by Mr. McKenzie’s non-utility group should be rejected.

**Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE RETURN ON EQUITY FOR AVISTA BASED ON YOUR ANALYSIS?**

**A.** My analysis supports a reasonable range of Avista’s current cost of market equity to be from 8.7% to 9.4%, with a midpoint of approximately 9.1%. Applied to Avista’s rate base, and using the Company’s capital structure, this will produce a return which meets the *Hope* and *Bluefield* standards, and support Avista’s credit metrics.

 The Commission should reject Mr. McKenzie’s recommended cost of common equity range for the reasons outlined above, primarily because his analysis has artificially inflated Avista’s cost of equity through unreasonable adjustments.

**Q. DOES THIS CONCLUDE YOUR RESPONSE TESTIMONY?**

**A.** Yes, it does.

1. / *Moody’s Investors Service*, “US Regulated Utilities: Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles,” March 10, 2015. [↑](#footnote-ref-1)
2. / *Standard & Poor’s Ratings Services*: “Corporate Industry Credit Research: Industry Top Trends 2016, Utilities,” December 9, 2015, at 23, emphasis added. [↑](#footnote-ref-2)
3. / Edison Electric Institute, *2015 Financial Review, Annual Report of the U.S. Investor-Owned Electric Utility Industry*, page 17. [↑](#footnote-ref-3)
4. / *Id*., pages 8 and 11. [↑](#footnote-ref-4)
5. / *Standard & Poor’s Ratings Services*: “Corporate Industry Credit Research: Industry Top Trends 2016, Utilities,” December 9, 2015, at 22, emphasis added. [↑](#footnote-ref-5)
6. */ Fitch Ratings*: “U.S. Utilities, Power & Gas Data comparator,” September 21, 2015, at 1 and 7, emphasis added. [↑](#footnote-ref-6)
7. */ Moody’s Investors Service*: “2016 Outlook – US Regulated Utilities: Credit-Supportive Regulatory Environment Drives Stable Outlook,” November 6, 2015, at 1, emphasis added. [↑](#footnote-ref-7)
8. */ EEI Q4 2015 Financial Update*: “Stock Performance” at 4 and 6, emphasis added. [↑](#footnote-ref-8)
9. */ Standard & Poor’s RatingsDirect:* “Summary: Avista Corp.,” May 19, 2015, at 3-4. [↑](#footnote-ref-9)
10. */ The Value Line Investment Survey*, May 20, June 17, and July 29, 2016. [↑](#footnote-ref-10)
11. */ See, e.g.,* David Gordon, Myron Gordon, and Lawrence Gould, “Choice Among Methods of Estimating Share Yield,” *The Journal of Portfolio Management*, Spring 1989. [↑](#footnote-ref-11)
12. */ Blue Chip Financial Forecasts*, June 1, 2016, at 14. [↑](#footnote-ref-12)
13. */ “Fundamentals of Financial Management*,” Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298, emphasis added. [↑](#footnote-ref-13)
14. */ Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 51 and 52. [↑](#footnote-ref-14)
15. */ Duff & Phelps 2016 Valuation Handbook* inflation rate of 3.0% at 2-4, and U.S. Bureau of Economic Analysis, January 29, 2016. [↑](#footnote-ref-15)
16. */ Blue Chip Financial Forecasts*, June 1, 2016, at 14. [↑](#footnote-ref-16)
17. */ Id.* [↑](#footnote-ref-17)
18. */* DOE/EIA Annual Energy Outlook 2015 With Projections to 2040, January 2016, at 4 and A‑38. [↑](#footnote-ref-18)
19. */ CBO: The Budget and Economic Outlook: 2016 to 2026*, January 2016, at 140. [↑](#footnote-ref-19)
20. */* [www.economy.com](http://www.economy.com), *Moody’s Analytics Forecast*, January 6, 2016. [↑](#footnote-ref-20)
21. */* [www.ssa.gov](http://www.ssa.gov), “2015 OASDI Trustees Report,” Table VI.G4. [↑](#footnote-ref-21)
22. */ SNL Financial, Economist Intelligence Unit*, downloaded on January 13, 2016. [↑](#footnote-ref-22)
23. */* (4.25% \* 25%) + (6.70% \* 75%) = 6.09%. [↑](#footnote-ref-23)
24. */* (2.88% \* 25%) + (5.53% \* 75%) = 4.87%. [↑](#footnote-ref-24)
25. */ Blue Chip Financial Forecasts*, July 1, 2016 at 2. [↑](#footnote-ref-25)
26. */ Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital* at 2-4. Calculated as [(1+0.12) / (1+0.03)] – 1. [↑](#footnote-ref-26)
27. */ Blue Chip Financial Forecasts*, July 1, 2016 at 2. [↑](#footnote-ref-27)
28. */* { [ (1 + 0.087) \* (1 + 0.023) ] – 1 } \* 100. [↑](#footnote-ref-28)
29. */ Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital* at 2-4. [↑](#footnote-ref-29)
30. */ Id.* [↑](#footnote-ref-30)
31. */ Id.* at 3-28. [↑](#footnote-ref-31)
32. */ Id.* at 3-30. [↑](#footnote-ref-32)
33. */ Id.* at 3-31. [↑](#footnote-ref-33)
34. */ Id.* at 3-40. [↑](#footnote-ref-34)
35. */* S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor’s RatingsDirect*: “Criteria Methodology: Business Risk/Financial Risk Matrix Expanded,” May 27, 2009. [↑](#footnote-ref-35)
36. */ Standard & Poor’s RatingsDirect*: “Criteria: Corporate Methodology,” November 19, 2013. [↑](#footnote-ref-36)
37. */ Id.* [↑](#footnote-ref-37)
38. */ Id.* [↑](#footnote-ref-38)
39. */* Exh. No. AMM-1T at 37-40. [↑](#footnote-ref-39)
40. */ Id*. at 38. [↑](#footnote-ref-40)
41. / Exhibit No.\_\_\_\_(AMM-8). [↑](#footnote-ref-41)
42. / *Ibbotson SBBI 2015 Classic Yearbook at 108-109*. [↑](#footnote-ref-42)
43. / *Duff & Phelps 2016 Valuation Handbook* at Appendix 3a. Morningstar discontinued the *Ibbotson SBBI Valuation Yearbook* after the 2013 edition. Duff & Phelps has since continued the publication in its 2016 *Valuation Handbook series*. [↑](#footnote-ref-43)
44. / Exhibit No.\_\_\_\_(AMM-10). [↑](#footnote-ref-44)
45. / *Id*. [↑](#footnote-ref-45)
46. / McKenzie Workpapers. [↑](#footnote-ref-46)
47. / “The Market Risk Premium: Expectational Estimates Using Analysts’ Forecasts,” Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and “The Risk Premium Approach to Measuring a Utility’s Cost of Equity,” Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985. [↑](#footnote-ref-47)
48. / Morningstar SBBI, 2009 Yearbook at 95-96. [↑](#footnote-ref-48)
49. / Exh. No. AMM-1T at 42-43. [↑](#footnote-ref-49)