Exh. AMM-14T

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKETS UE-170485 and
UG-170486 *(Consolidated)*

REBUTTAL TESTIMONY OF

ADRIEN M. MCKENZIE, CFA

REPRESENTING AVISTA CORPORATION

REBUTTAL TESTIMONY OF ADRIEN M. MCKENZIE, CFA

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I. INTRODUCTION

Q. Please state your name and business address.

A. Adrien M. McKenzie, 3907 Red River, Austin, Texas, 78751.

Q. Did you previously submit Direct Testimony in this case?

A. Yes, I did.

Q. What is the purpose of your Rebuttal Testimony?

A. My purpose is to respond to the testimony of Mr. David C. Parcell, submitted on behalf of the Staff of the Washington Utilities and Transportation Commission ("WUTC" or "the Commission"), Mr. Michael P. Gorman, on behalf of the Industrial Customers of Northwest Utilities ("ICNU"), and Mr. David J. Garrett, on behalf of the Public Counsel Unit of the Washington Office of Attorney General ("Public Counsel"), concerning the fair rate of return on equity ("ROE") for the jurisdictional electric and gas utility operations of Avista Corp. ("Avista" or "the Company").[1]

A. Summary of Conclusions

Q. Please summarize the principal conclusions of your Rebuttal Testimony.

A. The cost of equity recommendations of Mr. Parcell (9.1%), Mr. Gorman (9.1%), and Mr. Garrett (7.0% and 9.0%)[2] are simply too low and fail to reflect the risk perceptions and return requirements of real-world investors in the capital markets. Their recommendations would be significantly below recent average ROEs authorized by other state commissions. In 2016, the average allowed ROE for vertically-integrated electric

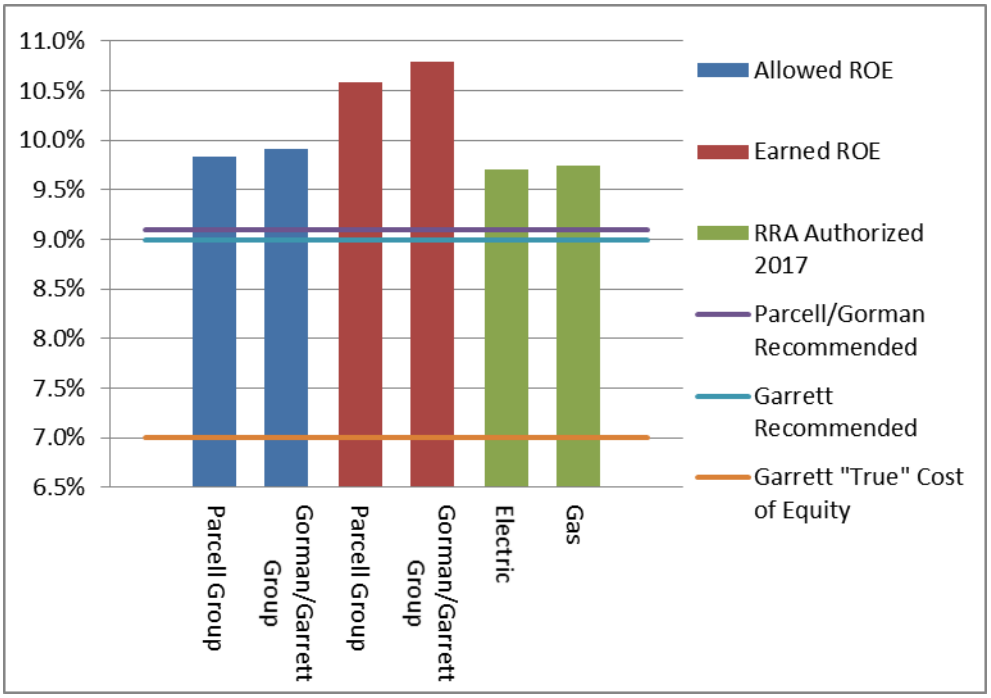
[1] I refer to Mr. Parcell, Mr. Gorman, and Mr. Garrett, collectively, as the "ROE Witnesses."
[2] Mr. Garrett has deemed that 7.0% is the "true" cost of equity for the Company, but as I discuss subsequently, his final recommendation for Avista in this case is 9.0%.

companies (like Avista) was 9.77%; for the first three quarters of 2017 it was 9.70%.[3] For gas utilities, the average allowed ROE was 9.54% in 2016 and 9.75% for the first three quarters of 2017.[4]

Authorized ROE data for the specific firms in Mr. Parcell's and the Gorman/Garrett proxy groups[5] is even more compelling. As shown in Exhibit No. AMM-15, the authorized ROEs for the firms in Mr. Parcell's proxy group range from 9.37% to 10.50% and average 9.83%; for the Gorman/Garrett group the range is 9.15% to 10.90% with an average of 9.91%. In other words, allowed ROEs for the utilities that Mr. Parcell characterizes as "a substitute for Avista,"[6] Mr. Gorman states are "reasonably comparable in investment risk to Avista,"[7] and Mr. Garrett says have "asset and risk profiles similar to those of Avista"[8] indicate that their recommended ROEs are too low to meet regulatory standards. The significant shortfall between the ROE Witnesses' recommendations and the ROE benchmarks discussed in my rebuttal testimony are illustrated in the figure below.

[3] Regulatory Focus, "Major Rate Case Decisions," Regulatory Research Associates, October 26, 2017.
[4] *Id.*
[5] Both Mr. Gorman and Mr. Garrett adopted my proxy group except that Mr. Gorman eliminated Avista Corp. based on the July 19, 2017 announcement that Hydro One was acquiring the Company. I agree that Avista should be eliminated from the group and assume Mr. Garrett would also concur. As a result, Mr. Gorman and Mr. Garrett have the same proxy group and I refer to it as the Gorman/Garrett group.
[6] Parcell Direct at 23.
[7] Gorman Direct at 33.
[8] Garrett Direct at 4.

REBUTTAL FIGURE 1



As the figure shows, the recommendations of the ROE Witnesses fail to meet fundamental regulatory principles. In addition, as I will discuss in more detail later, interest rates are expected to increase. Given this, the recommendations of the ROE Witnesses are even more extreme.

Q. What are your principal conclusions regarding the recommendations of Mr. Parcell?

A. There are key deficiencies in his quantitative applications that lead to a significant downward bias in his conclusions. My rebuttal testimony demonstrates that:

- Mr. Parcell's Discounted Cash Flow ("DCF") analysis contains several flaws: His analysis creates a mishmash of results, none of which even reach his 9.1% recommendation, casting doubt on their credibility; his reliance on historical data, including dividend and book value data, are not appropriate; his decision to average individual growth rates together and then compute a single DCF estimate for each company is misguided; and he has computational shortcomings in his retention growth calculation.

- His Capital Asset Pricing Model ("CAPM") analyses also contains numerous flaws, most notably his reliance on historical data when the ROE estimation process is clearly forward-looking, his choice of 20-year Treasury securities as the basis for the risk-free rate when 30-year Treasuries are warranted, and his reference to geometric means which will always bias results downward.

- Mr. Parcell's Comparable Earnings ("CE") approach, while the most reasonable of his methods, also contains significant shortcomings due primarily to his repeated fault of relying on historical data in a process that is forward-looking, his problematic injection of market-to-book ratios into the analysis, and his failure to apply the essential mid-year adjustment factor.

- Finally, his criticisms of my ROE approaches are not valid, including his comments on the current interest rate outlook, low-end ROE outliers, my CAPM and Empirical CAPM ("ECAPM") analyses, size adjustment, my Utility Risk Premium analysis, my Expected Earnings analysis, and my Non-Utility DCF analysis.

Q. What are your principal conclusions regarding the recommendations of Mr. Gorman?

A. Mr. Gorman also recommends an ROE of 9.10% for the Company. I demonstrate that Mr. Gorman's recommendation is biased downward and lacks credibility based on the following:

- Mr. Gorman's DCF approach is compromised because he includes illogical low-end values in his final results, he ignores a readily available and widely followed source of analysts' growth rates, and he relies on a multi-stage growth DCF model that wrongly assumes that investors view growth in gross domestic product ("GDP") as an upper limit on utility growth.

- The CAPM results reported by Mr. Gorman are suspect because they are based on historical data, they fail to correct for an observed bias in the CAPM result, and they ignore the impact of company size on expected returns.

- His risk premium analysis is flawed because he rejects the well-documented, inverse relationship between equity risk premiums and interest rate levels.

Mr. Gorman's analyses also suffer from many of the same deficiencies identified above in connection with Staff's analysis. His failure to consider the ECAPM or to recognize flotation costs is at odds with the conclusions of recognized financial research and his own admission that these are legitimate expenses that should be recovered. Finally, his criticisms of my Expected Earnings approach and Non-Utility DCF analysis are without merit. Taken as a whole, these flaws ensure that Mr. Gorman's recommended ROE falls well below a fair and reasonable level for Avista.

Q. What are your principal conclusions regarding the recommendations of Mr. Garrett?

A. While Mr. Garrett ostensibly relies on traditional ROE models in forming his opinions, the assumptions that he employs and the conclusions that he reaches are outside the mainstream of ROE analyses. For instance, Mr. Garrett says that, based on DCF and CAPM results, the "true" cost of equity in this case is 7.0%. However, he proposes an ROE for the Company of 9.0% based solely on "the interest of achieving a gradual movement toward the appropriate market-based cost of equity."[9] In other words, his final recommendation is not supported by any of the analyses presented in his direct testimony. As a result, his recommendations should be disregarded in their entirety.

Mr. Garrett's estimate of the "true" cost of equity of 7.0% is not credible on its face. This result is extreme, and falls far below the lowest ROE awarded by any state regulatory

[9] Garrett Direct at 62.

commission in modern history. Beyond this, there are a significant number of flaws and defects in Mr. Garrett's technical analyses. I demonstrate the following:

- Mr. Garrett mistakenly implies that he has divined the "true" cost of equity capital, when in reality it is impossible to make this claim.
- Mr. Garrett's position that firm-specific risks "have no meaningful effect on the cost of equity estimate"[10] is off-point and violates long-standing, fundamental regulatory precedent.
- His DCF analysis significantly understates the Company's ROE because he uses stale dividend data and his growth rate selection is marred by a mistaken belief that expectations of utility investors are limited to growth in GDP.
- His CAPM analysis suffers from many of the same problems I have previously discussed in my rebuttal of Mr. Parcell and Mr. Gorman. That is, it is wrongly based on historic and survey data which leads to nonsensical results.
- Finally, Mr. Garrett's criticisms of my ROE estimation approaches are without merit and I will respond to these allegations accordingly.

B. Comparison of ROE Recommendations to Regulatory Standards

Q. How would you judge the ROE recommendations of the ROE Witnesses in relation to fundamental regulatory standards?

A. Their proposals do not meet basic regulatory principles. One fundamental standard underlying the regulation of public utilities, as set forth by the Supreme Court's *Bluefield* and *Hope* decisions, requires that the Company must have the opportunity to earn an ROE comparable to contemporaneous returns available from alternative investments of similar risk if it is to maintain its financial flexibility and ability to attract capital.

[10] Garrett Direct at 54.

If the utility is unable to offer a return similar to the returns available from other opportunities of comparable risk, investors will become unwilling to supply capital to the utility on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their cost of capital. The recommendations of the ROE Witnesses are below reasonable outcomes and violate regulatory standards

Q. Have other regulators recently recognized the importance of these fundamental standards in evaluating a fair ROE?

A. Yes. The Federal Energy Regulatory Commission ("FERC") recently affirmed that its "ultimate task is to ensure that the resulting ROE satisfies the requirements of *Hope* and *Bluefield*."[11] While FERC looks initially to the DCF methodology when evaluating a fair ROE, it has also made clear that it is the result reached, not the method used, that determines whether an ROE is just and reasonable.[12] As FERC observed:

> [W]e also understand that any DCF analysis may be affected by potentially unrepresentative financial inputs to the DCF formula, including those produced by historically anomalous capital market conditions. Therefore, while the DCF model remains the Commission's preferred approach to determining allowed rate of return, the Commission may consider the extent to which economic anomalies may have affected the reliability of DCF analyses in determining where to set a public utility's ROE within the range of reasonable returns . . .[13]

[11] *Coakley v. Bangor Hydro-Electric Co.*, Opinion No. 531, 147 FERC ¶ 61,234 at para. 144 (2014) ("Opinion No. 531").
[12] *See, e.g.*, Opinion No. 531 at para. 142.
[13] *Id.* at para. 41. Application of the two-step DCF method without the "mid-point of the upper half of the range" adjustment would have resulted in an ROE of only 9.39%, a value FERC found unreasonable. *Id.* at para. 142.

FERC concluded that, under present capital market conditions, a mechanical application of the DCF model using GDP growth would result in an ROE that was insufficient to meet regulatory standards, and that "it is necessary and reasonable to consider additional record evidence, including evidence of alternative benchmark methodologies and state commission-approved ROEs," to determine a just and reasonable ROE.[14] In Opinion Nos. 531 and 551, FERC found that risk premium, CAPM, and expected earnings methodologies directly comparable to those applied in my Direct Testimony in this case were informative and relied on these analyses to set the just and reasonable point ROE at the upper end of the DCF range.

Q. Are there objective measures for the reasonableness of a cost of equity analysis?

A. Yes, allowed ROEs by other state commissions provide one gauge of reasonableness for the outcome of a cost of equity analysis. As I demonstrated above, the recommendations of the ROE witnesses are far below allowed returns over the 2016-2017 timeframe (9.70%-9.77% electric cases, 9.50%-9.75% gas cases) and for the companies in their own proxy groups (9.83% Parcell proxy group, 10.91% Gorman/Garrett proxy group). In considering utilities with comparable risks, investors will always prefer to provide capital to the opportunity with the highest expected return. If a utility is unable to offer a return similar to that available from other investment opportunities with equivalent risks, investors will become unwilling to supply the utility with capital on reasonable terms. While the ROEs approved in other jurisdictions do not constrain the WUTC's decision-making in this

[14] Opinion No. 531 at para. 145 (2014).

proceeding, it is important to understand that there would be a disincentive for investors to provide equity capital to Avista if the Commission were to apply an unreasonably low ROE, compared to entities of comparable risk.

Q. Are expected earned rates of return also a valid benchmark for evaluating the ROE Witnesses' ROE recommendations?

A. Yes. Expected earned rates of return for other utilities provide another useful measure to gauge the reasonableness of the ROE Witnesses' ROE recommendations. Reference to expected earnings is predicated on the comparable earnings test, which developed as a direct result of the Supreme Court decisions in *Bluefield* and *Hope*. This test recognizes that investors compare the allowed ROE with returns available from other alternatives of comparable risk.

Q. Have the expected earnings or comparable earnings approaches been recognized as valid ROE benchmarks?

A. Yes. Mr. Parcell himself, in a textbook prepared for the Society of Utility and Regulatory Analysts, points out that the comparable earnings method is "easily understood" and firmly anchored in the regulatory economics underlying the *Bluefield* and *Hope* cases, and notes that the amount of subjective judgment required to implement this method is "minimal," particularly when compared to the DCF and CAPM methods.[15] Mr. Parcell employs a CE approach in his testimony and concludes from this analysis that an ROE range of 9.0% to 10.0% (midpoint 9.5%) is reasonable.[16]

[15] Parcell, David C., THE COST OF CAPITAL – A PRACTITIONER'S GUIDE at 115-116 (2010).
[16] Parcell Direct at 35.

Similarly, *New Regulatory Finance* concluded that, "because the investment base for ratemaking purposes is expressed in book value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful."[17] More recently, FERC concluded that the expected earnings approach "can be useful in validating our ROE recommendation . . . given its close relationship to the comparable earnings standard that originated in *Hope,* and the fact that it is used by investors to estimate the ROE that a utility will earn in the future."[18]

Q. Do expected earned rates of return for the ROE Witnesses' proxy groups demonstrate that their ROE recommendations are too low?

A. Yes. The year-end returns on common equity projected by the Value Line Investment Survey ("Value Line") over its forecast horizon for the firms in the ROE Witnesses' proxy groups are shown in Exhibit No. AMM-16. Once adjusted to a mid-year basis,[19] reference to expected earnings implied an annual average cost of equity for the utilities referenced by Mr. Parcell of 10.6% and 10.8% for the Gorman/Garrett group. These book return estimates are an "apples to apples" comparison to their ROE recommendation. If Avista is only allowed the opportunity to earn a 9.0% or 9.1% return on the book value of its

[17] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 395.
[18] Opinion No. 531 at para. 147 (2014). The Virginia Corporation Commission is required by statute (Virginia Code § 56-585.1.A.2.a) to consider the earned returns on book value of electric utilities in its region. Another example is the Idaho Public Utilities Commission, which has confirmed the relevance of return on book equity evidence. *See, e.g.,* Order No. 29505, Case No. IC-E-03-13 at 38 (Idaho Public Utilities Commission, May 25, 2004).
[19] Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, which is consistent with the theory underlying this approach. Use of an average return in developing the sustainable growth rate is well supported. *See, e.g.*, Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 305-306, which discusses the need to adjust Value Line's end-of-year data. FERC has affirmed the need for this adjustment to "r" in *Bangor Hydro-Elec. Co.*, 122 FERC ¶ 61,265 (2008).

equity investment, as recommended by the ROE Witnesses, while other comparable utilities are expected to earn an average of 10.6%-10.8%, the implications are clear – Avista's investors will be denied the ability to earn a return that is comparable to those available from investments with comparable risk.

Q. What other evidence indicates that the ROE Witnesses' recommended ROEs fail to meet regulatory standards?

A. As discussed in my Direct Testimony, expected rates of return for firms in the competitive sector of the economy are also relevant in determining the appropriate return to be allowed for rate-setting purposes.[20] The idea that investors evaluate utilities against the returns available from other investment alternatives – including the low-risk companies in my Non-Utility Group – is a fundamental cornerstone of modern financial theory. Aside from this theoretical underpinning, any casual observer of stock market commentary and the investment media quickly comes to the realization that investors' choices are almost limitless. It follows that utilities must offer a return that can compete with other risk-comparable alternatives, or capital will simply go elsewhere.

In fact, returns in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that the degree of risk, not the nature of the business, is relevant in evaluating an allowed ROE for a utility.[21] The cost of capital is based on the returns that investors could realize by putting their money in other

[20] McKenzie Direct at 41-45.
[21] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

alternatives, and the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment.

Q. Does Mr. Parcell recognize this principal and consider non-utility stocks relevant to determining the cost of capital?

A. Yes. In fact, Mr. Parcell's CE methodology considers realized ROEs of unregulated companies (in the form of the S&P 500).[22] As Mr. Parcell states:

> The recent ROEs of the proxy utilities and S&P 500 group can be viewed as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy.[23]

Mr. Parcell notes further that his CE method is derived from the "corresponding risk" concept discussed in the *Bluefield* and *Hope* cases.[24] He continues:

> This method is thus based upon the economic concept of opportunity cost. As previously noted, the ROE is an opportunity cost: the prospective return available to investors from alternative investments of similar risk.[25]

In other words, Mr. Parcell recognized that investors gauge their required returns from utilities against those available from utility and non-utility firms of comparable risk. My reference to a low-risk Non-Utility Group is entirely consistent with the guidance of the Supreme Court and the principles outlined in Mr. Parcell's own testimony.

[22] Standard & Poor's Corporation ("S&P).
[23] Parcell Direct at 35.
[24] *Id.* at 32.
[25] *Id.*

Q. Did the ROE Witnesses present any objective evidence that would support a finding that your Non-Utility Group is riskier than Avista or the companies in his proxy group?

A. No. They presented no meaningful evidence to rebut the results for my Non-Utility Group, or otherwise demonstrate that my Non-Utility Group is riskier than Avista or his proxy group of utilities. Instead, Mr. Parcell for instance, simply alluded to the obvious fact that "unregulated enterprises face different risk and operational characteristics that do utilities."[26]

But my Direct Testimony did not contend that the operations of the companies in the Non-Utility Group are comparable to those of utilities. Clearly, operating a worldwide enterprise in the beverage, pharmaceutical, retail, or food industry involves unique circumstances that are as distinct from one another as they are from a utility. But as the Supreme Court recognized, investors consider the expected returns available from all these opportunities in evaluating where to commit their scarce capital. The simple observation that a firm operates in non-utility businesses says nothing at all about the overall investment risks perceived by investors, which is the very basis for a fair rate of return. So long as the risks associated with the Non-Utility Group are comparable to Avista and other utilities the resulting DCF estimates provide a meaningful benchmark for the cost of equity. As demonstrated in my Direct Testimony, a comparison of objective risk measures demonstrates

[26] Parcell Direct at 55.

conclusively that the Non-Utility Group is regarded as less risky than Avista, making it a conservative benchmark for a fair ROE in this case.[27]

Q. Does the fact that utilities are regulated somehow invalidate this comparison of objective risk indicators?

A. Absolutely not. While I agree that utilities operate under a regulatory regime that differs from firms in the competitive sector, any risk-reducing benefit of regulation is already incorporated in the overall indicators of investment risk presented in Table 7 to my Direct Testimony. The impact of regulation on a utility's investment risks is one of the key elements considered by credit rating agencies and investment advisory services, such as S&P and Value Line, when establishing corporate credit ratings and other risk measures. As a result, the impact of regulatory protections is already reflected in my risk analysis. Meanwhile, the beta values supported by modern financial theory are premised on stock price volatility relative to the market as a whole, and are not dependent on an assessment of firm-specific considerations. As a result, the impact of regulatory differences on investment risk is accounted for in the published risk indicators relied on by investors and cited in my Direct Testimony.

Q. What were the results of your ROE analysis for the Non-Utility Group?

A. As shown on Exhibit No. AMM-12 (at 3), the average ROEs for the Non-Utility group ranged from 10.2%-10.8%. The midpoint of this range is 10.5%.

[27] McKenzie Direct, Table 7, at 44.

Q. What do these benchmarks you discuss imply with respect to the ROE Witnesses' recommendations?

A. As set forth above, objective consideration of regulatory standards and alternative benchmarks demonstrate that the 9.1% ROE recommended by Mr. Parcell and Mr. Gorman, and the 9.0% ROE recommended by Mr. Garrett are too low and violate the economic and regulatory standards underlying a fair ROE.

Q. What other pitfalls are associated with an ROE that falls below those associated with other comparable companies?

A. Adopting an ROE for Avista that is well below the ROEs for comparable (or lower risk) companies could lead investors to view the Commission's regulatory framework as unsupportive, an outcome that would undermine investors' willingness to support future capital availability for investment in Washington. Security analysts study regulatory orders in order to advise investors where to invest their money. Moody's Investors Service ("Moody's") noted that, "[f]undamentally, the regulatory environment is the most important driver of our outlook."[28] Similarly, S&P concluded that "[t]he regulatory framework/regime's influence is of critical importance when assessing regulated utilities' credit risk because it defines the environment in which a utility operates and has a significant bearing on a utility's financial performance."[29] Value Line summarizes these sentiments:

[28] Moody's Investors Service, *Regulation Will Keep Cash Flow Stable As Major Tax Break Ends*, INDUSTRY OUTLOOK (Feb. 19, 2014).
[29] Standard & Poor's Corporation, *Key Credit Factors For The Regulated Utilities Industry*, RATINGSDIRECT (Nov. 19, 2013).

> As we often point out, the most important factor in any utility's success, whether it provides electricity, gas, or water, is the regulatory climate in which it operates. Harsh regulatory conditions can make it nearly impossible for the best run utilities to earn a reasonable return on their investment.[30]

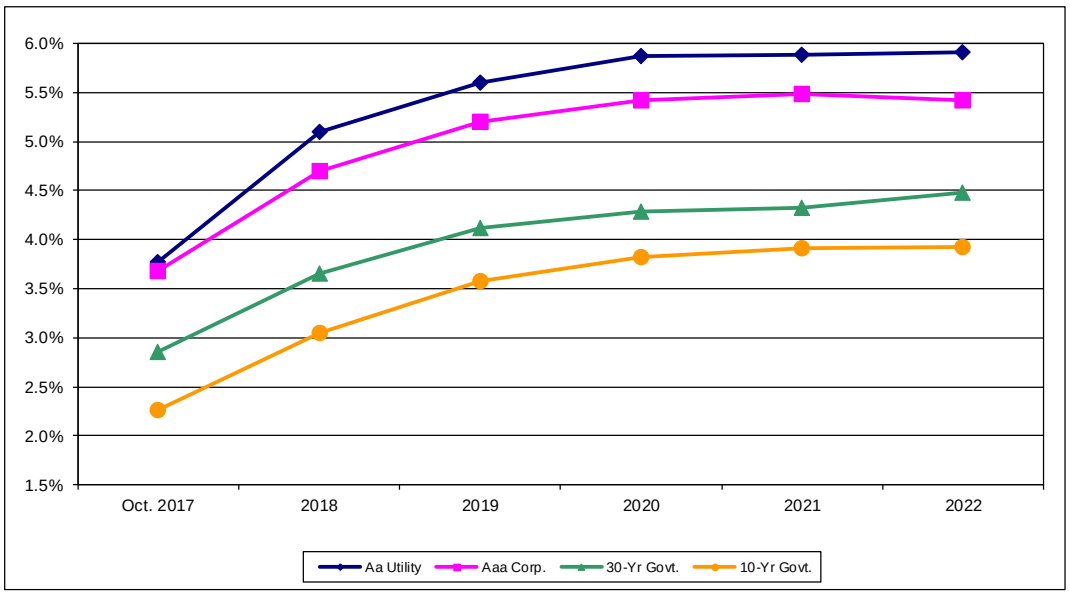
Utilities and their investors must lock up large sums of capital and are exposed to many risks over the long time horizon when they invest in utility infrastructure. At the levels proposed by the ROE Witnesses, the ability of Washington utilities to attract and retain capital would be compromised. This would have a long-term, chilling effect on investors' willingness to support capital investment in utility infrastructure, not just for the Company, but for all utilities in the state. On the other hand, if Commission actions instill confidence that the regulatory environment is supportive, investors will provide the necessary capital, which ultimately benefits customers and the service area economy.

Q. What is the expected direction of interest rates and how does this impact the evaluation of a fair ROE in this proceeding?

A. Interest rates are expected to increase. Below is an update of Figure 2 (Interest Rate Trends) from my Direct Testimony:

[30] Value Line Investment Survey, *Water Utility Industry*, January 13, 2017, p. 1780.

REBUTTAL FIGURE 2
INTEREST RATE TRENDS



Source:
Value Line Investment Survey, Forecast for the U.S. Economy (Sep. 1, 2017)
IHS Global Insight (Aug. 24, 2017)
Energy Information Administration, Annual Energy Outlook 2017 (Jan. 5, 2017)
Wolters Kluwer, Blue Chip Financial Forecasts, Vol. 36, No. 6 (Jun. 1, 2017)

As the figure shows, investors continue to anticipate that interest rates will increase significantly from present levels. These projections are from forecasting services that are highly regarded and widely referenced, as I discuss in my Direct Testimony (at 19-20). The interest rate increases shown in the figure above are on the order of 150-200 basis points through 2022, which implies higher long-term capital costs over the period when rates established in this proceeding will be in effect.

Q. Do the ROE Witnesses acknowledge that interest rates are expected to increase?

A. Yes. For instance, in selecting the risk-free rate for use in his CAPM analysis, Mr. Gorman used *Blue Chip Financial Forecasts'* projected 30-year Treasury bond yield of

3.60%, while acknowledging that the current rate is 2.81%.[31] Mr. Gorman also utilizes the higher projected Treasury bond yield in his risk premium analysis. With these adjustments, Mr. Gorman clearly recognizes that investors anticipate a substantial increase in future interest rates.

Q. What do these expectations imply with respect to the ROE for the Company more generally?

A. Largely because of unprecedented Federal Reserve policies, current capital costs are not representative of what is likely to prevail over the near-term future. As indicated in my Direct Testimony,[32] regulators have recognized the potential shortcomings of the DCF approach. In a more recent opinion, FERC reiterated its position that current capital market conditions may undermine the reliability of the DCF model, and for this reason, ROE model results should be evaluated with even more critical judgment and focus:

> As described above, evidence in the record regarding historically low interest rates and Treasury bond yields as well as the Federal Reserve's large and persistent intervention in markets for debt securities are sufficient to find that current capital market conditions are anomalous.[33]

> Similarly, while Complainants provide evidence that interest rates have been trending downwards, the current levels may be so low as to cause irregularities in the outputs of the DCF. Despite such yields remaining low for several years, we find that they are anomalous and could distort the results of the DCF model.[34]

[31] Gorman Direct at 55.
[32] McKenzie Direct at 20-21.
[33] Opinion No. 551, 156 FERC ¶ 61,234 at P 124 (2016).
[34] *Id.*

Current capital market conditions make the process of setting a fair ROE even more demanding. In this environment, it is imperative that ROE model results be thoroughly tested against accepted benchmarks and compared to other checks of reasonableness.

Q. Have recent decisions by the Federal Reserve reinforced investor sentiment that interest rates will trend higher?

A. Yes. On June 14, 2017 the Federal Reserve increased the target range for the Federal Funds rate by another 25 basis points to 1.00% to 1.25%. This is in addition to similar increases in March 2017, December 2016, and December 2015. More rate hikes by the Federal Reserve are anticipated.

Q. Is it necessary that interest rate forecasts, like those mentioned above, be perfectly accurate in order to be relied upon?

A. Absolutely not. I dealt with this topic in Exhibit No. AMM-3 (at 12) in discussing the validity of analysts' growth forecasts, and the same principle applies here. In estimating investors' required rate of return, what investors expect, not what actually happens, is what matters most. While the projections of various services may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing expected interest rates and how they might influence the Company's allowed ROE. Any difference in actual rates as compared to analysts' forecasts is beside the point. What is most important is that investors share analysts' views when the forecasts were made and incorporate those views into their decision making process, not the actual rates that ultimately transpire.

Q. Does the March 10, 2015 report from Moody's cited by Mr. Gorman[35] support a dramatic drop in Avista's allowed return from those currently being authorized for comparable utilities?

A. No. The Moody's report discusses only very generally the impacts of a "slow" decline in utilities' authorized ROEs, and how regulators may lower authorized ROEs without harming utilities' cash flow, such as by "targeting depreciation." The Moody's report does not identify a cost of equity for regulated utilities at all, much less discuss a cost of equity for Avista, which is not even mentioned in the report. In my view, the Moody's report offers no relevant information about a fair ROE in this proceeding, and it certainly does not support the values recommended by the ROE Witnesses.

Q. Does the Moody's report indicate that equity investors would not be concerned if Avista's ROE was lowered to the levels recommended by the ROE Witnesses?

A. No. I believe no one can make such an inference based on this report.[36] First, it is important to note that the primary mission of credit rating agencies like Moody's is to provide debt holders with an accurate benchmark of the relative risks of default associated with long-term bonds and other debt securities. As the report cited by Mr. Gorman clearly observes, Moody's evaluation is premised "from the perspective of a probability of a default and expected loss given default."

[35] Gorman Direct at 9-10.
[36] Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," *Sector In-Depth* (March 2015); Cited at Gorman Direct at 9-10.

Bondholders, the constituency represented by Moody's, do not share in a utility's net income or profits. As a result, Moody's focus is on cash flows, which are viewed "as a more important rating driver."[37] On the other hand, equity investors are intensely focused on the ability of the utility to generate earnings, dividends and growth. This difference in the characteristics and priorities between debt and equity securities gives rise to the considerable distinction in the risks faced by debt holders and equity investors. While a moderate and gradual downturn in ROEs may not pose an immediate threat to the cash flow protection underlying the credit ratings on a utility's debt, it would have an immediate, negative impact on returns to common stockholders.

Q. Mr. Gorman claims that recent trends in utility bond rating actions support his ROE recommendation.[38] Do general trends in utility credit ratings provide any justification for the low recommendations by the ROE Witnesses in this case?

A. No. The factors that lead to a utility company's bond rating depend on a host of considerations, including the nature of the regulatory environment, diversity and health of the service area economy, availability of supportive recovery mechanisms, weather or geographical challenges, and so on. Thus, there is no direct connection between the general pattern of credit rating actions for other utilities in the industry and the specific determination of a fair ROE for Avista. In fact, the wide disparity between the ROE Witnesses' recommendations and the benchmarks discussed earlier in my testimony indicate that their

[37] *Id.*
[38] Gorman Direct at 7-9.

proposals would be entirely inconsistent with the factual circumstances leading to the pattern of credit rating actions displayed in Mr. Gorman's Figure 2.

II. RESPONSE TO MR. PARCELL

Q. How did Mr. Parcell arrive at his 9.1% recommended ROE for Avista?

A. Mr. Parcell's recommended ROE was based on the results of three analyses. From his DCF analysis, he produced a range of 8.4%-8.7%, with a midpoint of 8.55%. His CAPM resulted in a range of 6.6%-6.9%, with a midpoint of 6.75%. His third approach, the CE method, yielded a range of 9.0%-10.0%, with a midpoint of 9.5%. His final recommendation of 9.1% represents the midpoint of his DCF upper end (8.70%) and the midpoint of CE (9.5%) results.[39]

A. Discounted Cash Flow Model

Q. What are the flaws in Mr. Parcell's DCF analysis?

A. Mr. Parcell's DCF analysis contains several significant defects which bias his outcomes downward. First, his DCF methodology results in almost 30 means and medians from which to choose.[40] Interestingly, not one of his multitude of DCF results is as high as 9.1%, his ultimate ROE recommendation in this case. Eight results are in the 6% range, nine are in the 7% range, and eleven are in the 8% range, with no results at or above 9%. His DCF values are the result of a purely mechanical application of the DCF model that appears more concerned with the quantity, rather than the quality, of the outcomes. This approach does not support his final recommendation in any substantive way and should be discounted accordingly.

[39] Parcell Direct at 4.
[40] Parcell Exhibit No. DCP-9 at 4.

Q. Are there additional flaws in Mr. Parcell's DCF analysis?

A. Yes. Mr. Parcell has relied extensively on historical growth rates in determining his final DCF ranges. I do not believe that historical trends provide a meaningful guide to investors' expectations. As discussed at length in my direct testimony,[41] it is investors' future expectations – and not actual, historical results – that determine the current price they are willing to pay for commons stocks. If past trends are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, which have experienced declining dividend payouts, earnings pressure, and, in many cases, slow or stagnant sales growth. Mr. Gorman concurs with this view:

> As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data. 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.[42] [emphasis added]

While past conditions for utilities serve to depress historical growth rates, they are not representative of long-term expectations for the electric utility industry. Moreover, to the extent historical trends for electric utilities are meaningful, they are also captured in projected growth rates, such as those published by Value Line and Zacks Investment Research ("Zacks"), since securities analysts also routinely examine and assess the impact and continued relevance (if any) of historical trends.

[41] McKenzie Exhibit No. AMM-3 at 11-13.
[42] Gorman Direct at 36.

Q. Is the downward bias inherent in historical growth rates for electric utilities evident in Mr. Parcell's DCF analysis?

A. Yes, it is. For example, consider the historical dividend per share ("DPS") growth measures displayed on Exhibit No. DCP-9 (at 3) of Mr. Parcell's testimony. As shown there, roughly one-third of the individual historical dividend growth rates for the companies in the Parcell and McKenzie proxy groups fall at or below 3.0%. Seven growth rates (for Ameren, Exelon, Otter Tail, and PG&E) are even below zero. Combining a growth rate of 3.0% with Mr. Parcell's dividend yields of 3.0% and 3.1% (Exhibit No. DCP-9 at 2) implies DCF costs of equity of 6.0% and 6.1%%, which are only about 175 basis points above the most recent six month average yield on triple-B utility bonds.[43] As a result, these values provide no significant information regarding investors' expectations and requirements. Clearly, any consideration of Mr. Parcell's historical DPS growth measure results in a built-in downward bias to his DCF conclusions.

Q. Mr. Parcell asserts that "It is not appropriate to rely exclusively on analysts short-term eps growth projections in a DCF analysis."[44] Do you agree?

A. No. As I discussed in my direct testimony, evidence supports the contention that investors rely primarily on earnings per share ("EPS") growth projections in forming their expectations.[45] The continued success of investment services such as IBES,[46] Value Line, and Zacks, and the fact that projected growth rates from such sources are widely

[43] The average of monthly triple-B utility bond yields reported by Moody's for the six month period ending October 2017, was 4.32%.
[44] Parcell Direct at 45.
[45] McKenzie Direct at 43-44.
[46] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in evaluating future growth. Future trends in EPS, which provide the source for dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of EPS in evaluating investors' expectations and requirements is well accepted in the investment community, and surveys of analytical techniques relied on by professional analysts indicate that earnings is far more influential than dividend or book value per share ("BVPS").[47] As explained in *New Regulatory Finance*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth].[48]

The availability of projected EPS growth rates also is key to investors relying upon this measure as compared to future trends in DPS or BVPS. Apart from Value Line, investment advisory services do not generally publish comprehensive DPS or BVPS growth projections, and this scarcity of dividend or book value growth rates relative to the abundance of EPS forecasts attests to their relative influence. The fact that analyst EPS growth estimates are routinely referenced in the financial media and in investment advisory publications implies that investors use them as a primary basis for their expectations. As observed in *New Regulatory Finance*:

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[47] Stanley B. Block, "A Study of Financial Analysts: Practice and Theory," *Financial Analysts Journal* (July/August 1999).
[48] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 298.

> The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually used by analysts reveal the dominance of earnings and conclude that earnings are considered far more important than dividends.[49]

While I did not rely solely on EPS projections in applying the DCF model,[50] my evaluation clearly supports greater reliance on EPS growth rate projections than other alternatives. Similarly, as noted in my direct testimony,[51] other regulators have also recognized that analysts' EPS growth rates provide a superior basis on which to estimate investors' expectations. For example, the Regulatory Commission of Alaska ("RCA") concluded:

> We also find persuasive the testimony . . . that projected EPS returns are more indicative of investor expectations of dividend growth than historical growth data because persons making the forecasts already consider the historical numbers in their analyses.[52]

The RCA determined that arguments against exclusive reliance on analysts' EPS growth rates to apply the DCF model "are not convincing."[53]

Q. Mr. Parcell cites a 2010 Mckinsey & Co. study that compares analysts' projections to actual results.[54] Does the fact that analysts' EPS projections may deviate from actual results hamper their use in applying the DCF model?

A. No. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make

[49] *Id*. at 302-303.
[50] As discussed in my direct testimony, I also examined the "br+sv", sustainable growth rates for the companies in my proxy groups.
[51] Exhibit AMM-3 at 13.
[52] U-07-76(8) at 65, n. 258.
[53] U-08-157(10) at 36.
[54] Parcell Direct at 69-70.

investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. As *New Regulatory Finance* concluded, "The accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations."[55]

Moreover, as discussed earlier, there is every indication that expectations for earnings growth are instrumental in investors' evaluation and the fact that analysts' projections deviate from actual results provides no basis to ignore this relationship. Comparisons between forecasts of future growth expectations and the historical trend in actual earnings are largely irrelevant in evaluating the use of analysts' projections in the DCF model. But as noted above, the investment community can only make decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and the fact that projections deviate from actual results says nothing about whether investors rely on analysts' estimates. In using the DCF model to estimate investors' required returns, the purpose is not to prejudge the accuracy or rationality of investors' growth expectations. Instead, to accurately estimate the cost of equity we must base our analyses on the growth expectations investors actually use in determining the price they are willing to pay for common stocks –

[55] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 298.

even if we do not agree with their assumptions. As Robert Harris and Felicia Marston noted in their article in *Journal of Applied Finance*:

> …Analysts' optimism, if any, is not necessarily a problem for the analysis in this paper. If investors share analysts' views, our procedures will still yield unbiased estimates of required returns and risk premia.[56]

Similarly, there is no logical foundation for criticisms such as those raised by Mr. Parcell that the purported upward bias of analysts' growth rates limits their usefulness in applying the DCF model. If investors' base their expectations on these growth rates, then they are useful in inferring investors' required returns – even if the analysts' forecasts prove to be wrong in hindsight.

Q. Does the single study cited by Mr. Parcell in support of his contention that analysts are overly optimistic paint a complete picture of the financial research in this area?

A. No. Peer-reviewed empirical studies do not uniformly support his contention that analysts' earnings projections are optimistically biased. For example, a study reported in "Analyst Forecasting Errors: Additional Evidence" found no optimistic bias in earnings projections for large firms (market capitalization of $500-$3,000 million), with data for the largest firms (market capitalization > $3,000 million) demonstrating a *pessimistic* bias.[57] Similarly, a 2005 article that examined analyst growth forecasts over the period 1990 through 2001 illustrated that Wall Street's forecasting is not inherently optimistic, and other research on this topic also concludes that there is no clear support for the contention that analyst

[56] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (2001) at 8

[57] Lawrence D. Brown, "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal* (November/December 1997).

forecasts contain upside bias.[58] Moreover, the study cited by Mr. Parcell does not focus on large, rate-regulated utilities in relative stable industries, where the magnitude of any potential bias is likely to be very small, if it exists at all.

Q. Mr. Parcell cites an advisory issued by the Securities and Exchange Commission ("SEC").[59] Does this in any way call into question your findings regarding analysts' EPS growth rates?

A. No. The SEC "Investor Alert" cited by Mr. Parcell does not focus on EPS growth rate forecasts at all. Rather, it merely advises investors not to rely on the "buy," "hold," or "sell" recommendations of securities firms as the sole basis to determine whether or not a particular security is appropriate in light of their individual investment goals and specific circumstances. This is certainly sound advice, but it has nothing whatsoever to do with the use of projected EPS growth rates in applying the DCF model.

Q. Is there another shortcoming in Mr. Parcell's DCF analysis?

A. Yes. Another flaw in Mr. Parcell's DCF analyses was his decision to average all individual growth rates, and then compute a single DCF estimate for each growth rate category. Each growth rate represents a stand-alone estimate of investors' future expectations, and each value should be evaluated on its own merits. The fact that an average of several growth rates might produce a DCF estimate that could be considered reasonable does not absolve the need to evaluate each underlying growth rate separately.

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[58] Stephen Ciccone, "Trends in analyst earnings forecast properties," *International Review of Financial Analysis*, 14:2-3 (2005); Jeffery Abarbanell and Lehavy Reuven, "Biased forecasts or biased earnings? The role of reported earnings in explaining apparent bias and over/under reaction in analysts' earnings forecasts," *Journal of Accounting and Economics*, 36: 142 (2003); Laim Denning, "Wall Street's Missed Expectations," *Wall Street Journal* at C8 (Apr. 26, 2010).
[59] Parcell Direct at 48.

For example, consider a utility with a dividend yield of 3.5% and three hypothetical growth estimates of 0.0%, 6.5%, and 14.0%. Under Mr. Parcell's method, the DCF estimate would be computed by adding the 6.8% average of the three individual growth rates to the dividend yield, resulting in a cost of equity estimate of 10.3%. The problem with this method is that it disguises the fact that two of the underlying growth rates – 0.0% and 14.0% – do not provide a meaningful guide to investors' expectations. Rather than averaging the good with the bad, each implied cost of equity estimate (in this example, 3.5%, 10.0%, and 17.5%) should be evaluated on a stand-alone basis.[60] Mr. Parcell simply calculated the average of the individual growth rates with no consideration for the reasonableness of the underlying data. Because Mr. Parcell failed to perform this essential step, his DCF analysis included individual growth rates that do not reflect investors' expectations. Therefore, his results are biased downward.

Q. Did Mr. Parcell implicitly recognize the need to evaluate the economic logic of individual growth rates and the resulting cost of equity estimates?

A. Yes. Mr. Parcell eliminated negative growth rates from his DCF calculations, noting on page 4 of Exhibit DCP-9 that "negative values not used in calculations." Of course, a negative growth rate would imply a DCF cost of equity that falls below a utility's dividend yield and Mr. Parcell was fully justified to exclude such results. However, Mr. Parcell should have applied the same critical analysis to the remainder of his growth rate values, many of which imply cost of equity estimates that are similarly illogical.

[60] The implied cost of equity estimates are calculated as the sum of the dividend yield (3.5%) and the respective growth rates (0.0%, 6.5%, and 14.0%).

Q. Can you show the downward bias in Mr. Parcell's constant growth analysis?

A. Yes. For example, Mr. Parcell reports a First Call growth rate of 1.40% for Hawaiian Electric.[61] Combining this growth rate with Hawaiian Electric's corresponding dividend yield of 3.80% results in a cost of equity estimate of 5.20%. Similarly, combining Exelon's First Call growth rate of 1.49% with its dividend yield of 3.60% produces an ROE estimate of 5.09%. These implied costs of equity are less than, or do not sufficiently exceed yields on current and projected public utility bonds. As a result, these illogical growth measures should have been removed from Mr. Parcell's constant growth DCF analysis.

Q. Why are Mr. Parcell's retention growth rates understated?

A. Mr. Parcell based his calculations of the internal, "br" retention growth rate on data from Value Line. If the rate of return, or "r" component of the internal growth rate, is based on end-of-year book values, such as those reported by Value Line, it will understate actual returns because of growth in common equity over the year. Mr. Gorman, like me, makes an adjustment in his "br" analysis to convert end-of-year amounts derived from Value Line data, to average annual amounts which account for growth in common equity over the year.

Furthermore, Mr. Parcell used the simplest form of the retention growth model, which defines growth as a function of internally generated funds only. In applying this method, Mr. Parcell should have used the "br + sv" form of the model, which considers both growth from internally generated funds (the "br" term) and from issuances of equity at prices above book

[61] Exhibit DCP-9 at 4.

value (the "sv" term). This is the form of the model that I used. Mr. Parcell's decision to omit the "sv" term leads to a further downward bias in his analysis.

Q. In arriving at his recommendation, Mr. Parcell focused on the highest of his DCF results.[62] Does this in any way imply that he was conservative in his approach?

A. No. As shown in Mr. Parcell's testimony,[63] the average DCF cost of equity resulting from his analysis for his proxy group is 7.8%. A DCF value of 7.8% falls about 180 basis points below the average ROE authorized in major rate cases for electric utilities in 2016 and 2017 reported by Mr. Parcell.[64] Mr. Parcell's focus on the highest of his DCF estimates does not imply any concession on his part; rather, was a pragmatic accommodation that stems from the inherent downward bias and unreasonable nature of his study results.

B. Capital Asset Pricing Model

Q. Are the results of Mr. Parcell's CAPM analysis credible?

A. No, they are so low that they should be disregarded on their face. His CAPM estimates range from 6.6%-6.9%, with a midpoint of 6.75%. An ROE outcome of 6.75% is 275 basis points lower than Avista's currently allowed ROE of 9.5% and only about 240 basis points above the current cost of triple-B rated debt. Even compared to Mr. Parcell's other downwardly biased methodologies (DCF midpoint of 8.55% and CE midpoint of 9.5%), his CAPM results are clearly illogical. Mr. Parcells acknowledges that his CAPM results (at 6.6%-6.9%) are "somewhat low at this time, relative to the DCF and CE results" and does

[62] Parcell Direct at 41.
[63] *Id.* at 28.
[64] *Id.* at 15. The 9.60% ROE reported by Mr. Parcell includes distribution-only utilities, which generally have lower authorized returns than integrated utilities such as Avista.

not directly incorporate them in his ROE recommendation.[65] However, he does add later in his testimony that "the CAPM results should be considered as one factor in determining the cost of equity for Avista."[66]

Q. What does Mr. Gorman have to say about returns this low?

A. In summarizing the results from his DCF analyses, Mr. Gorman concludes that equity return estimates below 8.0% are not credible. He states:

> I have concerns with my constant growth DCF using a sustainable growth rate and my multi-stage growth DCF model because they produce results under 8%. I do not believe that a return on equity this low is reasonably consistent with market evidence of required risk premiums and security valuations.[67]

Q. What is the fundamental problem associated with Mr. Parcell's approach to applying the CAPM method?

A. Like the DCF model, risk premium methods – including the CAPM – are *ex-ante,* or forward-looking models based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the risk premium approach must be applied using data that reflects the expectations of actual investors in the market. However, while Mr. Parcell recognized that "the cost of capital is an opportunity cost and is prospective-looking,"[68] his application of the CAPM method was based entirely on *historical* – not projected – rates of return. The primacy of current expectations was recognized by Morningstar (now Duff & Phelps), one of the sources relied on by Mr. Parcell to apply the CAPM:

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[65] Parcell Direct, footnote 5, at 4.
[66] *Id.* at 37.
[67] Gorman Direct at 47.
[68] Parcell Direct at 7.

> The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of future events are the only factors that actually determine cost of capital.[69]

By failing to look directly at the returns investors are currently requiring in the capital markets, as I did on Exhibit Nos. 8, 9, and 10 to my Direct Testimony, Mr. Parcell's CAPM results significantly understate investors' required rate of return.

Q. Is there anything forward-looking about the CAPM data referenced by Mr. Parcell?

A. No. Mr. Parcell based his CAPM estimates on two alternative values of the market risk premium component. One value relies on data for the S&P 500 from the period 1978-2016; the other figure relies on data for the S&P 500 from the 1926-2016 period.[70] In other words, instead of directly considering requirements in today's capital markets, Mr. Parcell is implicitly asserting that events and expectations for the time periods covered by these historical studies are more representative of what is likely to occur going forward. This assertion runs counter to the assumptions underlying the use of CAPM approaches to estimate investors' required return, which are purely forward-looking models.

Q. Should the Commission give any weight to the results of historical CAPM analyses such as those presented by Mr. Parcell?

A. No. Applying the CAPM is complicated by the impact of the capital market turmoil and recession on investors' risk perceptions and required returns, as well as the ongoing effects of the Federal Reserve's monetary policies. The CAPM cost of common

[69] Morningstar, *Ibbotson SBBI, 2013 Valuation Yearbook* at 21.
[70] Parcell Direct at 30-31.

equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have repeatedly sought a safe haven in U.S. government bonds and this "flight to safety" has pushed Treasury yields significantly lower while yield spreads for corporate debt widened. This distortion, which has been further exacerbated by Federal Reserve actions, not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased.

Meanwhile, the backward-looking approach used by Mr. Parcell incorrectly assumes that investors' assessment of the relative risk differences, and their required risk premium, between Treasury bonds and common stocks is constant and equal to some historical average. At no time in recent history has the fallacy of this assumption been demonstrated more concretely. As a result, there is every indication that the historical CAPM approach fails to fully reflect the risk perceptions of real-world investors in today's capital markets, which would violate the standards underlying a fair rate of return by failing to provide an opportunity to earn a return commensurate with other investments of comparable risk.

Q. Have other regulators recognized the distortions to the historical CAPM related to current capital market conditions?

A. Yes. Applying the CAPM is complicated by the impact of the Federal Reserve policies on investors' risk perceptions and required returns. As the Staff of the Florida Public Service Commission concluded regarding historical applications of the CAPM:

> [R]ecognizing the impact the Federal Government's unprecedented intervention in the capital markets has had on the yields on long-term Treasury bonds, staff believes models that relate the investor-required return on equity to the yield on government securities, such as the CAPM approach, produce less reliable estimates of the ROE at this time.[71]

Similarly, the Indiana Utility Regulatory has previously noted:

> Relying on historic market returns introduces some highly questionable assumptions, which must be taken on faith. Specificlaly [sic], one must assume that marketplace returns experienced historically are what investors were expecting to receive and continue to guide investor expectations today. It also assumes that asset relationships prevailing over the past 62 years continue today unchanged.[72]

Meanwhile, in *Orange & Rockland Utilities*, FERC determined that CAPM methodologies based on historical data were suspect because whatever historical relationships existed between debt and equity securities may no longer hold.[73] More recently, FERC affirmed that applications of the CAPM based on historical risk premiums, such as the 1926-2016 data relied on by Mr. Parcell,[74] produced downward-biased results:

> Given the recent trends of near-historic low yields for long-term U.S. Treasury bond rates, the CAPM's input for the "risk-free" rate, we find that it is a reasonable assumption that the current equity risk premium (which is added to the risk-free rate to calculate the cost of equity data point that determines the slope of the CAPM curve) exceeds the 86-year historical average used as the consultants' CAPM input. The current low Treasury bond rate environment creates a need to adjust the CAPM results, consistent with the financial theory that the equity risk premium exceeds the long-term average when long-term U.S. Treasury bond rates are lower than average, and vice-versa.[75]

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[71] *Staff Recommendation for Docket No. 080677-E1 - Petition for increase in rates by Florida Power & Light Company*, Docket No. 080677-E1, at 280 (Dec. 23, 2009).
[72] Indiana Utility Regulatory Commission, *Indiana Michigan Power Co.*, Cause No. 38728 (Aug. 24, 1990).
[73] *See Orange & Rockland Utils., Inc.*, 40 FERC ¶ 63,053 at 65,208-09 (1987), *aff'd*, Opinion No. 314, 44 FERC ¶ 61,253 at 65,208 (2008).
[74] Parcell Direct at 45.
[75] *New York Independent System Operator, Inc.* 146 FERC ¶ 61,043 at P 105 (2014).

Q. Has the forward-looking CAPM approach presented in your Direct Testimony been relied on by regulators and in the financial literature?

A. Yes. I based my CAPM approach on the methods used by the Staff at the Illinois Commerce Commission, whose witnesses have routinely relied on a forward-looking market rate of return estimates to apply the CAPM. For example, Illinois Staff witness Michael McNally employed an expected market return of 12.74% based on an analysis analogous to the approach described in my direct testimony.

Q. How was the expected rate of return on the market portfolio estimated?

> A.[Michael McNally] The expected rate of return on the market was estimated by conducting a DCF analysis on the firms composing the S&P 500 Index ('S&P 500'). … Firms not paying a dividend as of July 1, 2010, or for which neither Zacks nor Reuters growth rates were available were eliminated from the analysis. The resulting company-specific estimates of the expected rate of return on common equity were then weighted using market value data from Zacks on July 2, 2010. The estimated weighted averaged expected rate of return for the remaining 367 firms composing 80.21% of the market capitalization of the S&P 500, equals 12.74%.[76]

FERC has also adopted a forward-looking CAPM approach directly comparable to the methodology applied in my direct testimony.[77] Similarly, studies reported in the financial literature have relied on a similar DCF approach to estimate a forward-looking rate of return for the S&P 500.[78]

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[76] Direct Testimony of Michael McNally, Illinois Commerce Commission, Docket No. 10-0467, filed October 26, 2010, at 27-29.
[77] Opinion No. 531, 147 FERC ¶ 61,234 at P 147 (2014); Opinion No. 531-B 150 FERC ¶ 61,165 at PP 108, 109 (2015); Opinion No. 551, 156 FERC ¶ 61,234 at PP 165, 171 (2016).
[78] R.S. Harris, and F.C. Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

Q. Mr. Parcell bases his risk-free rate on 20-year Treasury bond rates. Is this appropriate?

A. No. As noted by Morningstar (now Duff & Phelps), the maturity of the risk-free security should approximate the life of the underlying investment:

> The traditional thinking regarding the time horizon of the chosen Treasury security is that it should match the time horizon of whatever is being valued. When valuing a business that is being treated as a going concern, the appropriate Treasury yield should be that of a long-term Treasury bond. Note that the horizon is a function of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate, since the company will continue to exist beyond those five years.[79]

Since equity ownership represents a perpetual claim on a firm's cash flows, and because the 30-year Treasury bond is the longest maturity risk-free security, it is the most appropriate security for the CAPM application. Along with me, Mr. Gorman and Mr. Garrett also use the 30-year Treasury bond as the basis for the risk-free rate in their CAPM approaches. Mr. Parcell's reliance on government debt with a shorter maturity serves to unfairly deflate his CAPM results.

Q. Was Mr. Parcell justified in relying on geometric means as a measure of average rate of return when applying the historical CAPM?[80]

A. No. While both the arithmetic and geometric means are legitimate measures of average return, they provide different information. Each may be used correctly, or misused, depending upon the inferences being drawn from the numbers. The geometric mean of a series of returns measures the constant rate of return that would yield the same

[79] Morningstar, *Ibbotson SBBI 2013 Valuation Yearbook*, at 44.
[80] Parcell Direct at 31.

change in the value of an investment over time. The arithmetic mean measures what the expected return would have to be each period to achieve the realized change in value over time.

In estimating the cost of equity, the goal is to replicate what investors expect going forward, not to measure the average performance of an investment over an assumed holding period. When referencing realized rates of return in the past, investors consider the equity risk premiums in each year independently, with the arithmetic average of these annual results providing the best estimate of what investors might expect in future periods. *New Regulatory Finance* had this to say:

> The best estimate of expected returns over a given future holding period is the arithmetic average. Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital. There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values.[81] [emphasis added]

Similarly, Morningstar concluded that:

> For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. … The geometric average is more appropriate for reporting past performance, since it represents the compound average return.[82]

Q. What does this imply with respect to Mr. Parcell's CAPM analyses?

A. For a variable series, such as stock returns, the geometric average will always be less than the arithmetic average. Accordingly, Mr. Parcell's reference to geometric average rates of return provides yet another element of built-in downward bias.

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[81] Roger A. Morin, "New Regulatory Finance" *Public Utilities Reports, Inc.* (2006) at 116-117, (emphasis added).
[82] Morningstar, *Ibbotson SBBI 2013 Valuation Yearbook* at 56.

Q. Are there other shortcomings associated with Mr. Parcell's application of the CAPM?

A. Yes. According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, Duff and Phelps, the same source relied on by Mr. Parcell,[83] has developed size premiums that need to be added to the CAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the CAPM cost of equity. Accordingly, Mr. Parcell should have incorporated an adjustment to recognize the impact of size distinctions between his proxy companies, as measured by the average market capitalization. I discuss this issue in greater detail later in my rebuttal testimony.

Q. Mr. Parcell references capital market trends. Is it appropriate to consider anticipated capital market changes in applying the CAPM?

A. Yes. As discussed in my direct testimony, there is widespread consensus that interest rates will increase materially as the economy strengthens.[84] Accordingly, in addition to the use of current bond yields, I also applied the CAPM and ECAPM approaches based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip. As discussed earlier, the primary objective in

[83] Parcell Direct at 31.
[84] McKenzie Direct at 18-20.

the regulatory process is to set rates based on conditions expected to exist during the future period that new rates will be in effect.

C. Comparable Earnings

Q. What are the results of Mr. Parcell's CE analysis?

A. Mr. Parcell applies his CE analysis by examining realized ROEs for the groups of proxy utilities, as well as unregulated companies. He also considers prospective returns for his proxy utilities, but not for the unregulated companies. He determines an ROE range from his CE analysis of 9.0%-10.0%, with a midpoint of 9.5%.[85]

Q. Are these results reasonable?

A. Given that Mr. Parcell's DCF results are flawed and essentially disconnected from his final ROE recommendation, and that his CAPM results are so low that they should be dismissed out of hand, his CE results can be considered the most relevant of his ROE estimations. Nonetheless, there are problems with his approach.

Q. Are there similarities with Mr. Parcell's CE approach and your Expected Earnings and Non-Utility DCF approaches?

A. Yes. Mr. Parcell applies his CE methodology to two proxy groups of utility companies, as well as to the firms in the S&P 500 Composite Index, which he says "is a well-recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy."[86] In a like manner, I apply my Expected Earnings approach to my proxy group of utility companies and consider investors'

[85] Parcell Direct at 32-36.
[86] Parcell Direct at 35.

requirements for a reference group of low-risk companies in the non-utility sector of the economy through my Non-Utility DCF approach.

We agree that reference to rates of return available from alternative investments of comparable risk (including unregulated firms) can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. As I discuss at greater length in my direct testimony, this approach is consistent with the economic underpinnings for a fair rate of return, as reflected in the comparable earnings test established by the Supreme Court in *Hope* and *Bluefield.*

Q. What issues do you have with Mr. Parcell's CE approach?

A. I have three primary issues with Mr. Parcell's CE approach: 1) He includes historical rates of return in his analysis; 2) his suggestion that market-to-book ratios provide a guide to the reasonableness of returns is completely misguided, and 3) he omits the mid-year adjustment factor necessary to convert Value Line's end-of-year data to average annual returns. As I detailed earlier in my discussion of Mr. Parcell's DCF and CAPM analyses (and in my direct testimony), the setting of Avista's ROE is a forward-looking process, and his over-reliance on historical data is a flaw in his methodologies. This same criticism applies to his CE analysis, which examines past data from the period 2002-2016.[87] The ROE estimation process is based on investors' future expectations, not on data over an arbitrary 15-year historical period. The operating and financial environment faced by utilities, like Avista, is significantly different now than it was in 2002. The reliance on such data weakens Mr. Parcell's CE analysis.

[87] Parcell Direct at 33.

Q. What are your comments on Mr. Parcell's consideration of market-to-book ratios in the context of his CE application?

A. Mr. Parcell uses the market-to-book ratio as a type of indicator as to the reasonableness of the returns developed in his CE analysis. For instance, he says that since recent and prospective ROEs of 9.2% to 11.3% have been accompanied by market-to-book ratios in the range of 1.4 to 1.7, "it is apparent that authorized returns below this level would continue to result in market-to-book ratios of well above 100 percent."[88] He adds, "the fact that M/Bs substantially exceed 100 percent indicates that historic and prospective ROEs of 9.5 percent reflect earning levels that are well above the actual cost of equity for those regulated companies."[89]

I strongly disagree with Mr. Parcell's conclusions regarding the relationship between ROE and the market-to-book ratio for utilities. There is no clear link between market-to-book ratios for utilities and allowed rates of return. For example, *New Regulatory Finance* noted that:

> The stock price is set by the market, not by regulators. The market-to-book ratio is the end result of regulation, and not its starting point. The view that regulation should set an allowed rate of return so as to produce a market-to-book of 1.0, presumes that investors are irrational. They commit capital to a utility with a market-to-book in excess of 1.0, knowing full well that they will be inflicted a capital loss by regulators. This is certainly not a realistic or accurate view of regulation.[90]

With market-to-book for most utilities above 1.0, Mr. Parcell is suggesting that, unless book value grows rapidly, regulators should establish equity returns that will cause

[88] *Id.* at 35-36.
[89] *Id.*
[90] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 376.

share prices to fall. Given the regulatory imperative of preserving a utility's ability to attract capital, this would be a truly nonsensical result. The market-to-book ratio is determined by investors in the stock market, and a utility would be foreclosed from attracting capital if regulators were to push market-to-book to 1.0 while other firms command prices well in excess of 1.0 times book value.

Q. Is there anything unusual about a stock price exceeding book value?

A. No. In fact the majority of stocks currently sell substantially above book value. For example, Value Line reports that approximately 1,450 of the roughly 1,700 stocks it follows (including utilities and other industries) sell for prices in excess of book value.[91] For the 500 largest publicly-traded companies in the U.S. economy, stock market prices have averaged almost three times book value. The lowest value occurred at the market bottom in early 2009 during the "great recession," at 1.78 times.

[91] www.valueline.com (retrieved Oct. 10, 2017).

The table below provides a listing of recent market-to-book ratios by industry.

REBUTTAL TABLE 1
VALUATION BY SECTOR
MARKET-TO-BOOK

Sector	Ratio
Financial	1.67
Energy	1.71
Utilities	1.89
Consumer Discretionary	2.69
Basic Materials	3.04
Conglomerates	3.41
Services	3.77
Healthcare	4.07
Transportation	4.76
Consumer Non-cyclical	5.05
Technology	5.07
Capital Goods	5.35
Retail	6.64

Source: https://csimarket.com/screening/index1.php?s=pb (retrieved Oct. 10, 2017).

The market-to-book ratio for the utilities sector of 1.89 is among the lowest of the industry groups, and it is well below the 2.76 times historical average for the S&P 500. The consistently higher market-to-book relationship for unregulated companies shows that Mr. Parcell's theoretical 1.0 benchmark is misplaced and that his claims about excessive utility earnings based on this benchmark are incorrect.

Q. Earlier, in your discussion of retention growth, you criticized Mr. Parcell for making a computational error. Did he make the same mistake in his comparable earnings analysis?

A. Yes. In his calculations of the internal, "br" retention growth rate, Mr. Parcell relied on end-of-year data from Value Line. I criticized Mr. Parcell for not converting this end-of-year information to average annual amounts, which account for growth in common

equity over the year. Mr. Parcell's retention growth rates are understated due to his failure to make this adjustment. The same principle applies to his Comparable Earnings analysis. Mr. Parcell neglected to convert his Comparable Earnings results, based on Value Line data, from end-of-year values to average annual amounts. This flaw leads to further downward bias in Mr. Parcell's results.

D. Other ROE Issues

Q. Mr. Parcell disagrees with your evidence that investors are expecting long-term interest rates to rise.[92] What is your response?

A. Earlier, in Rebuttal Figure 2, I updated the graph of interest rate trends from my direct testimony. As Rebuttal Figure 2 shows, investors continue to anticipate that interest rates will increase significantly from present levels. As mentioned earlier, these projections are from forecasting services that are highly regarded and widely referenced.

Q. Did Mr. Parcell accurately portray the process that you used to eliminate low-end outliers from your DCF analysis?

A. No. Mr. Parcell wrongly suggests that I applied the so-called "FERC low-end threshold" methodology on a mechanical basis.[93] In actuality, I referenced the FERC methodology as a guide for evaluating unrealistic outcomes resulting from my DCF analysis. As discussed in Exhibit No. AMM-3, I added FERC's 100 basis-point premium to historical and projected average utility bond yields in developing my low-end threshold. This resulted in a threshold range of 5.6% to 7.1%. The DCF estimates that I eliminated ranged from 4.1%

[92] Parcell Direct at 39-40.
[93] Parcell Direct at 42.

to 6.9%. Based on my professional experience and the risk-return tradeoff principle that is fundamental to finance, I concluded that it is not plausible to think that investors would accept ROEs in this range when compared to current and future costs of debt. As noted earlier, Mr. Gorman agrees with this sentiment and eliminated ROE results less than 8.0% in his analyses.

Mr. Parcell's attempt to "update and correct" my DCF analysis by reducing the low-end threshold to 5.6% is not fair and does not represent the methodology I applied in my direct testimony. Nor does it accurately represent FERC policy, which is based on a flexible test, not the rigid, mechanical approach suggested by Mr. Parcell. Indeed, in the proceeding referenced by Mr. Parcell, FERC determined that an ROE of 9.29% was unlawful and insufficient to meet the Supreme Court's requirements for a fair ROE attributable to an electric utility.[94]

Q. Why should Mr. Parcell's "update" to your DCF analysis be ignored?

A. Mr. Parcell claims to "update" my DCF analysis on Exhibit No. DCP-15. Besides bringing the raw data from the early-2017 timeframe to the October 2017 timeframe, Mr. Parcell reduces my low-end outlier threshold to 5.6%. That is, in his "update," he eliminates individual ROE estimates only if they fall below 5.6%.[95] He retains ROE outcomes as low as 6.0%, 6.2%, and 6.4%, which are below any reasonable ROE range. A legitimate "update" of my analysis would undoubtedly eliminate these obvious outliers. The study Mr. Parcell presents is not an "update" to my analysis, but rather, is a misrepresentation

[94] Opinion No. 531 at PP 150, 152.
[95] I eliminated individual ROE estimates that fell below 7.0% in my direct testimony.

that involves ignoring economic principles that are central to my DCF application. For this reason, his presentation should be given no weight.

Q. Mr. Parcell objects to your calculation of the market return component of the CAPM analysis. How do you respond?

A. In my market return computation, I used a DCF approach that relied on analysts' growth projections to estimate the growth term. Mr. Parcell's primary objections to this approach appears to be his concern with the singular reliance on analysts' growth estimates, the disregard of historical growth rate data, and the accuracy of analysts' forecasts.[96] I have dealt with these issues previously. Analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data. To repeat the conclusion reached by Mr. Gorman:

> 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.[97]

Furthermore, proving that the projections of securities analysts are optimistic or pessimistic in hindsight is irrelevant in determining the expected growth that investors have built into current stock prices. The accuracy of such projections is not the issue, as long as they reflect widely held expectations.

[96] *Id.* at 45-48.
[97] Gorman Direct at 36 (emphasis added).

Q. Why is it proper to consider projected interest rates as the risk-free rate in the CAPM analysis, contrary to the opinion of Mr. Parcell?

A. Forecasted bond yields are appropriate to consider in the CAPM methodology because, as discussed earlier, the CAPM is a forward-looking model and there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. Moreover, it is important to consider the conditions projected to prevail when new rates will be in effect. This is the same approach taken by Mr. Gorman in his CAPM approach, which relied on the *Blue Chip Financial Forecasts'* projected 30-year Treasury bond yield as his risk-free rate.[98]

Q. Based on evidence cited by Duff & Phelps, you applied a size adjustment in both your CAPM and ECAPM analyses. Is there any merit to Mr. Parcell's contention that a size adjustment should not be applied to utilities?[99]

A. No. Within the CAPM paradigm, the degree of regulation, the nature of competition in the industry, the competence of management, and every other firm-specific consideration is boiled down to a single question; namely, how much does the stock's price fluctuate in relation to the market as a whole? Beta is the measure of that variability, and research demonstrates that beta does not fully account for the impact of firm size. Mr. Parcell speculates that smaller companies "tend to be engaged in riskier businesses,"[100] but as Duff & Phelps noted, its size premia "are 'beta-adjusted,' meaning that they have been adjusted to remove the portion of excess return that is attributable to beta, leaving only the

[98] *Id.* at 55.
[99] Parcell Direct at 50-52.
[100] Parcell Direct at 50.

size effect's contribution to excess return."[101] As FERC concluded in adopting a size adjustment when using the CAPM to estimate the cost of equity for electric utilities, "[t]his type of size adjustment is a generally accepted approach to CAPM analyses."[102]

Q. Mr. Parcell presents two examples attempting to counter your argument that such an adjustment is necessary.[103] How do you respond?

A. Mr. Parcell's examples do not refute the evidence cited by Duff & Phelps, or more broadly in the financial research. His "studies" are for a small sample size and his data is not tested over a significant period of time. Moreover, unlike the results of Duff & Phelps' research, which controls for systematic risk, Mr. Parcell's simplistic comparison of allowed returns for four categories of utilities (electric, combination, gas, and water) are meaningless because there are risk factors other than size, which Mr. Parcell entirely ignores. For example, to the extent that the operations of water utilities are viewed as being less risky than those of integrated electric utilities, a lower authorized ROE is not inconsistent with a size adjustment when applying the CAPM.

But even despite these infirmities, Mr. Parcell's own data contradict his conclusion that there is no discernable relationship between size and risk. As shown in Rebuttal Figure 4, the beta values Mr. Parcell reports for the utilities on Exhibit No. DCP-16 clearly decrease as size increases:

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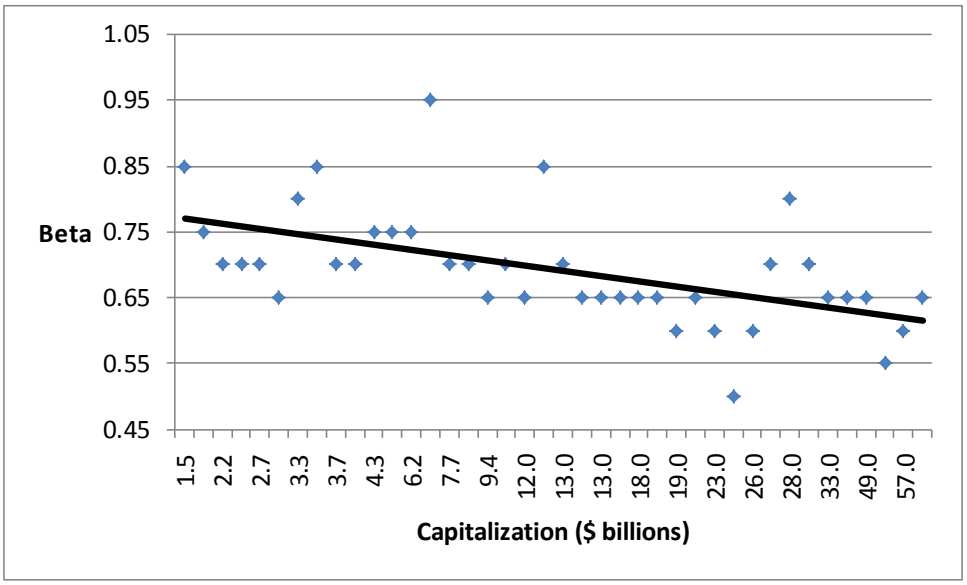
[101] Duff & Phelps, "Valuation Handbook 2017, U.S. Guide to Cost of Capital," *John Wiley & Son's,* at 2-10 (2017).
[102] Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015).
[103] Parcell Direct at 51-52.

REBUTTAL FIGURE 4
BETA AND FIRM SIZE



Source: Exhibit DCP-16.

Furthermore, Mr. Parcell's comparisons are limited to utility companies. Avista is competing for funds in the capital markets alongside firms from all segments of the economy. Limiting the comparison to utility companies does not constitute a rigorous test of the CAPM or paint a complete picture of the market conditions faced by the Company. In contrast to Mr. Parcell's narrow comparisons, published research by Duff & Phelps documents a very clear relationship between size and equity risk premiums, as illustrated in the table below:

REBUTTAL TABLE 2
DUFF & PHELPS SIZE PREMIUMS

CRSP Deciles Size Premium[4]

Decile	Market Capitalization of Smallest Company (in millions)		Market Capitalization of Largest Company (in millions)	Size Premium (Return in Excess of CAPM)
Mid-Cap 3-5	$2,090.566	–	$9,611.187	1.00%
Low-Cap 6-8	448.502	–	2,083.642	1.70
Micro-Cap 9-10	1.963	–	448.079	3.58
Breakdown of CRSP Deciles 1-10				
1-Largest	$22,035.313	–	$629,010.254	-0.36%
2	9,618.053	–	21,809.433	0.57
3	5,205.841	–	9,611.187	0.86
4	3,195.898	–	5,199.952	0.99
5	2,090.566	–	3,187.480	1.49
6	1,400.931	–	2,083.642	1.63
7	845.509	–	1,400.208	1.62
8	448.502	–	844.475	2.04
9	209.880	–	448.079	2.54
10-Smallest	1.963	–	209.406	5.60
Breakdown of CRSP 10th Decile				
10a	$108.692	–	$209.406	4.04%
10w	148.934	–	209.406	3.04
10x	108.692	–	148.813	5.30
10b	$1.963	–	$108.598	8.76%
10y	64.846	–	108.598	7.32
10z	1.963	–	64.747	11.79

Q. Mr. Parcell also places a significant weight on a 1992 study by Annie Wong.[104] Does this article refute the need for a size adjustment in applying the CAPM to a utility?

A. No. A closer examination of this research reveals that it is largely inconclusive, and inconsistent with the CAPM. In fact, her results demonstrate no material difference between utilities and industrial firms with respect to size premiums, and her study finds no significant relationship between beta and returns, which contradicts modern portfolio theory and the CAPM. A more recent study published in the Quarterly Review of

[104] *Id.* at 50.

Economics and Finance reconsiders Wong's evidence and concludes that "new information . . . indicates there is a small firm effect in the utility sector."[105]

Q. Mr. Parcell criticizes your risk premium approach.[106] Are his criticisms valid?

A. No. First, he suggests that data over the period 2011-2016 may be distorted. Second, he claims that certain data from my risk premium study is not acceptable because "[c]urrent ROEs reflect a suite of favorable regulatory mechanisms that greatly enhance utilities ability to recover costs, which is risk-reducing and thus warrants low ROEs."[107]

Neither of these assertions is persuasive. As shown on Exhibit No. AMM-10 (at 4), the "R Square" of the data in my risk premium study, which measures the relationship between interest rate levels and equity risk premiums is about 0.87. This implies a very high correlation between these two variables over the 43 years covered by my study period. In this case, it is a "negative" or inverse relationship. That is, as the "X Variable 1" coefficient from Exhibit No. AMM-10 (at 4) indicates, for every 100 basis point decrease in interest rates, the equity risk premium increases by about 43 basis points (and vice versa). It is entirely consistent with these results that the highest risk premium would exist over the 2011-2016 period because this is the period over which the lowest bond yields occurred. According to the strong inverse correlation indicated by the statistics discussed above, this is exactly the relationship that would be expected.

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[105] Zepp, Thomas M., "Utility stocks and the size effect—revisited," Quarterly Review of Economics and Finance, 43 (2003) 578-582.
[106] Parcell Direct at 53-54.
[107] *Id.*

To Mr. Parcell's second point, that the risk premium study is not valid because regulatory conditions are not exactly the same as they were 30-40 years ago, I would also disagree with this allegation. Regulatory mechanisms are but one measure of a utility's risk level. It is likely that utilities today face greater risk exposure related to increasingly severe weather, cyber and physical threats, the imperative to maintain reliability in response to a surge in new technologies and devices, customer demand for more flexible and customized products, and the need to address environmental concerns. In fact, credit ratings for firm in the electric utility industry have generally declined over the time period covered by my risk premium study, indicating greater, not lower risks overall.[108] A blanket statement, with no supporting analysis, that the current climate faced by utilities is less risky than any climate faced in the past, is potentially false and misleading. Moreover, it is contradictory to Mr. Parcell's observation that risk premiums implied for utilities have increased and it ignores the fact that my risk premium analysis incorporates current capital market data.

Q. Do you agree with Mr. Parcell's criticisms of your Expected Earnings and Non-Utility DCF approaches?[109]

A. No. His primary concern with my Expected Earnings approach appears to be that I did not consider market-to-book ratios as part of my analysis. I have dealt with this issue previously. There is no clear link between market-to-book ratios for utilities and

[108] For example, even as late as 2001, S&P reported the majority of firms in the electric utility industry were rated single-A and above, with over 20 firms having double-A ratings. Standard & Poor's Corporation, "Downgrades Dominate U.S. Utility Ratings in First Half; Negative Trend Likely to Continue," *RatingsDirect* (Jl. 10, 2001). Currently, the average credit rating is triple-B and there are no publicly traded electric utilities with credit ratings above single-A.
[109] Parcell Direct at 54-55.

allowed rates of return and this issue is nothing more than a red-herring intended to divert attention from the results of my Expected Earnings analysis.

His comments on the unregulated firms used in my Non-Utility DCF approach are perplexing since he used unregulated firms in his own CE approach. In fact, his unregulated group consisted of the entire S&P 500 Composite index. In contrast, I used various objective measures to insure that the risks of my Non-Utility group were comparable to (or less than) those of Avista. In this sense, my DCF approach using non-utility firms could even be considered superior to the CE analysis using unregulated companies proposed by Mr. Parcell.

The implication that an estimate of the required return for firms in the competitive sector of the economy is not useful in determining the appropriate return to be allowed for rate-setting purposes is wrong and inconsistent with reality, investor behavior, and the *Bluefield* and *Hope* decisions. In fact, returns in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets.

The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives, which include all other securities available in the stock, bond or money markets. Consistent with this view, Mr. Parcell noted the Supreme Court's economic standards and concluded that the fair rate of return on equity should be "commensurate with returns they could expect to achieve on investments of similar risk."[110] Clearly, there are a plethora of other "investments of similar risk" available to investors beyond those in the utility industry. True enough, utilities are sheltered from

[110] Parcell Direct at 7.

competition, but they undertake other obligations and lose the ability to set their own prices and decide when to exit a market. As noted earlier, regulatory standards governing a fair ROE are based on comparable risk, not the nature of the business.[111]

Q. Mr. Parcell rejects your use of the ECAPM because he says it "adjusts" each proxy company's actual beta and "calculates hypothetical betas that are upward biased due to the fact that electric utility betas are below 1.0."[112] What is your response?

A. As I stated in my Direct Testimony,[113] the ECAPM is simply a variant of the traditional CAPM approach that is designed to correct for an observed bias in the CAPM result. The ECAPM reflects a refinement to adjust for a systematic tendency of low beta portfolios to over-earn and high beta portfolios to under-earn relative to the predictions of the CAPM capital market line. This adjustment is useful for improving the traditional CAPM results.

Q. Has the ECAPM been relied on by other regulators?

A. Yes. The Regulatory Commission of Alaska has previously relied on the ECAPM approach, noting that:

> Tesoro averaged the results it obtained from CAPM and ECAPM while at the same time providing empirical testimony that the ECAPM results are more accurate then [sic] traditional CAPM results. The reasonable investor would be aware of these empirical results. Therefore, we adjust Tesoro's recommendation to reflect only the ECAPM result.[114]

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[111] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
[112] Parcell Direct at 52.
[113] Exhibit No. AMM-3 at 24-25.
[114] Regulatory Commission of Alaska, Order No. P-97-004(151) at 145 (Nov. 27, 2002).

The ECAPM approach has also been relied on by the Staff of the Maryland Public Service Commission. For example, Staff witness Julie McKenna noted that "the ECAPM model adjusts for the tendency of the CAPM model to underestimate returns for low Beta stocks," and concluded that, "I believe under current economic conditions that the ECAPM gives a more realistic measure of the ROE than the CAPM model does."[115] Similarly, a staff witness for the Colorado Public Utilities Commission noted that, "The ECAPM is an empirical method that attempts to enhance the CAPM analysis by flattening the risk-return relationship,"[116] The Colorado Staff witness relied on the exact same standard ECAPM equation presented in my direct testimony.[117]

III. RESPONSE TO MR. GORMAN

Q. How did Mr. Gorman arrive at his recommended cost of equity?

A. Mr. Gorman recommended an ROE of 9.1% based on his application of the constant growth and multi-stage forms of the DCF model, an application of the CAPM based on historical realized rates of return, and a risk premium approach based on allowed rates of return for utilities.[118] Mr. Gorman applied these methods to essentially the same proxy group of electric utilities identified in my Direct Testimony. As I noted earlier, Mr. Gorman eliminated Avista due to its recent involvement in merger and acquisition activity.[119]

Q. What is your assessment of Mr. Gorman's ROE testimony and recommendation?

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[115] *Direct Testimony and Exhibits of Julie McKenna*, Maryland PSC Case No. 9299 (Oct. 12, 2012) at page 9.
[116] Proceeding No. 13AL-0067G, *Answer Testimony and Exhibits of Scott England* (July 31, 2013) at 47.
[117] *Id.* at 48.
[118] Gorman Direct at 47 and 60.
[119] Gorman Direct at 32.

A. Mr. Gorman's recommendation is too low. It is understated because, in his analysis, he applies inconsistent and incorrect approaches to reach his final ROE recommendation. Several specific factors detract from Mr. Gorman's analysis. His constant growth DCF results are biased downward because he includes illogical values in his calculations. In addition, he fails to incorporate a readily available, and widely followed, source of analysts' growth rates. His multi-stage DCF analysis should be rejected because he mistakenly assumes that investor growth expectations are capped by forecasts for growth in the U.S. economy. His CAPM analysis is not credible because it is based almost exclusively on historical data, it fails to correct for an observed bias in the CAPM result, and it ignores the impact of company size on expected returns. Finally, Mr. Gorman's risk premium analysis is flawed because he rejects the well-documented, inverse relationship between equity risk premiums and interest rates levels. Equity risk premiums increase when interest rates are low and decrease when interest rates are higher. When adjustments are made to correct these areas, Mr. Gorman's results support a much higher ROE.

Q. Do you have further comments on Mr. Gorman's testimony?

A. Yes, in addition to the areas mentioned above, I will also respond to Mr. Gorman's criticisms of my ECAPM analysis, Expected Earnings Approach and Non-Utility DCF study. I will also challenge his opposition to an adjustment for flotation costs.

A. Discounted Cash Flow Model

Q. How did Mr. Gorman apply the constant growth DCF model?

A. Mr. Gorman applied the constant growth DCF model using forward-looking estimates of EPS growth based on consensus forecasts of securities analysts, as well as

considering a sustainable, "br" growth rate.[120] This is comparable to the method discussed in my Direct Testimony.

Q. Is there an obvious flaw in Mr. Gorman's constant growth DCF analysis?

A. Yes, Mr. Gorman failed to remove illogical values from his final constant growth DCF results. As I discuss in my Direct Testimony and earlier in response to Mr. Parcell, when applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Removing two low-end values that are obviously illogical from the DCF results presented on page 1 of Mr. Gorman's Exhibit No. MPG-9 (NorthWestern Corp. at 5.65% and PG&E Corp. at 6.91%) increases the constant growth DCF average by 33 basis points.

Q. Did Mr. Gorman recommend relying on analysts' growth rates in applying the DCF model to determine an ROE for Avista?

A. Yes. Mr. Gorman properly recognized that in order to correctly apply the DCF model, "one must attempt to estimate investors' consensus about what the dividend, or earnings growth rate, will be" and concluded that "[a]s predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data."[121] In contrast to Mr. Parcell and Mr. Garrett, Mr. Gorman and I agree that EPS growth forecasts represent a superior guide to investors' expectations.

Q. Did Mr. Gorman leave out a readily available, widely respected source of analysts' growth rates?

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[120] Gorman Direct at 21-32.
[121] Gorman Direct at 35-36.

A. Yes, for no apparent reason, Mr. Gorman did not include EPS growth rate estimates from Value Line in his analysis. He used Value Line as an underlying source for many of his calculations, such as to compute the annualized dividend and sustainable growth terms for his DCF models, and he relied on beta values reported by Value Line for his CAPM studies. Value Line is readily available and is widely followed by investment professionals.[122] It is a well-recognized source of expected growth rates and Mr. Gorman's DCF analysis suffers by their omission.

Q. What is the problem with Mr. Gorman's multi-stage growth DCF analysis?

A. This analysis should be completely rejected. There is no merit to Mr. Gorman's claim that investors expect each company's growth to converge to a maximum sustainable growth rate, which is assumed to be equal to projected growth for the U.S. GDP of 4.20%. He incorrectly claims that GDP growth sets a "long-term maximum sustainable growth rate" for a utility investment.[123] As I discuss below, there is no link between Mr. Gorman's GDP growth rate ceiling and the actual expectations of investors in the capital markets, which are the determining factor in any analysis of a fair ROE.

Q. What are the primary misconceptions underlying Mr. Gorman's reference to GDP growth?

A. Mr. Gorman's use of long-term GDP growth as an upper bound to the DCF growth rate for companies in his proxy group is not justified. There are several reasons why

[122] As noted in *New Regulatory Finance*, "Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors." Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 71.
[123] *Id.* at 37.

GDP growth is not relevant in applying the DCF model:

- Practical application of the DCF model does not require a long-term growth estimate over a horizon of 25 years and beyond – it requires a growth estimate that matches investors' expectations.
- My evidence supports the conclusion that investors do not reference long-term GDP growth in evaluating expectations for individual common stocks, including those in the electric utility industry.
- The theoretical proposition that growth rates for all firms converge to overall growth in the economy over the very long horizon does not guide investors' views, and growth rates for electric utilities can and do exceed GDP growth.
- There is no evidence that investors' growth expectations for regulated utilities have begun to converge to that of the economy.

In short, there is no demonstrable evidence that investors look to GDP growth rates in the far distant future in assessing their expectations for common stocks. And while the theoretical assumptions underlying this method contemplate an infinite stream of cash flows, this is simply at odds with the practical circumstances in which real-world investors operate

Q. The DCF model is based on the assumption of an infinite stream of cash flows. Why wouldn't a transition to GDP growth make sense?

A. This view confuses the theory underlying the DCF model with the practicalities of its application in the real world. While the notion of long-term growth should presumably relate to the specific firm at issue, or at the very least to a particular industry, there are no long-term growth projections available for the companies in electric utility industry, or the broader market, as a whole. By applying the DCF model in a way that is inconsistent with the information that is available to investors and how they use it, the use of GDP growth places the theoretical assumptions of a financial model ahead of investor behavior. The only relevant growth rate is the growth rate used by investors. Investors do

not have clarity to see far into the future, and there is little to no evidence to suggest that investors share the view that growth in GDP must be considered a limit on earnings growth over the long-term.

Q. Are there circumstances that might support the use of a multi-stage DCF approach?

A. Yes. Reference to multiple growth rates may be reflective of investors' expectations for firms at the early stage of the corporate life cycle. Pioneering development firms may experience explosive earnings growth in initial years, which could reasonably be expected to moderate as the firm matures. Alternatively, a profound and definable shift in an industry's economics could also warrant consideration of multiple growth rates. For example, in deciding to adopt a two-step model for gas pipelines, FERC was concerned that IBES growth rates were "too influenced by the current position of the industry,"[124] noting:

> Northwest's expert witness testified that the short-term IBES figures were at historic high levels because the pipeline industry was recovering from the deterioration in earnings resulting from the collapse in oil prices and dramatic changes in regulatory framework.[125]

Similarly, in the 1990s when investors thought the electric utility was transitioning to non-regulated markets, two-stage models did fit investors' expectations. The first stage was based on expectations of growth rates under regulation and the second stage would be more akin to non-utility growth rates. A number of experts presented two-stage models based on investors' expectations of a transition and a number of regulatory agencies found these models to be reasonable.

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[124] *Northwest Pipeline Co.*, Opinion No. 396-C at 17.
[125] *Id.*

But expectations of widespread deregulation are a relic from the past and there is no evidence that the growth transition implied by a two-step model fits the expectations that investors currently build into electric utility stock prices. As Mr. Garrett noted, electric utilities are "mature companies in mature industries."[126] Investors recognize that the electric utility industry is relatively stable and established and their current view of does not anticipate a series of discrete, life cycle stages for the firms in the proxy group. As a result, there is no discernable transition that would support use of a multi-stage DCF approach.

Q. Are long-term GDP growth rates commonly referenced as a direct guide to future expectations for specific firms, such as electric utilities?

A. No. Certainly investors consider broad secular trends in economic activity as one foundation for their expectations for a particular industry or firm. But the idea that investment advisory services view GDP growth as a direct guide to long-term expectations for a particular firm – much less every firm in an entire industry – is not borne out by evidence.

In contrast to this notion, in the financial media one observes many references to three-to-five year EPS growth forecasts for individual companies and very few references to long-term GDP forecasts. Long-term GDP growth rates are simply not discussed within the context of establishing investors' expectations for individual firms. For example, Value Line reports are routinely relied on as an important guide to apply the DCF model to electric utilities. But despite Mr. Gorman's suggestion that GDP has a fundamental role in shaping investors' growth estimates, Value Line does not even mention trends in GDP in its

[126] Garrett Direct at 30.

evaluation of the firms in the electric utility industry. Value Line's singleness of purpose is to inform investors of the pertinent factors that impact future expectations specific to each of the common stocks it covers. If the trajectory of GDP growth out to the year 2046 and beyond had direct relevance in investors' evaluation of electric utility common stocks, it would be logical to assume that Value Line or other securities analysts would give at least passing mention to this fact. But they do not.

Q. How much confidence would investors be likely to place on long-term GDP projections?

A. Very little. Investors understand the complexities and inherent inaccuracies involved in forecasting, and that such uncertainties are significantly compounded for a long-term time horizon. Consider the example of IHS Global Insight, which is perhaps the world's foremost econometric forecasting service. IHS Global Insight currently publishes GDP projections for the U.S. economy for the next thirty years, but for other important economic variables (*e.g.*, bond yields) their forecast simply holds projected values constant after a five-year horizon.

Q. Is there evidence that long-term GDP growth rates understate investors' expectations for electric utilities?

A. Yes. Actual historical growth rates for individual firms in Mr. Gorman's own proxy group refute the notion that long-term growth for electric utilities is constrained by GDP. For example, Value Line reports that El Paso Electric and CMS Energy achieved earnings growth over the last 10 years of 9.5% and 8.5%, respectively. Meanwhile, Black

Hills Corp. and Hawaiian Electric had 5-year EPS growth rates of 11.0% and 9.0%.[127] These values for Mr. Gorman's own proxy firms indicate that utilities can and do achieve growth over extended periods far in excess of the GDP growth rate he suggests as a limit in the multi-stage DCF model.

Q. Do expectations for the utility industry support a long-term trend towards GDP growth?

A. No. Growth rates for electric utilities are not expected to collapse beyond the next five years. At least in part, growth in the electric utility industry is created by additional infrastructure investment. Contrary to the assumption that growth trends will somehow mirror GDP, investors recognize that the electric utility industry has entered a cycle of significant capital spending on utility infrastructure.

Q. What underlying fundamentals support investors' conclusion that electric utilities are embarking on a period of growth that will outpace the economy as a whole?

A. As the president of the Edison Electric Institute ("EEI") recently observed:

The improved credit quality greatly supports the continued surge in capital expenditures, which rose by $8.5 billion, or 8.2 percent, to a new record high of $112.5 billion in 2016.[128]

The investment community understands that utilities are facing the prospect of a long-term commitment to infrastructure investment. For example, CFRA[129] has observed that:

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[127] The Value Line Investment Survey (August 18, September 15, and October 27, 2017).
[128] Thomas R. Kuhn, "President's Letter," 2016 EEI Financial Review.
[129] CFRA, an independent research firm, acquired S&P Global's Equity and Fund Research business on October 1, 2016.

> Electric utilities companies face a growing customer base that uses more and more electricity. To meet the challenge, the electric utilities industry can invest in new assets to generate and deliver power…Other capital spending targets grid modernization and replacement of aging infrastructure assets.
>
> Capital expenditures have risen significantly since 2005 and CFRA expects them to remain at relatively high levels…Other companies are also investing in new natural gas-fired combined-cycle power plants to meet rising demand. In addition, many companies are investing in expensive regulated and unregulated solar and wind generating assets to meet renewable power requirements set by state regulators.
>
> New electric transmission projects are also a source of capital spending…[130]

Similarly, Deloitte published a report on utility capital expenditures and concluded the drivers behind continued strong spending included:

- The need to upgrade and reinforce electric and gas infrastructure due to age, increasingly severe weather, and cyber and physical threats
- The equally critical need to deploy information technology to boost the systems' efficiency, effectiveness, and resilience; accommodate the surge of new technologies and devices; and respond to customer demand for more flexible and customized products
- The need to address environmental concerns with an increasingly clean energy slate
- The opportunity to take advantage of burgeoning supplies of domestic natural gas

> Overall, company projections indicate that capital spending will likely remain substantial, which is not surprising, since key drivers behind the spending continue.[131]

Q. Does Mr. Gorman's own testimony reference continued strong growth in utility industry capital spending?

A. Yes. Mr. Gorman notes a Capital Expenditure Update report from RRA Financial Focus which states that projected 2017 capital expenditures for the industry "would

[130] CFRA powered by data from S&P Global, "Industry Surveys, Electric Utilities," (August 2017).
[131] Deloitte, "From growth to modernization, the changing capital focus of the US utility sector," (2016).

be an all-time high for the sector" and that "the nations electric and gas utilities are investing in infrastructure to upgrade aging transmission and distribution systems, build new natural gas, solar and wind generation and implement new technologies."[132] He goes on to conclude that "electric industry investment outlooks are expected to be considerably higher relative to the last 10-year historical period."[133]

Q. Have other regulators recognized that GDP growth rates result in cost of equity estimates that fail to reflect investors' expectations for utilities?

A. Yes. In Opinion No. 531 (issued June 19, 2014), FERC concluded that a 9.39% midpoint produced by a multi-stage DCF model predicated on GDP growth is insufficient to meet regulatory standards under *Hope* and *Bluefield.*[134] FERC determined that a cost of equity of this magnitude "does not represent a just and reasonable outcome" or "appropriately represent the utilities' risks."[135] In particular, FERC concluded that prevailing capital market conditions are leading to unrepresentative financial inputs to the DCF formula, which in turn results in a cost of equity "that does not satisfy the requirements of *Hope* and *Bluefield*."[136]

In order to evaluate a fair and reasonable point-estimate ROE, FERC endorsed reliance on the same risk premium, CAPM, and expected earnings approaches presented in my testimony in this case.[137] In addition, FERC stressed the relevance of ROEs allowed by

[132] Gorman Direct at 11.
[133] *Id.*
[134] Opinion No. 531, 147 FERC ¶ 61,234 at P 142.
[135] *Id.* at P 144.
[136] *Id.* at P 142.
[137] *Id.* at P 146.

state regulatory commissions in its evaluation of a fair ROE from within the zone of reasonableness.[138] More recently, FERC affirmed these findings in Opinion No. 551.[139]

Q. Did the founder of the DCF approach support the use of a generic long-term growth rate, such as the GDP growth under the Mr. Gorman's multi-stage approach?

A. No. Professor Myron J. Gordon, who originated the DCF approach, concluded that reference to a generic long-term growth rate, such as Mr. Gorman advocates, was unsupported.[140] More specifically, Dr. Gordon concluded that any assumption of a single time horizon for a transition to a generic long-term growth rate was highly questionable and failed to reduce error in DCF estimates. Instead, Dr. Gordon specifically recognized that, "it is the growth that investors expect that should be used" in applying the DCF model, and he concluded:

> A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth."[141]

Similarly, a recent study reported in the *Journal of Investing* determined that there is no correlation between stock market returns or earnings growth and GDP, suggesting that investors' expectations built into observable share prices are driven by valuation measures, and not expected economic growth.[142]

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[138] Opinion No. 531, 147 FERC ¶ 61,234 at P 148-149. FERC ultimately concluded that an ROE of 10.57% was just and reasonable.
[139] Opinion No. 551 (2016). FERC ultimately concluded that an ROE of 10.32% was just and reasonable.
[140] Gordon, Myron J., THE COST OF CAPITAL TO A PUBLIC UTILITY, a 100-01 (MSU Public Utilities Studies, 1974).
[141] *Id.* at 89.
[142] Joachim Klement, "What's Growth Got to Do with It? Equity Returns and Economic Growth," *Journal of Investing*, Vol. 24, No. 2 (Summer 2015): 74:78.

Q. Please summarize your objection to Mr. Gorman's use of GDP growth rates in his multi-stage growth DCF analysis?

A. Mr. Gorman presents no meaningful information to suggest that investors share his view that growth in GDP must be considered "the highest sustainable long-term growth rate of a utility."[143] The industry-wide historical comparisons of utility sales growth and GDP cited by Mr. Gorman may be factually correct, but they do not address what Mr. Gorman identified as the fundamental requirement in estimating growth – the future expectations of investors. In fact, Mr. Gorman specifically noted the pitfalls associated with historical data in assessing investors' expectations of growth.

Mr. Gorman suggests that it would be illogical for investors to expect long-term growth for a utility that exceeds the rate of growth of the economy. Based on this subjective assertion, he assumed that each company's growth rate would begin to converge to that of the economy as a whole after 5 years, and then extended his analysis for an additional 195 years. While few investors are likely to consider Mr. Gorman's projected cash flows in the year 2217 to be within their foreseeable horizon, it is entirely logical for investors to recognize the potential for certain companies to grow faster than the overall economy.

Q. Are there computational errors that also bias Mr. Gorman's multi-stage DCF cost of equity estimates downward?

A. Yes. As noted above, under his multi-stage DCF approach Mr. Gorman predicted the cash flows that would accrue to investors over the next 200 years. To arrive at his estimated cost of equity, Mr. Gorman used the internal rate of return ("IRR") function

[143] Gorman at 41.

available in Microsoft's Excel spreadsheet program to determine the discount rate (*i.e.*, investors' required rate of return) that would equate these cash flows with the current market price of the stock.[144] This IRR calculation, however, assumes that annual cash flows are received at the end of each year, which is inconsistent with the periodic dividend payments that investors receive over the course of the year and results in a downward bias in the implied cost of equity.

Q. What are your criticisms of Mr. Gorman's sustainable growth DCF analysis?

A. I disagree with Mr. Gorman's implication that analysts' growth projections should be tested against retention ratios or sustainable, br+sv growth rates. Mr. Gorman states that "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."[145] But there is no demonstrable link between investors' growth expectations and trends in retention ratios, and Mr. Gorman has provided no explanation for what that link might be. I do agree that the sustainable growth rates referenced by Mr. Gorman, and which depend on the retention ratio as one variable, provide one potential indicator to investors' expectations. Like Mr. Gorman, I considered this growth measure in my application of the constant growth DCF model.

While this sustainable, br+sv growth measure is one guide to investors' expectations that is consistent with the theory underlying the DCF approach, there is no basis for Mr.

[144] Gorman workpaper: UE-170485-UG-170486_Exh. MPG-7 - MPG-14, MPG-20, MPG-21, MPG-23 (ICNU)(10.27.17).xlsx (tab MPG-14).
[145] Gorman at 39.

Gorman's claim that this alternative measure can be used to test the veracity of analysts' estimates. Indeed, many of the individual br+sv growth rates for the firms in his proxy groups are far too low to be credible. For example, Mr. Gorman reports a sustainable, br+sv growth rate of 1.24% for Dominion Resources. Combining this growth rate with Mr. Gorman's 3.93% dividend yield for Dominion produces a cost of equity estimate of 5.17%,[146] which is far below his 9.1% recommendation. As indicated earlier, Mr. Gorman correctly concluded that investors' expectations are the lodestar in the DCF model, and that analysts' projections provide the more accurate estimate.

B. Capital Asset Pricing Model

Q. What are the weaknesses in Mr. Gorman's CAPM studies?

A. Mr. Gorman's CAPM analysis has several shortcomings. It is based almost exclusively on historical data, even though the analysis should be forward-looking. He fails to correct for an observed bias in the CAPM result. Finally, his analysis ignores the impact of company size on expected returns.

Q. What is the primary difference between Mr. Gorman's so-called "forward-looking" CAPM analysis and the approach described in your Direct Testimony?

A. As Mr. Gorman observed, the appropriate "R_m" to use in applying the CAPM is the "[e]xpected return for the market portfolio."[147] But like Mr. Parcell, Mr. Gorman's "forward-looking" CAPM was actually based almost entirely on historical data. As Mr. Gorman explained:

[146] Gorman Exhibit No. MPG-12.
[147] Gorman Direct at 54.

> 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.[148] [emphasis added]

In other words, the relatively small portion of Mr. Gorman's "forward-looking" market return constituting inflation was based on projected data, but the actual return on the market itself was completely backward looking. Thus, Mr. Gorman essentially presented two variants of a CAPM using historical data. Neither one of these approaches is consistent with the assumptions of the CAPM because as noted above, the CAPM seeks to determine the expected return, and is predicated on the forward-looking expectations of investors. As discussed earlier in response to Mr. Parcell, Mr. Gorman's use of historical returns in the CAPM is inconsistent with the underlying presumptions of the model.

Q. Did Mr. Gorman fail to consider other important factors in applying the CAPM?

A. Yes. Like Mr. Parcell, Mr. Gorman failed to reflect the size adjustment in his CAPM application.

Q. Is there any merit to Mr. Gorman's contention that a size adjustment should not be applied to utilities?[149]

A. No. First, Mr. Gorman wrongly implies that I am proposing to apply a general size risk premium in arriving at a fair ROE for Avista. That is not correct. Rather, my reference to a size adjustment merely corrects for an observed inability of the CAPM to fully reflect the impact of size distinctions by market capitalization that the beta value does not

[148] *Id.* at 56.
[149] Gorman Direct at 68-70.

otherwise capture, but which is acknowledged by empirical research. My consideration of the impact of firm size does not adjust for Avista's size relative to the proxy group; nor is it applied to the results of the DCF, risk premium, or expected earnings approaches. Rather, it is specifically tied to the CAPM because empirical research indicates that beta does not capture an increment of risk related to firm size.

Mr. Gorman's observation that the "size adjustment recommended by Mr. McKenzie reflects companies that have beta estimates in excess of 1.00" says nothing at all about the relevance of a size adjustment.[150] Of course, there are any number of specific factors that distinguish a utility's risks from other firms in the non-regulated sector, just as there are important distinctions between the circumstances faced by airlines and drug manufacturers. But under the assumptions of modern capital market theory on which the CAPM rests, these considerations are reduced to a single risk measure – beta – which captures stock price volatility relative to the market. Within the CAPM paradigm, the degree of regulation, the nature of competition in the industry, the competence of management, and every other firm-specific consideration is boiled down to a single question; namely, how much does the stock's price fluctuate in relation to the market as a whole? Beta is the measure of that variability, and research demonstrates that beta does not fully account for the impact of firm size.

The fact that the size premiums reported by Duff & Phelps were not estimated on an industry-by-industry basis provides no basis to ignore this relationship in estimating the cost of equity for utilities. Utilities are included in the companies used by Duff & Phelps to

[150] *Id.* at 55.

quantify the size premium, and firm size has important practical implications with respect to the risks faced by investors in the utility industry. All else being equal, it is well accepted that smaller firms are more risky than their larger counterparts, due in part to their smaller scale, relative lack of diversification and lower financial resiliency. In the case of a smaller utility, its earnings are principally dependent on the economic, social, regulatory, and other factors affecting a more limited constituency. This can result in significant exposure, especially where key employers or industries dominate the economy.

Larger utilities generally enjoy improved exposure to financial markets, which enhances their ability to raise additional capital relative to smaller utilities. As a result, they are better prepared to withstand adverse events and possess greater financial flexibility to respond or adapt to changing market conditions. A study reported in *Public Utilities Fortnightly* noted that the betas of small companies do not fully account for the higher realized rates of return associated with small company stocks:

> The smaller deciles show returns not fully explainable by the CAPM. The difference in risk premium (realized versus CAPM) grows larger as one moves from the largest companies in decile 1 to the smallest in decile 10. The difference is especially pronounced for deciles 9 and 10, which contain the smallest companies. [151]

The study went on to conclude that a publicly traded utility with a market capitalization of $1.0 billion would require a small company premium of approximately 130 basis points above the rate of return for larger firms.[152]

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[151] Annin, Michael, "Equity and the Small-Stock Effect", Public Utilities Fortnightly (Oct. 15, 1995) at 43.
[152] This compares with the size adjustments incorporated in my application of the ECAPM and CAPM, which ranged from 215 basis points to -36 basis points. Exhibit Nos. AMM-8 & AMM-10.

Q. Mr. Gorman rejects your use of the ECAPM because he says it "double counts" the impact of Value Line adjusted betas and, therefore, is unreasonable.[153] What is your response?

A. Contrary to Mr. Gorman's claim, the use of the ECAPM is consistent with the use of value line betas. Value Line beta values are adjusted for the observed tendency of beta to converge toward the mean value of 1.00 over time.[154] The purpose of this adjustment is to refine beta values determined using historical data to better match forward-looking estimates of beta, which are the relevant parameter in applying the CAPM or ECAPM models. Meanwhile, the ECAPM does not involve any adjustment to beta whatsoever. Rather, it represents a formal recognition of findings in the financial literature that the observed risk-return tradeoff is flatter than predicted by the CAPM. In other words, even if a firm's beta value were estimated with perfect precision, the CAPM would still understate the return for low-beta stocks and overstate the return for high-beta stocks. The ECAPM and the use of adjusted betas represent two separate and distinct issues in estimating returns.

C. Utility Risk Premium

Q. Do the results of Mr. Gorman's risk premium approach based on authorized returns provide a reliable guide to a fair ROE for Avista?

A. No. Mr. Gorman subjectively chose to truncate the data available to apply his risk premium approach by ignoring all observations prior to 1986. Mr. Gorman explained that this period was selected "because public utility stocks consistently traded at a premium

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[153] Gorman Direct at 73.
[154] *See, e.g.*, Marshall E. Blume, "Betas and Their Regression Tendencies," *Journal of Finance*, Vo. 30, No. 3 (Jun. 1975), pp. 785-795.

to book value during that period,"[155] but such manipulation of this data runs counter to the assumptions underlying the study of historical risk premiums. Ibbotson Associates noted the pitfalls of such a subjective approach:

> Some analysts estimate the expected risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future … This view is suspect …[156]

By choosing a truncated time period for his risk premium study, Mr. Gorman unnecessarily introduces a subjective bias that taints his analysis and artificially lowers his results.

Q. What other flaws are associated with Mr. Gorman's risk premium application?

A. Mr. Gorman failed to incorporate the inverse relationship between interest rates and equity risk premiums in his analysis of historical authorized rates of return. There is considerable empirical evidence that when interest rates are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums are greater. This inverse relationship between equity risk premiums and interest rates has been widely reported in the financial literature. As summarized in *New Regulatory Finance*:

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carelton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when rates rose.[157]

[155] Gorman Direct at 48.
[156] Ibbotson Associates, *2005 Yearbook, Valuation Edition* at 80.
[157] Morin, Roger A., "New Regulatory Finance," Public Utilities Reports, Inc. (2006) at 128.

New Regulatory Finance noted that, taken together, studies in the financial literature imply that a 100 basis point change in bond yields would imply a 50 basis point increase in the equity risk premium.[158]

As shown on Mr. Gorman's Exhibit Nos. MPG-16 and MPG-17, current interest rates are significantly less than those prevailing in the late 1980s and early 1990s. Given that interest rates are currently lower than the average over his study period, current equity risk premiums should be relatively higher, which Mr. Gorman's analysis entirely ignores.

Q. What cost of equity estimate is indicated if Mr. Gorman's risk premium approach is corrected to account for this factor?

A. I began with the data from Mr. Gorman's two risk premium Exhibit Nos. MPG-16 and MPG-17. The only adjustment I made to this data was to account for the inverse relationship between interest rates and risk premiums. Since rates are now (historically) low, an upward adjustment to the base risk premium is critical. As shown on Exhibit No. AMM-17, adjusting Mr. Gorman's risk premium analysis to account for this inverse relationship results in a current cost of equity estimate for Avista of 10.00% using Treasury yields (page 1), or 9.63% based on public utility bond yields (page 3).

D. Other ROE Issues

Q. Mr. Gorman contends that the Expected Earnings analysis you used is not a reasonable method for estimating a fair ROE for Avista.[159] Do you agree?

A. No. I provided support for the expected earnings method in my earlier rebuttal of Mr. Parcell and in my Direct Testimony. The appeal of the expected earnings

[158] *Id.* at 129.
[159] Gorman Direct at 82-83.

approach is that it does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior. I would reiterate that one of the methods used by Mr. Parcell to estimate the ROE in this case was the CE method, which is very similar to my Expected Earnings analysis.

Q. Do you agree with Mr. Gorman that a methodology has to depend on market data to be useful in evaluating investors' required return?

A. No. Mr. Gorman wrongly contends that because the expected earnings approach is based on accounting data and not market data, it should be rejected. While I agree that market-based models are certainly important tools in estimating investors' required rate of return, in my opinion, this in no way invalidates the usefulness of the expected earnings approach. In fact, this is one of its advantages.

A very simple, conceptual principle is that when evaluating two investments of comparable risk, investors will choose the alternative with the higher expected return. If Avista is only allowed the opportunity to earn a 9.1% return on the book value of its equity investment, as recommended by Mr. Gorman, while other electric utilities are expected to

earn an average of 10.6%-10.8%,[160] the implications are clear – Avista's investors will be denied the ability to earn a return commensurate with other opportunities of comparable risk.

Moreover, regulators do not set the returns that investors earn in the capital markets – they can only establish the allowed return on the value of a utility's investment, as reflected on its accounting records. As a result, the expected earnings approach provides a direct guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This test of economic logic does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q. Mr. Gorman argues that your Non-Utility DCF approach should not be given any weight because it includes companies that are not comparable to Avista.[161] Do you agree?

A. Not at all. I countered this argument in my response to Mr. Parcell. Mr. Gorman noted the Supreme Court's economic standards and concluded that the fair rate of return on equity should be "commensurate with returns investors could earn by investing in other enterprises of comparable risk."[162] Clearly, there are a myriad of other "enterprises of comparable risk" available to investors beyond those in the utility industry. Regulatory

[160] The average expected return on book equity for 2020-22 calculated for the ROE Witnesses' proxy groups, as shown on Exhibit No. AMM-16.
[161] Gorman Direct at 83-85.
[162] *Id.* at 31.

standards governing a fair ROE are based on comparable risk, not the nature of the business.[163]

Q. Is there any justification for ignoring flotation costs in the end result?

A. No. Mr. Gorman rejects a flotation cost adjustment in this case because he claims my adjustment "is not based on known and measurable Avista costs."[164] Mr. Gorman seems to agree that flotation costs can be included in the cost of equity analysis as a part of the cost of raising capital, but he argues that such an adjustment should be rejected in this case. Avista has been and will continue to invest significant amounts of equity capital to serve the public. The equity capital necessary to support this investment is supplied by proceeds from past stock issues and through retained earnings. The earnings base of this equity is permanently reduced by the amount of past flotation costs. Without a flotation adjustment, these legitimate costs of providing utility service will be excluded for ratemaking purposes and will further undercut Avista's ability to earn its authorized ROE. As I noted in my Direct Testimony,[165] the WUTC has previously recognized that flotation costs are a legitimate consideration in establishing a fair ROE, as have other state regulatory agencies.

IV. RESPONSE TO MR. GARRETT

Q. How did Mr. Garrett arrive at his 9.0% recommended ROE for Avista?

A. That is not entirely clear. In his testimony, Mr. Garrett supports a cost of equity estimate of 7.0%. He calls this the "true" cost of equity for the Company.[166]

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[163] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
[164] Gorman Direct at 64-65.
[165] McKenzie Direct at 40-41.
[166] See, for instance, Garrett Direct at 52.

However, this is not his final recommendation. Without additional analysis or support, he concludes:

> However, under prudent ratemaking principles, the Commission should award Avista's shareholders with a return on equity of 9.0%, which is within a reasonable range of 8.75% - 9.25%. Although we must move awarded returns toward true cost of equity, we should do so gradually rather than abruptly to avoid volatility within the industry.[167]

Q. Does Mr. Garrett present schedules, tables or supporting calculations of any kind to document his conclusion that 8.75% - 9.25% is a reasonable ROE range for Avista?

A. No. There appears to be no logical path to connect the analysis that he presents in support of the "true" cost of equity of 7.0% and his 9.0% proposal.

Q. What are your comments concerning Mr. Garrett's 7.0% estimate of the "true" cost of equity?

A. This result is not credible and should be dismissed out of hand. An authorized ROE of 7.0% for the Company would be extreme, unprecedented, and punitive. Such an outcome would threaten the financial integrity of the Company and its ability to attract capital under reasonable terms; conditions that would violate the *Hope* and *Bluefield* regulatory standards. This recommendation is at least 200 basis points lower than the lowest ROE ever allowed a vertically-integrated utility and not even 100 basis points above projected debt costs.[168] I concur with Mr. Gorman's position, noted earlier, that cost of

[167] Garrett Direct at 74-75.
[168] As shown in Exhibit No. AMM-3, Table 2 (at 18), independent forecasts imply a projected triple-B bond yield for the 2018-2022 timeframe of 6.12%.

equity estimates under 8% are not "reasonably consistent with market evidence of required risk premiums and security valuations" [169] and should be rightfully discarded.

Furthermore, Mr. Garrett's insinuation that he has determined the "true" cost of equity, whereas regulatory commissions across the country have failed in their responsibilities, is patently false. Unlike the cost of debt which is specified and contractually enforceable, there is no stated or precisely-known cost of equity. It is predicated on investor expectations that are unobservable and impossible to know with certainty. For this reason, regulatory proceedings, including this one, typically include testimony from multiple witnesses and an extensive evidentiary record on the subject of a fair and reasonable ROE. What Mr. Garrett has determined is nothing more than his opinion of the "true" cost of equity. For him to argue otherwise is presumptuous at best, and misleading and seriously mistaken at worst.

The ROE Witnesses acknowledge the fact that there is no explicit cost of common equity. Mr. Parcell notes:

> Neither the courts nor economic/financial theory has developed exact and mechanical procedures for precisely determining the cost of capital. This is the case because the cost of capital is an opportunity cost and is prospective-looking, which dictates that it must be estimated.[170]

Mr. Garrett himself says:

> Determining the cost of equity, on the other hand, is more complex. Unlike the known, contractual cost of debt, there is no explicit "cost" of common equity.[171]

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[169] Gorman Direct at 47.
[170] Parcell Direct at 7.
[171] Garrett Direct at 2.

Q. Mr. Garrett reaches several questionable conclusions bases on his belief that his estimate represents the "true" cost of capital. Are these conclusions reasonable?

A. No. The conclusions that Mr. Garrett reaches based on his mistaken claim to have estimated the "true" cost of equity are extreme and must be ignored. For instance, Mr. Garrett repeats the theme throughout his testimony that regulatory commissions consistently fail to properly set allowed returns; that is, for many years they have determined allowed returns that exceed the actual cost of capital.[172] Given the guiding legal and statutory obligations, and the independence and professionalism shown by regulators, Mr. Garrett's suggestion is outrageous. Again, Mr. Garrett has fallen into the trap of believing that his opinion of equity costs represents the "true" cost, despite substantial and conclusive evidence to the contrary.

Mr. Garrett even presents a chart purporting to show the gap between allowed returns and the actual cost of equity.[173] Mr. Garrett argues that such differences have resulted in an "excess of ratepayer wealth being transferred to utility shareholders and the IRS for at least 10 years."[174] His conclusions are, once again, unfounded and illusory. First, the "Required Market Returns" that he displays on the chart are nothing more than the best guess of a professor at New York University.[175] This methodology simply adds a risk-free rate to an implied equity risk premium to estimate the market required return. That this method is unreliable and distorted can easily be seen with a current calculation. On Professor

[172] Garrett Direct at 9-13, 22, 52.
[173] Garrett Direct, Figure 2, at 11.
[174] Garrett Direct at 11.
[175] Garrett Direct, footnote 10, at 11 and Exhibit No. DJG-4 at 14.

Damodaran's website, he indicates a current implied equity risk premium ("ERP") of around 4.5%. Given the current average rate on 30-year Treasury bonds (the risk-free rate) of 2.85%,[176] this implies a required market return of 7.35% (4.5% plus 2.85%). This return on the "market" is less than all of the ROE proposals in this case, despite the fact that regulated utilities are widely considered to be less risky than the market as a whole. This result defies risk/return theory and points to the dubiousness of the data relied on by Mr. Garrett.[177] This source certainly provides no basis to call into question the decisions of every state regulatory commission over the past 10 years.

Q. Mr. Garrett partially attributes the gap between his "true" cost of equity and Commission-allowed returns to the results of settlements, arguing that "settled returns are generally higher than market-based cost of capital because utilities may make concessions with other issues in a rate case in exchange for obtaining a higher awarded return."[178] How do you respond?

A. This argument is flawed on several levels. First, while some utilities may make concessions in settlement to achieve advantages in another areas, the reverse is also undoubtedly true; that is, in a settled case, utilities might also accept a lower ROE than would otherwise be achieved under a litigated outcome. Second, years of actual data from Regulatory Research Associates ("RRA") on allowed returns directly refutes Mr. Garrett's

[176] Average 30-year Treasury bond yield for the six months ended October 2017.
[177] Reliance on data from Damodaran has been previously rejected by FERC. In Docket No. EL14-86, the Presiding Judge concluded that a study including data from Damodaran "presented a flawed application . . . using a methodology the Commission has already rejected." *Initial Decision*, 154 FERC ¶ 63,024 at P 730 (2016).
[178] Garrett Direct at 22.

claim. In its most recent *Regulatory Focus, Major Rate Case Decisions* edition, RRA presented data since 2006 and concluded:

> For both electric and gas cases, no pattern exists in average annual authorized ROEs in cases that were settled versus those that were fully litigated. In some years, the average authorized ROE was higher for fully litigated cases, in others it was higher for settled cases, and in a few years the authorized ROE was similar for fully litigated cases versus settled cases.[179]

Q. Mr. Garrett dismisses firm-specific risk factors in the ROE estimation process, stating that "market risk is the only type of risk that is rewarded by the market, and is thus the primary type of risk the Commission should consider when determining the allowed return."[180] Do you agree?

A. Absolutely not. Mr. Garrett discussed two primary types of risk that affect equity investors: firm-specific risk and market risk.[181] He defines firm-specific risk as those factors that affect individual companies, rather than the entire market. He lists financial risks (due to differences in debt and equity levels) and business risks (all other operating and managerial factors that may result in investors realizing more or less than their expected return in that particular company) as examples of firm-specific risk. He describes market risk as those factors that affect all firms in the market to some extent, such as interest rate risk, inflation risk, the risk of major socio-economic events. I do not disagree with Mr. Garrett's risk definitions.

Mr. Garrett goes on to say that investors can eliminate firm-specific risk through diversification, and for this reason, it is not part of their investment decision. Since market

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[179] *RRA Regulatory Focus*, "Major Rate Case Decisions, January-September 2017" Regulatory Research Associates, an offering of S&P Global Market Intelligence (October 26, 2017) (emphasis added).
[180] Garrett Direct at 15-19.
[181]

risk cannot be eliminated through diversification, it is the only type of risk that bears on the investment decision. Based on these assumptions, Mr. Garrett maintains that market risk is the primary type of risk the Commission should consider in setting the allowed return.

The problem with Mr. Garrett's risk discussion is that he is mixing apples (portfolio theory) and oranges (the regulatory process). The goal of the regulatory process is not to build a diversified portfolio, it is to estimate the ROE of a specific firm. To set a firm-specific ROE, firm-specific risks must be considered. The landmark *Bluefield* case cited by Mr. Garrett as setting forth the standards by which public utilities are allowed to earn a return on capital investments states it clearly:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[182]

Consider a utility with a service area that is highly concentrated and geographically isolated. This utility faces the potential for uncertain and extreme weather, including exposure to avalanches. It has one hydro-based generating facility and relies on a single transmission path. It lacks a broad suite of regulatory recovery mechanisms and due to its reduced economies of scale, it faces greater exposure to cash flow pressures associated with unforeseen events, including the loss of key customers or changes in regulations. Under Mr. Garrett's approach, these firm-specific risks would not be considered in the ROE estimation process. In reality, the described risks conform closely to those faced by Avista's subsidiary, Alaska Electric Light and Power Co. and its firm-specific risks are explicitly considered explicitly by the RCA in setting its allowed equity return. In fact, the RCA typically

[182] Garrett Direct at 37.

considers the implications of firm-specific risks in setting its ROE. Mr. Garrett's risk philosophies are misapplied in this case and should be rejected.

Q. Would you consider the issues you have just discussed to constitute fatal flaws in Mr. Garrett's approach?

A. Yes. These fundamental misconceptions underlying Mr. Garrett's ROE evaluation render it virtually meaningless. His final ROE recommendation of 9.0% is not supported by analysis or documentation; his base ROE determination of 7.0% is extreme, unprecedented, and so far out of the mainstream that it would cause serious harm to the financial integrity and ability of the Company to attract capital under reasonable terms; his claim that he has found the "true" cost of equity and that regulators consistently ignore or are not aware of this revelation is unfounded; and, his position that firm-specific risks do not matter in the regulatory process is irrational. Taken together, these flaws undermine any ability to rely on Mr. Garrett's findings and recommendations.

A. Discounted Cash Flow Model

Q. Are there technical flaws in Mr. Garrett's DCF analysis?

A. Yes. As discussed previously, there is no direct connection between his DCF analysis and his ultimate ROE recommendation of 9.0% in this case. In fact, his cost of equity summary table indicates a DCF cost of equity of only 7.2%.[183] While this disconnect between model and result is the biggest flaw in his DCF approach, I have identified several other technical faults in his application of the DCF model. Namely, I have found problems in both his dividend yield and growth terms.

[183] Garrett Direct, Figure 10, at 61.

Q. What problem did you find in his dividend yield term?

A. Mr. Garrett states that he used the quarterly dividend paid in the fourth quarter of 2016 for each proxy company.[184] This is stale data and will cause model results to be understated. Under the constant-growth version of the DCF model used by Mr. Garrett, the dividend yield calculation is forward-looking and should be based on the dividend expected to be paid in the coming year. Mr. Garrett should have utilized the most recent 2017 dividend data in his DCF model.

Q. What problems did you find in his growth term?

A. Mr. Garrett relies exclusively on generic estimates of growth in GDP for his growth term. As I mentioned earlier in my response to Mr. Gorman, investors do not consider long-term growth in GDP to be a limiting factor in their ROE estimation process. Nowhere does Mr. Garrett consider analysts' estimates for growth, like Mr. Parcell, Mr. Gorman, and I do. He effectively assumes that utility growth will be limited to 4.1% (his GDP growth rate) for every company in the proxy group from now into perpetuity. This is clearly a nonsensical assumption. A cursory review of individual company growth rate estimates from my Exhibit No. AMM-6 (at 2) shows that analysts expect growth rates well in excess of 4.1% for most of the utilities in the proxy group. Mr. Garrett ignores this evidence.

Mr. Garrett displays his range of GDP growth estimates on Exhibit No. DJG-4 (at 5). Beyond the 4.10% estimate of nominal GDP growth from the Congressional Budget Office ("CBO"), he also references growth rates based on expected inflation and the risk-free rate. Limiting growth in the economy to inflation, by definition, assumes that there will not be any

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"real" growth in U.S. economic output from now to the end of time. And there is no logical link between investors' long-term growth expectations for common stocks and the current Treasury bond yield. Combining growth rates based on his inflation rate of 2.00% or his risk-free rate of 2.80% with the average proxy group dividend yield of 3.3% yields DCF outcomes in the range of 5.3% to 6.1%. Such results are clearly unreasonable and provide further proof that his DCF growth rate analysis is flawed beyond repair.

With his devotion to GDP growth, Mr. Garrett misses the forest for the trees. While the theoretical DCF model may be based on the assumption of a constant growth rate into infinity, this is not what investors consider. They surely don't consider GDP growth to 2046 as Mr. Garrett implies. And they likely would be unwilling to take on equity risks in exchange for a DCF return where growth is equal only to expected inflation. By not considering realistic investor expectations, but rather attempting to mechanically adhere to a warped view of academic theory, the end-result of his DCF analysis is not reasonable. Mr. Garrett confuses his views of growth with what investors expect which, of course, is what really matters.

Q. Mr. Garrett references a "circular reference problem" in his growth rate discussion.[185] Is this a valid concern?

A. No. In essence, Mr. Garrett says that if a regulator awards a higher ROE than the market requires, this could lead to higher growth rate estimates from analysts. If those same estimates are used in the DCF model in the next case, it could lead to a higher awarded ROE; and the cycle continues. This argument rests on the same faulty premise as discussed

[185] Garrett Direct at 31-32.

earlier; namely, that regulators consistently set the ROE higher than the market requires. In a sense, he is implying that regulators are unfair, biased, or lacking sufficient knowledge to properly exercise their statutory authority in evaluation the market-required cost of capital, and that they are somehow artificially inflating allowed rates of return.

This belief reflects a basic misunderstanding of the regulatory process. The role of regulatory commissions is to set the ROE based on market expectations. If those expectations are met, the allowed ROE will be the same as market requirements. There is no reason to believe that regulatory commissions operate in any other manner and Mr. Garrett's circular reference concerns are not warranted.

B. Capital Asset Pricing Model

Q. What is wrong with Mr. Garrett's application of the CAPM?

A. Like with the DCF model, Mr. Garrett fails to consider the end-result of his application of a theoretical model. At 6.8%, his CAPM results are below any practical measure of the Company's cost of equity.

Q. Have you identified other problems with his CAPM analysis?

A. Yes. As with the other ROE Witnesses, Mr. Garrett relies exclusively on historical data in formulating his estimate of the market risk premium. I addressed this flaw earlier. The CAPM is a forward-looking model and requires forward-looking data. Mr. Gorman's CAPM results suffer from his backward-looking application.

Q. Did Mr. Garrett also recognize the frailties of his historical CAPM approaches?

A. Yes. Mr. Garrett noted that "what matters in the CAPM model, however, is not the actual risk premium from the past, but rather the current and forward-looking risk premium."[186] He adds that "regardless of the variations in historic ERP estimates, many scholars and practitioners agree that simply relying on a historic ERP to estimate the risk premium going forward is not ideal."[187]

Q. Mr. Garrett references survey results and implied equity risk premiums in his CAPM discussion. Are these useful alternatives for estimating the market risk premium?

A. No. The equity risk premium findings reported by Mr. Garrett do not make economic sense and contradict his own testimony. For example, page 10 of Mr. Garrett's Exhibit No. DJG-4 reveals his equity risk premium range of 4.0% to 5.7%. Combining a market equity risk premium of 4.0% from the Graham and Harvey Survey with Mr. Garrett's 2.81% risk-free rate results in an indicated cost of equity for the market as a whole of 6.81%, which is lower than either of his ROE conclusions for Avista in this case. Likewise, Mr. Garrett's "implied equity risk premium" approach produces an expected return on the entire market of only 7.68%.[188]

Mr. Garrett's own testimony contradicts these results. After noting that beta is the relevant measure of investment risk under modern capital market theory, Mr. Garrett concluded that his comparison of beta values indicates that investors' required return on the

[186] Garrett Direct at 42.
[187] *Id.* at 43.
[188] Exhibit No. DJG-4 at 9.

market as a whole should exceed the cost of equity for electric utilities.[189] Based on Mr. Garrett's own logic, it follows that a market rate of return that does not significantly exceed his own downward biased ROE recommendations has no relation to the current expectations of real-world investors. The fact that much of his CAPM "evidence" violates the risk-return tradeoff that is fundamental to financial theory clearly illustrates the weakness of Mr. Garrett's analyses. That expected returns of 6.81% to 8.51% for the market as a whole are less than any of the ROE recommendations for Avista in this case emphatically proves this point.[190]

Q. Are there other shortcomings associated with the equity risk premium sources cited by Mr. Garrett?

A. Yes. For example, the *IESE Business School Survey* is the result of a mass solicitation to more than 23,000 email addresses, out of which approximately 6,900 responses were received.[191] While many of the responses were undoubtedly from informed professionals, there is no ability verify the experience or familiarity of the respondents with the subject matter. In addition, the wording of the surveys is imprecise and open to interpretation. For example, the 2016 survey simply asks, "The Market Risk Premium that I am using in 2016 for USA is _____%,"[192] which is entirely unclear. The respondent has no

[189] Garrett Direct at 20-22.
[190] The market equity risk premiums from Exhibit No. DJG-4 at 10, range from 4.0% to 5.7%. Adding Mr. Garrett's current risk-free rate of 2.81% to this range, yields returns for the market as a whole of 6.8% to 8.51%.
[191] Pablo Fernandez, Alberto Ortiz, and Isabela Fernandez Acin, "Market Risk Premium used in 71 Countries in 2016: a survey with 6,923 answers," (May 2016) https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID2776636_code12696.pdf?abstractid=2776636&mirid=1&type=2 (last visited Oct. 11, 2017).
[192] *Id.*

idea whether he or she is being queried for a risk premium during 2016, or over some other time period; nor is the basis on which the risk premium is calculated even specified.

Other respondents to the *IESE Business School Survey* characterized the imprecision and ambiguity this way: [193]

- You don't define exactly what you mean by "Market Risk Premium". Different authorities define it in different ways. Is it expected return over short-term government securities (e.g., 30 or 90 day T-Bills), or longer-term government bonds?
- I do not believe in modern portfolio, so I do not calculate required return using the CAPM. I use judgement based on my assessment of risk with the company's WACC as my floor for required returns.
- I do not use an MRP in my investment process. It is really hard to estimate.
- You can estimate the average equity risk premium for a particular set of firms by using the implied cost of capital using analysts' forecasts. It is nonsense to talk about there being a risk premium for a particular country.
- I can't be of much help in your survey: I believe in the doctrine of the "Absurdity of CAPM."

These responses do not exactly inspire confidence in the veracity of the responses and their usefulness in this case.

Meanwhile, the approach used to derive a market risk premium from the Damodaran source cited by Mr. Garrett forces the growth rate for all competitive firms to a constant long-term rate after five years. In addition, Damodaran inexplicably assumes that this long term rate of growth will equal the current yield on U.S. Treasury bonds, or 2.33% in its current rendition.[194] This is significantly below the GDP growth rate of 4.10% advocated by Mr.

[193] *Id.*
[194] http://www.stern.nyu.edu/~adamodar/pc/implprem/ERPOct17.xls (last visited Nov. 13, 2017).

Garrett.[195] There is no logical link between investors' long-term growth expectations for common stocks and the current Treasury bond yield, and I know of no credible source of investment guidance that is expecting growth for all companies in the economy to collapse to 2.33% over the next five years.

The fundamental problem with Mr. Garrett's approach is that instead of looking directly at an equity risk premium based on current expectations – which is what is required in order to properly apply the CAPM and is the approach I took – he undertakes an unrelated exercise of compiling selected computations culled from the historical record. In short, while there are many potential definitions of the equity risk premium, the only relevant issue for application of the CAPM in a regulatory context is the return investors currently expect to earn on money invested today in the risky market portfolio versus the risk-free U.S. Treasury alternative.

Q. Are you in any way alleging that all these studies and surveys are inherently flawed?

A. No, not at all. The point that I am making is that there is more than one way to define and calculate an equity risk premium. The problem with Mr. Garrett's approach is that, instead of looking directly at an equity risk premium based on current expectations, he undertakes an unrelated exercise of compiling selected computations culled from the historical record. Average realized risk premiums computed over some selected time period may be an accurate representation of what was actually earned in the past, but they don't answer the question as to what risk premium investors were actually expecting to earn on a

[195] Garrett Direct at 33.

forward-looking basis during these same time periods. Similarly, calculations of the equity risk premium developed at a point in history – whether based on actual returns in prior periods or contemporaneous projections – are not the same as the forward-looking expectations of today's investors, which are premised on an entirely different set of capital market and economic expectations.

Likewise, surveys of selected corporate executives historical findings from academic research are not equivalent to investors' required returns in the coming period. Since the benchmark for a fair ROE requires that the utility be able to compete for capital in the current capital market, the relevant inquiry is to determine the return that real world investors in today's markets require from Avista in order to compete for capital with other comparable risk alternatives. In short, while there are many potential definitions of the equity risk premium, the only relevant issue for application of the risk premium and CAPM methods in a regulatory context is what return investors currently expect to earn on money invested today. In contrast to Mr. Garrett, my approach represents a straightforward and direct approach to answer this very question.

C. Other ROE Issues

Q. Mr. Garrett says that you "inflated" Avista's cost of equity due to its relatively small size.[196] Is this an accurate reflection of your testimony?

A. No. I discussed this issue previously in my response to Mr. Gorman. I did not make any adjustment to my recommended ROE in consideration of Avista's size. The size adjustment I did make is specifically tied to the CAPM and ECAPM because empirical

[196] Garrett Direct at 33.

research indicates that beta does not capture an increment of risk related to firm size. My adjustments were applied only to firms in my proxy group within the context of the CAPM and ECAPM and were not applied to the results of the DCF, risk premium, or expected earnings approaches.

Q. Mr. Garrett says that the growth rates you relied on in your DCF analysis are "patently unreasonable."[197] How do you respond?

A. Mr. Garrett cites a growth rate from my DCF analysis of 10.4% for Black Hills Corp., compares it to his estimate of growth in the economy, and concludes that my growth rate assumptions are unreasonable. Once again, Mr. Garrett misses the fundamental point concerning growth rate estimates in the DCF model, or concerning the application of any of the ROE models, for that matter. Neither his particular view of growth nor mine are what is important; what really matter is what investors expect. That is what all of the ROE analysts in this case are really trying to measure. The 10.4% estimate for Black Hills was obtained from IBES, as reported by yahoo.com. IBES data, which is independently compiled by Thomson Reuters, reflects consensus estimates gathered from professional securities analysts. In this sense, it is a pure source of exactly the type of growth rate data most useful in the DCF context, and it is not inconsistent with the historical results published by Value Line, which reports five-year historical growth of 11.0% for Black Hills. Mr. Parcell and Mr. Gorman both rely on analysts' growth forecasts in their DCF approaches. Mr. Garrett is out of the mainstream in his criticisms of my DCF growth methodologies.

[197] *Id.*

By contrast, Mr. Garrett boils his DCF long-term growth rate estimate down to a single GDP number for all of the companies in the proxy group. The practical impact of this assumption is that the only difference in expected ROE for the proxy companies is captured in the difference in their dividend yield.[198] This is not realistic. According to the data in my Exhibit No. 6 (at 2), analysts expect growth for Sempra Energy in the range of 5.6%-9.2% (average of 7.9%), but growth of only 1.5%-4.0% (average 2.9%) for Hawaiian Electric. With an average expected growth rate that is 5.0% higher (7.9% less 2.9%), surely investors expect a significantly higher ROE for Sempra Energy than for Hawaiian Electric, and my DCF method would allow that. Under Mr. Garrett's fixed-GDP growth rate scheme, however, the difference in expected ROE between the two companies would be on the order of 0.7%, the difference in dividend yield between the two companies.[199] This result defies reality, highlighting a severe weakness in Mr. Garrett's analysis.

Q. Mr. Garrett says that your elimination of DCF outliers is "nothing more than an arbitrary tactic to skew the results of his DCF averages to a higher number."[200] How do you respond?

A. Mr. Garrett ignores the discussion of my evaluation of illogical DCF values presented in my direct testimony. In Exhibit No. AMM-3, I explain how it is essential that ROE estimates must pass fundamental tests of reasonableness and economic logic, dictating that implausibly low or high values be eliminated when evaluating the results of any

[198] Under the constant-growth DCF methodology, the expected ROE is equal to dividend yield plus growth. If growth is the same for all companies in the proxy group, as assumed by Mr. Garrett, the only change in ROE between them must be from differences in the dividend yield.
[199] Exhibit No. AMM-6 at 1.
[200] Garrett Direct at 36.

particular ROE method. In determining that ROE outcomes at 6.9% and below were not plausible, I relied on benchmark tests used by other regulators, recognizing current and projected interest rate levels. There was nothing "arbitrary" about my approach. My approach is quite similar to that taken by Mr. Gorman when he concludes that DCF results below 8.0% are not reasonable. Likewise, Mr. Parcell ignores the results of his CAPM analysis (at 6.6%-6.9%) in reaching his ROE recommendation for the Company, saying "my ROE recommendation does not directly incorporate the CAPM results, which I believe to be somewhat low at this time, relative to the DCF and CE results."[201]

Q. Mr. Garrett refers to the market return analysis you used in your CAPM analysis, saying your results are "overstated" because many of the growth rates you relied on are not "realistic."[202] Is this a valid concern?

A. No. Arguments concerning the sustainability of any individual growth rate for a single firm in the S&P 500 miss the point. The growth rate underlying the market cost of equity represents a weighted average of the expectations for the dividend paying firms in the S&P 500. Within this large group of firms, growth expectations for some firms may be extremely anemic, while projections for other firms are considerably more optimistic. In addition, growth rates for one company may moderate over time, while for others they may increase. Finally, the composition of the S&P 500 is not static. As a result, formerly successful firms are supplanted by new firms with potential for high growth (e.g. Sears is supplanted by Amazon, or Blockbuster is supplanted by Netflix). On balance, however, the

[201] Parcell Direct, footnote 5, at 4.
[202] Garrett Direct at 50.

growth rates used in my CAPM study are representative of the consensus expectations for the dividend paying firms in the S&P Index as a whole. This contradicts Mr. Garrett's position that investors' growth expectations should be constrained by a threshold tied to GDP.

Q. Mr. Garrett suggests that you "downplay" the CAPM and instead "promote" your own risk premium model.[203] Is this an accurate portrayal of your testimony?

A. No. In my direct testimony, I don't "downplay" the CAPM in any way. It is one of the fundamental analyses that I rely on in forming my ROE result. In fact, I even add a variant of the CAPM, the ECAPM, to further assist in my evaluation. As I state in my direct testimony, no single method or model should be relied upon to set a utility's cost of equity because no single approach can be regarded as wholly reliable. Comparing estimates produced by one method with those produced by other approaches ensures that the estimates of the cost of equity pass basic tests of reasonableness and economic logic.

The risk premium approach is based on the fundamental risk-return principle that is central to finance, which holds that investors will require a premium in the form of a higher return in order to assume additional risk. This method is routinely referenced by the investment community and in academia and regulatory proceedings, and provides an important tool in estimating a fair ROE for Avista. While I disagree with the details of his application, Mr. Gorman did use the risk premium model as one of his core ROE estimation methodologies.

[203] *Id.* at 52.

Q. Mr. Garrett claims that risk premium models are not "market-based, and therefore have no value in helping us estimate the market-based cost of equity."[204] Is this a legitimate criticism of your risk premium method?

A. No. His claim that my risk premium approach is not market-based is absurd. In my approach, the cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. By using current bond yields, my risk premium results are directly linked to market-based data.

In fact, in some ways the risk premium method offers advantages to DCF and CAPM techniques. Unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields. Compared to the CAPM, the risk premium approach is simpler and less reliant on restrictive assumptions. In describing the CAPM, Mr. Garrett lists eight assumptions upon which the model rests. Assumption 6 is that there exists a purely risk-free asset; in reality, no such investment can be found. Assumption 7 says there are no taxes or transaction costs; of course, this CAPM restriction is never met. So while DCF and CAPM methods are valuable tools to estimate required rates of return, the risk premium method is also helpful. It is tied directly to observable capital market conditions, it is simple and straightforward, and it is not burdened with restrictive assumptions.

[204] Garrett Direct at 52.

Even though it contains flaws that I have previously addressed, Mr. Gorman relies on a risk premium approach in his ROE analysis listing it as one of the "market-based" models available to produce reasonable estimates of Avista's current cost of equity.[205] He also notes that he used regulatory commission-authorized returns for electric utility companies in his risk premium study (as I did), because "authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return;"[206] in other words, they incorporate market data. Mr. Garrett's notion that my risk premium approach is not market-based is in the minority, misplaced, and should be ignored.

Q. Mr. Garrett makes the surprising statement that your risk premium model considers a comparison between awarded ROEs and bond yields, "even though these two factors are not remotely connected."[207] Do you agree with this conclusion?

A. It is hard to believe that Mr. Garrett would imply that commission-allowed ROEs and bond yields "are not remotely connected." Current bond yields are a direct reflection of current capital market conditions. They provide commissions with a direct and observable gauge as to investor return requirements. I would dare say that no commission has ever made an ROE determination without considering the current state of market-based interest rates. In this regard, Mr. Parcell lists the "level and trend of interest rates" as an important factor in determining the costs of capital for a public utility.[208]

[205] Gorman Direct at 3.
[206] *Id.* at 48.
[207] Garrett Direct at 52.
[208] Parcell Direct at 8.

Q. Mr. Garrett discusses your non-utility DCF analysis. How do you respond to his concerns?

A. Mr. Garrett objects to my non-utility DCF analysis because "competitive firms are simply not comparable to regulated utilities in term of their risk profiles."[209] I have discussed the fallacy in this argument previously in my responses to Mr. Parcell and Mr. Gorman. The simple observation that a firm operates in non-utility businesses says nothing at all about the overall investment risks perceived by investors, which is the very basis for a fair rate of return. So long as the risks associated with the Non-Utility Group are comparable to Avista and other utilities the resulting DCF estimates provide a meaningful benchmark for the cost of equity. As demonstrated in my Direct Testimony, a comparison of objective risk measures demonstrates conclusively that the Non-Utility Group is regarded as less risky than Avista, making it a conservative benchmark for a fair ROE in this case.[210]

Q. Do you agree with Mr. Garrett's conclusion that flotation costs should not be allowed recovery in this case?

A. No. Mr. Garrett lists three reasons for denying recovery: 1) flotation costs are not "out-of-pocket" costs; 2) the market already accounts for flotation costs; and 3) it is inappropriate to add to a cost of equity proposal that is already far above the "true" required return.[211] In earlier rebuttal testimony of Mr. Gorman, I responded to the fallacy underlying Mr. Garrett's "out-of-pocket" issue: Without a flotation adjustment, these legitimate costs of

[209] Garrett Direct at 60-61.
[210] McKenzie Direct, Table 7, at 44.
[211] Garrett Direct at 57-60.

providing utility service will be excluded for ratemaking purposes and will further undercut Avista's ability to earn its authorized ROE.

Mr. Garrett's second point, that the market already accounts for flotation costs, is akin to arguing that it is not necessary to reflect the utility's entire reasonable and necessary O&M expense in revenue requirements because such actions would be "accounted for" in the stock price. Flotation costs are legitimate expenses and unless a discreet adjustment is made to recognize them, they will not be recovered in the rate setting process.

Mr. Garrett's final point references the "true" cost of equity and he again implies that any ROE above his biased estimate is not appropriate. As I discussed earlier, this viewpoint is unfair and imbalanced and should be flatly rejected.

V. CAPITAL STRUCTURE

Q. What are the capital structure recommendations of the ROE Witnesses?

A. The capital structure proposals in this case are summarized in the table below:

REBUTTAL TABLE 3
Proposed Capital Structures

	Common Equity	Long-Term Debt	Short-Term Debt
Parcell	48.50%	48.60%	2.90%
Gorman	48.40%	48.70%	2.90%
Garrett	48.50%	48.60%	2.90%
Avista	50.00%	50.00%	0.00%

Q. How do you respond to the other recommendations in this case?

A. I do not agree with their adjustments to lower the common equity ratio. As I stated in my direct testimony, a 50% common equity level is consistent with Avista's need to maintain its credit standing and financial flexibility, with the range of capitalizations for the proxy utilities, and with the importance of an adequate equity layer to accommodate the

pressures of funding significant capital investments and to balance off-balance sheet commitments (such as purchased power agreements) which carry with them some level of imputed debt.

The importance of a healthy equity layer is even more critical in the face of the much lower ROE recommendations from the ROE Witnesses. If the Company is to maintain a balanced risk position, increased operating risk (in this case, reflected in the reduced ROE recommendations of the ROE Witnesses) must be offset with decreased financial risk (reflected in an enhanced common equity ratio). In other words, the ROE cannot be set in a vacuum; the impact on the overall risk profile of the Company must be considered. It is simply not reasonable to compound the harmful effects of a lower ROE with a lower equity level.

Q. Mr. Garrett says that using proxy group capital structures as a guide in selecting a reasonable capital structure for Avista is "oversimplified and insufficient."[212] Are his arguments persuasive?

A. No. He claims that "utilities do not have a financial incentive to operate at the optimal capital structure," that "the optimal capital structure is unique to each firm," and finally, that "the capital structure of the proxy group may not have been approved by their regulatory commissions."[213] While I agree that capital structure decisions are unique to each firm, this observation does not contradict Avista's requested capital structure in this case. There are many considerations in the capital structure decision. In general, the goal is to

[212] Garrett Direct at 66.
[213] *Id.* at 66-67.

employ the mix of capital that minimizes the weighted average cost of capital. Given the interplay between costs of debt and equity, the impact of taxes, bankruptcy costs, and the level of business risks, determining a firm's optimal capital structure is an imprecise exercise. In practice, capital structure decisions must be made by combining managements' judgment, numerical analysis, and considering investors' risk perceptions.

Moreover, it is generally accepted that the norms established by comparable firms provide a valid benchmark to evaluate a reasonable capital structure for a utility. The capital structure maintained by other utilities should reflect their collective efforts to finance themselves so as to minimize capital costs while preserving their financial integrity and ability to attract capital. These industry capital structures also incorporate the requirements of investors (both debt and equity), as well as the influence of regulators. Utilities have numerous incentives to employ a reasonable capital structure, including regulatory oversight.

Q. Mr. Garrett calculates that the Company's "optimal" capital structure consists of 60% debt and 40% equity. Is this reasonable?

A. No. Mr. Garrett bases this conclusion on a host of hypothetical assumptions concerning interest rate and coverage spreads between bond rating classes. The fact that none of the operating utilities associated with the parent companies in the proxy group have debt levels this high is telling.[214] Mr. Garrett's "optimal" capital structure exercise is theoretical in nature and has little basis in reality. Once again, Mr. Garrett substitutes his personal judgement for those of the experienced professionals who raise and invest capital for utility companies, the requirements of investors, and standard regulatory practice. The

[214] Exhibit No. AMM-5 at 2.

definition and realization of an "optimal" capital structure is far more complex that Mr. Garrett's method assumes.

Q. Does this conclude your Rebuttal Testimony in this case?

A. Yes, it does.