

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-200900

DOCKET NO. UG-200901

DOCKET NO. UE-200894

(Consolidated)

REBUTTAL TESTIMONY OF

ADRIEN M. MCKENZIE, CFA

REPRESENTING AVISTA CORPORATION

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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

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

4 **Q. Did you previously submit direct testimony in this case?**

5 A. Yes, I did.

6 **Q. What is the purpose of your Rebuttal Testimony?**

7 A. My purpose is to respond to the testimony of Mr. David C. Parcell, submitted
8 on behalf of the Staff of the Washington Utilities and Transportation Commission (“WUTC”
9 or “the Commission”), Dr. J. Randall Woolridge, on behalf of the Public Counsel Unit of the
10 Washington Office of Attorney General (“Public Counsel”), and Mr. Bradley G. Mullins, on
11 behalf of the Alliance of Western Energy Consumers (“AWEC”), concerning the fair rate of
12 return on equity (“ROE”) for the jurisdictional electric and gas utility operations of Avista
13 Corp. (“Avista” or “the Company”).¹

14 **Q. Please summarize the recommendations of the ROE Witnesses.**

15 A. Mr. Parcell recommends an ROE of 9.3 percent; Dr. Woolridge recommends
16 9.0 percent; and Mr. Mullins recommends an ROE of 9.4 percent. As I will demonstrate,
17 these levels are simply too low and fail to reflect the risk perceptions and return requirements
18 of real-world investors in current capital markets.

19 **Q. What is your assessment of Dr. Woolridge’s ROE recommendation?**

20 A. His recommendation is especially concerning. It is significantly below Staff’s
21 position, well below the Company’s currently allowed equity return, and as I demonstrate

¹ I refer to Mr. Parcell, Dr. Woolridge, and Mr. Mullins, collectively, as the “ROE Witnesses.”

1 below, well below other regulatory benchmarks. It is my opinion that an ROE proposal at
2 this level is below the reasonable range for Avista's utility operations and should be rejected.

3 **Q. What are the principal conclusions of your rebuttal testimony?**

4 A. The ROE recommendations of Staff, Public Counsel, and AWEC fall below a
5 fair and reasonable level for the Company's utility operations. My rebuttal testimony
6 demonstrates that:

- 7 • The ROE recommendations of the ROE Witnesses fall below
8 accepted benchmarks.
- 9 • Their discussions of current capital market conditions are
10 incomplete and potentially misleading.
 - 11 ○ Trends in Treasury bond yields do not provide a basis to
12 evaluate changes in the cost of common equity.
 - 13 ○ Higher beta values support the view that the forward-
14 looking risks of electric utility stocks have increased, which
15 implies a higher ROE.
- 16 • The analyses of Staff and Public Counsel are undermined by
17 numerous methodological flaws, including:
 - 18 ○ Unwarranted exclusion of comparable-risk utilities from
19 the proxy group.
 - 20 ○ Application of the Discounted Cash Flow ("DCF") and
21 Capital Asset Pricing Model ("CAPM") using a range of
22 historical data that fails to reflect investors' expectations
23 and current capital market conditions.
 - 24 ○ Application of financial models in a manner that is
25 inconsistent with their underlying assumptions.
 - 26 ○ Failure to evaluate the reasonableness of individual DCF
27 cost of equity estimates and exclude illogical results.
 - 28 ○ Failure to consider the impact of flotation costs contradicts
29 the findings of the financial literature and the economic
30 requirements underlying a fair rate of return on equity.
31

32 Furthermore, the ROE Witnesses fail to consider the Empirical CAPM ("ECAPM")
33 approach, which is a recognized ROE method. Finally, their criticisms of my size
34 adjustment, market return calculation, expected earnings approach, and non-utility DCF
35 analysis are without merit.

1 **A. ROE Recommendations Fail to Meet Regulatory Standards**

2 **Q. Do allowed ROEs provide a benchmark to evaluate whether the**
3 **recommended ROEs in this case are sufficient to meet regulatory standards?**

4 A. Yes. Allowed ROEs provide a gauge of the reasonableness of the outcome of
5 a particular analysis or decision, but ROE values do not exist in a vacuum. In considering
6 utilities with comparable risks, investors will always prefer to provide capital to the
7 opportunity with the highest expected return. If a utility is unable to offer a return similar to
8 that available from other investment opportunities posing equivalent risks, investors will
9 become unwilling to supply the utility with capital on reasonable terms.

10 **Q. How do the ROE Witnesses' ROE recommendations compare to ROEs**
11 **authorized by other state commissions?**

12 A. Their recommendations are below this standard. As documented in the
13 application of the risk premium approach summarized on page 3 of Exh. AMM-10 to my
14 direct testimony, between 1974 and 2019, the annual average allowed ROE for electric
15 utilities ranged from 9.56 percent to 15.78 percent. At no time during the 46 year period
16 referenced in my risk premium studies has the annual average authorized ROE for electric
17 utilities been as low as the value recommended by the ROE Witnesses in this case.

18 Their recommendations would also be below recent average ROEs authorized by
19 other state commissions. In 2019, the average allowed ROE for vertically-integrated electric

1 companies (like Avista) was 9.74 percent; for 2020 it was 9.55 percent.² For gas utilities, the
2 average allowed ROE was 9.71 percent in 2019 and 9.46 percent for 2020.³

3 Authorized ROE data for the specific firms in the ROE Witnesses' proxy groups is
4 even more compelling. As shown in Exh. AMM-16, the authorized ROEs for the firms in
5 Mr. Parcell's proxy group range from 9.25 percent to 10.03 percent and average 9.60 percent
6 (page 1). For Dr. Woolridge's electric proxy group, the range is 8.70 percent to 12.50
7 percent, with an average of 9.86 percent (page 2). In other words, allowed ROEs for the
8 utilities that Mr. Parcell characterizes as "a substitute for Avista,"⁴ indicate that the ROE
9 Witnesses' recommendations are too low to meet regulatory standards. Dr. Woolridge states
10 that he believes that "Avista's investment risk is at the high end of the range" of his proxy
11 companies. (Exh. JRW-1T at 20), which further supports my conclusion that the ROE
12 Witnesses' recommendations are too low when compared against the average returns
13 authorized for their proxy groups.

14 Of course, the ROEs approved in other jurisdictions do not constrain the decision-
15 making in this proceeding. However, it is important to understand that there would be a
16 disincentive for investors to provide equity capital if the Commission were to apply a lower
17 ROE to Avista, compared to entities of comparable risk

² S&P Global Market Intelligence, *Major Rate Case Decisions*, RRA Regulatory Focus, (February 2, 2021).

³ *Id.*

⁴ Exh. DCP-1T at 26.

1 **Q. What other benchmark indicates that the ROE Witnesses' recommended**
2 **ROEs are too low?**

3 A. Expected earned rates of return for other utilities provide another useful
4 measure to gauge the reasonableness of the ROE Witnesses' recommendations. The expected
5 earnings approach is predicated on the comparable earnings test, which developed as a direct
6 result of the Supreme Court decisions in *Bluefield* and *Hope*.⁵ This test recognizes that
7 investors compare the allowed ROE with returns available from other alternatives of
8 comparable risk.

9 Importantly, the expected earnings approach explicitly recognizes that regulators do
10 not set the returns that investors earn in the capital markets. Regulators can only establish
11 the allowed return on the value of a utility's investment, as reflected on its accounting
12 records. As a result, the expected earnings approach provides a direct guide to ensure that the
13 allowed ROE is similar to what other utilities of comparable risk will earn on invested
14 capital. This opportunity cost test does not require theoretical models to indirectly infer
15 investors' perceptions from stock prices or other market data. As long as the proxy
16 companies are similar in risk, their expected earned returns on invested capital provide a
17 direct benchmark for investors' opportunity costs that is independent of fluctuating stock
18 prices, market-to-book ("M/B") ratios, debates over DCF growth rates, or the limitations
19 inherent in any theoretical model of investor behavior.

⁵ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923); *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 **Q. Have the expected earnings or comparable earnings (“CE”) approaches**
 2 **been recognized as valid ROE benchmarks?**

3 A. Yes. This method predominated before the DCF model became fashionable
 4 with academic experts, and it continues to be used around the country.⁶ Mr. Parcell himself,
 5 in a textbook prepared for the Society of Utility and Regulatory Financial Analysts, labels the
 6 comparable earnings approach the “granddaddy of cost of equity methods” and points out
 7 that the amount of subjective judgment required to implement this method is “minimal,”
 8 particularly when compared to the DCF and CAPM methods.⁷ The *Practitioner’s Guide*
 9 notes that the comparable earnings method is “easily understood” and firmly anchored in the
 10 regulatory tradition of the *Bluefield* and *Hope* cases,⁸ as well as sound regulatory economics.
 11 Mr. Parcell employs a CE approach in his testimony and concludes from this analysis that an
 12 ROE range of 9.0 percent to 10.0 percent (midpoint 9.5 percent) is reasonable.⁹

13 Similarly, *New Regulatory Finance* concluded that, “because the investment base for
 14 ratemaking purposes is expressed in book value terms, a rate of return on book value, as is
 15 the case with Comparable Earnings, is highly meaningful.”¹⁰ More recently, in approving a
 16 9.6 percent ROE for electric utility operations, the North Carolina Utilities Commission

⁶ For example, the Virginia State Corporation Commission (“VSCC”) 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. In orders issued on November 30, 2011 and July 15, 2010 in Dockets PUE-2011-00037 and PUE-2009-00030, the VSCC established the allowed ROE for Appalachian Power Company based solely on the earned returns on book value for a peer group of other electric utilities. Another example is the Idaho Public Utilities Commission, which continues to confirm 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).

⁷ David C. Parcell, *The Cost of Capital—A Practitioner’s Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 115-116.

⁸ *Id.*

⁹ Exh. DCP-1T at 48.

¹⁰ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 395.

1 concluded that:

2 In prior cases, the Commission has given significant weight to the results of
3 the Expected Earnings methodology, which stands separate and apart from the
4 market-based methodologies (e.g., the DCF or CAPM) also used by ROE
5 experts. The Commission chooses to do so again in this case.¹¹
6

7 As S&P Global Ratings (“S&P”) observed, “[h]istorically, there have been two
8 approaches in calculating ROE in regulatory proceedings, a comparable earnings approach
9 and a market analysis. In a comparable earnings approach, similar investments with similar
10 risks are analyzed to determine an appropriate ROE.”¹²

11 **Q. What ROEs are implied by the expected earnings approach for the proxy**
12 **groups of utilities referenced by the ROE Witnesses?**

13 A. The year-end returns on common equity projected by the Value Line
14 Investment Survey (“Value Line”) over its forecast horizon for the firms in the ROE
15 Witnesses’ proxy groups are shown in Exh. AMM-17. Once adjusted to a mid-year basis,¹³
16 reference to expected earnings implied an annual average cost of equity for the utilities
17 referenced by Mr. Parcell of 10.2 percent. The result for Dr. Woolridge’s electric proxy
18 group is 11.1 percent. These book return estimates are an “apples to apples” comparison to
19 their ROE recommendations.

¹¹ North Carolina Utilities Commission, Docket No. E-7, SUB 1187, *et al.*, *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* (Mar. 31, 2021) at 94.

¹² S&P Global Market Intelligence, *The rate case process: establishing a fair return for regulated utilities*, RRA Regulatory Focus (Jun. 29, 2020).

¹³ 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*, Pub. Util. 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).

1 **Q. Please explain the rationale for the adjustment to convert year-end**
2 **returns to average returns when applying this method.**

3 A. The adjustment factor incorporated in my evaluation of expected returns on
4 Exh. AMM-17 is required because Value Line's reported returns are based on end-of-year
5 book values. Since earnings are a flow over the year while book value is determined at a
6 given point in time, the measurement of earnings and book value are distinct concepts. It is
7 this fundamental difference between a flow (earnings) and point estimate (book value) that
8 makes it necessary to adjust to mid-year in calculating the ROE. Given that book value will
9 increase or decrease over the year, using year-end book value (as Value Line does)
10 understates or overstates the average investment that corresponds to the flow of earnings. To
11 address this concern, earnings must be matched with a corresponding representative measure
12 of book value, or the resulting ROE will be distorted.

13 **Q. What are the implications of setting an allowed ROE that is below the**
14 **returns available from other investments of comparable risk?**

15 A. If the utility is unable to offer a return similar to the returns available from
16 other opportunities of comparable risk, investors will become unwilling to supply capital to
17 the utility on reasonable terms. For existing investors, denying the utility an opportunity to
18 earn what is available from other similar risk alternatives prevents them from earning their
19 cost of capital. Both of these outcomes violate regulatory standards.

20 Adopting an ROE for Avista that is well below the ROEs for comparable utilities
21 could lead investors to view the Commission's regulatory framework as unsupportive, an
22 outcome that would undermine investors' willingness to support future capital availability for
23 investment in Washington. Security analysts study regulatory orders to advise investors

1 where to invest their money. Moody's Investors Service ("Moody's") noted that,
2 "[f]undamentally, the regulatory environment is the most important driver of our outlook."¹⁴
3 Similarly, S&P concluded that "[t]he regulatory framework/regime's influence is of critical
4 importance when assessing regulated utilities' credit risk because it defines the environment
5 in which a utility operates and has a significant bearing on a utility's financial
6 performance."¹⁵ Value Line summarizes these sentiments:

7 As we often point out, the most important factor in any utility's success,
8 whether it provides electricity, gas, or water, is the regulatory climate in which
9 it operates. Harsh regulatory conditions can make it nearly impossible for the
10 best run utilities to earn a reasonable return on their investment.¹⁶
11

12 With respect to Avista specifically, Value Line recently reported that:

13 **The company's utilities, as a group, are not earning an adequate ROE.**
14 This is most critical in Washington, which comprised 62% of Avista Utilities'
15 rate base as of year-end 2020.¹⁷
16

17 It is only rational for potential investors to consider the regulatory treatment afforded
18 to Avista in evaluating whether to commit new capital to Washington jurisdictional utilities,
19 and at what cost.

¹⁴ Moody's Investors Service, *Regulation Will Keep Cash Flow Stable As Major Tax Break Ends*, Industry Outlook (Feb. 19, 2014).

¹⁵ Standard & Poor's Corporation, *Key Credit Factors For The Regulated Utilities Industry*, RATINGS DIRECT (Nov. 19, 2013).

¹⁶ Value Line Investment Survey, *Water Utility Industry* (Jan. 13, 2017) at p. 1780.

¹⁷ Value Line Investment Survey, *Avista Corp.* (Apr. 23, 2021) (emphasis original).

1 **Q. Do customers benefit when investors have confidence that the regulatory**
2 **environment is stable and constructive?**

3 A. Yes. When investors are confident that a utility has supportive regulation,
4 they will make funds available on more reasonable terms, and even in times of turmoil in the
5 financial markets. As noted above, regulatory signals are a primary driver of investors' risk
6 assessment for utilities and changing course from the path of financial strength would be
7 extremely short-sighted. Customers and the service area economy enjoy the benefits that
8 come from ensuring that the utility has the financial wherewithal to take whatever actions are
9 required to ensure reliable service.

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

12 A. As discussed in my direct testimony, expected rates of return for firms in the
13 competitive sector of the economy are also relevant in determining the appropriate return to
14 be allowed for rate-setting purposes.¹⁸ The idea that investors evaluate utilities against the
15 returns available from other investment alternatives – including the low-risk companies in
16 my Non-Utility Group – is a fundamental cornerstone of modern financial theory. Aside
17 from this theoretical underpinning, any casual observer of stock market commentary and the
18 investment media quickly comes to the realization that investors' choices are almost limitless.
19 It follows that utilities must offer a return that can compete with other risk-comparable
20 alternatives, or capital will simply go elsewhere.

¹⁸ Exh. AMM-1T at 41-43.

1 In fact, returns in the competitive sector of the economy form the very underpinning
2 for utility ROEs because regulation purports to serve as a substitute for the actions of
3 competitive markets. The Supreme Court has recognized that the degree of risk, not the
4 nature of the business, is relevant in evaluating an allowed ROE for a utility.¹⁹ The cost of
5 capital is based on the returns that investors could realize by putting their money in other
6 alternatives, and the total capital invested in utility stocks is only the tip of the iceberg of
7 total common stock investment. My reference to a low-risk group of non-utility companies
8 is entirely consistent with the guidance of the Supreme Court and Mr. Parcell's
9 acknowledgement that a fair ROE must allow the utility to "establish comparable returns for
10 similar risk investments."²⁰

11 **Q. Does Mr. Parcell further recognize this principle by considering non-**
12 **utility stocks relevant to determining the cost of capital?**

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

15 The recent ROEs of the proxy utilities and S&P 500 group can be viewed as
16 an indication of the level of return realized and expected in the regulated and
17 competitive sectors of the economy.²¹
18

19 Mr. Parcell notes further that his CE method is derived from the "corresponding risk"
20 concept discussed in the *Bluefield* and *Hope* cases.²² He continues:

¹⁹ *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

²⁰ Exh. DCP-1T at 6.

²¹ *Id.* at 47.

²² *Id.* at 44.

1 This method is thus based upon the economic concept of opportunity cost. As
2 previously noted, the ROE is an opportunity cost: the prospective return
3 available to investors from alternative investments of similar risk.²³
4

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

9 **Q. Did the ROE Witnesses present any objective evidence that would**
10 **support a finding that your Non-Utility Group is riskier than Avista or the companies in**
11 **their proxy groups?**

12 A. No. They presented no meaningful evidence to rebut the results for my Non -
13 Utility Group, or otherwise demonstrate that my Non-Utility Group is riskier than Avista or
14 their proxy groups of utilities. Instead, Dr. Woolridge for instance, simply asserts vast
15 differences between my Non-Utility Group and comparable risk electric utilities:

16 While many of these companies are large and successful, their lines of
17 business are vastly different from the electric utility business and they do not
18 operate in a highly regulated environment. As important, the previously
19 discussed upward bias in the EPS growth rate forecasts of Wall Street analysts
20 is particularly severe for non-utility companies and therefore the DCF equity
21 cost rate estimates for this group are particularly overstated.²⁴
22

23 It should first be noted that nowhere in his testimony does Dr. Woolridge provide any
24 support for his assertion of a "particularly severe" upward bias in earnings per share ("EPS")
25 growth rate forecasts for non-utility companies relative to utilities. More importantly, my

²³ *Id.*

²⁴ Exh. JRW-1T at 90-91.

1 direct testimony did not contend that the operations of the companies in the Non-Utility
 2 Group are comparable to those of utilities. Clearly, operating a worldwide enterprise in the
 3 beverage, pharmaceutical, retail, or food industry involves unique circumstances that are as
 4 distinct from one another as they are from a utility. But as the Supreme Court recognized,
 5 investors consider the expected returns available from all these opportunities in evaluating
 6 where to commit their scarce capital. The simple observation that a firm operates in non-
 7 utility businesses says nothing at all about the overall investment risks perceived by
 8 investors, which is the very basis for a fair rate of return. So long as the risks associated with
 9 the Non-Utility Group are comparable to Avista and other utilities the resulting DCF
 10 estimates provide a meaningful benchmark for the cost of equity. As demonstrated in Table 4
 11 to my direct testimony, which is reproduced as Table R-1, below, a comparison of objective
 12 risk measures demonstrates conclusively that the Non-Utility Group is regarded as less risky
 13 than Avista, making it a conservative benchmark for a fair ROE in this case.

14 **Table R-1 – Comparison of Risk Indicators (Non-Utility Group)**

	<u>Credit Rating</u>		<u>Value Line</u>		
			<u>Safety</u>	<u>Financial</u>	
	<u>S&P</u>	<u>Moody's</u>	<u>Rank</u>	<u>Strength</u>	<u>Beta</u>
Non-Utility Group	A	A2	1	A+	0.83
Utility Group	BBB	Baa2	2	B++	0.89
Avista	BBB+	Baa1	2	B++	0.90

15
 16
 17
 18
 19
 20 **Q. Does the fact that utilities are regulated somehow invalidate this**
 21 **comparison of objective risk indicators?**

22 **A.** Absolutely not. While I agree that utilities operate under a regulatory regime
 23 that differs from firms in the competitive sector, any risk-reducing benefit of regulation is

1 already incorporated in the overall indicators of investment risk presented in Table 4 to my
2 direct testimony. The impact of regulation on a utility's investment risks is one of the key
3 elements considered by credit rating agencies and investment advisory services, such as S&P
4 and Value Line, when establishing corporate credit ratings and other risk measures. As a
5 result, the impact of regulatory protections is already reflected in my risk analysis.
6 Meanwhile, the beta values supported by modern financial theory are premised on stock price
7 volatility relative to the overall market, and are not dependent on an assessment of firm-
8 specific considerations. As a result, the impact of regulatory differences on investment risk is
9 accounted for in the published risk indicators relied on by investors and cited in my direct
10 testimony.

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

12 A. As shown on Exh. AMM-12 (at 3), the average ROEs for the Non-Utility
13 group ranged from 9.5 percent to 10.4 percent. The midpoint of this range is 9.9 percent.

14 **Q. How do Avista's credit ratings compare with other regional utilities?**

15 A. As shown in Table R-2, Avista's credit ratings generally indicate that the
16 Company would be regarded as a riskier investment than its regional peers, which suggests
17 that investors' required cost of equity would also be higher.

Table R-2 – Comparison of Credit Ratings (Regional Utilities)

		(a) S&P Corporate Rating	(b) Moody's Long-term Rating
1	Cascade Natural Gas	BBB+	NR
2	Idaho Power	BBB	A3
3	Northwest Natural Gas	A+	Baa1
4	Pacificorp (WA & OR)	A	A3
5	Portland General Electric	BBB+	A3
6	Puget Sound Energy	BBB	Baa1
		BBB+	A3
	Avista Corp.	BBB	Baa2

(a) Issuer credit rating from www.standardandpoors.com (retrieved May 22, 2021).

(b) Long-term rating from www.moodys.com (retrieved May 22, 2021).

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 ROEs recommended by the ROE Witnesses are too low and violate the economic and regulatory standards underlying a fair ROE.

1 **B. Implications of Current Economic and Capital Market Conditions**

2 **Q. Did Mr. Parcell and Dr. Woolridge recognize the dislocations to economy**
3 **and capital markets resulting from the COVID-19 pandemic?**

4 A. Yes. Mr. Parcell and Dr. Woolridge both commented on the economic and
5 financial consequences of the COVID-19 pandemic, including the historic collapse in stock
6 prices in March 2020 and the upturn in market volatility.²⁵

7 **Q. Have utilities and their investors faced increased uncertainty due to the**
8 **COVID-19 pandemic?**

9 A. Yes. As noted in my direct testimony, concerns over weakening credit quality
10 prompted S&P to revise its outlook for the regulated utility industry from “stable” to
11 “negative.”²⁶ While recognizing that regulatory protections have helped to mitigate the worst
12 of the coronavirus pandemic, S&P concluded that credit quality in the U.S. utility industry
13 weakened during 2020, noted that “[a]t the beginning of the year about 18 percent of the
14 industry had a negative outlook or ratings on CreditWatch with negative implications. By the
15 end of the year that percentage had doubled, to about 36 percent.”²⁷ S&P observed that
16 “[o]ne of the enduring effects of COVID-19 was regulatory lag,” and concluded that “[f]or
17 the first time in a decade we expect downgrades will outpace upgrades by about 7 to 1.”²⁸ As

²⁵ Exh. DCP-1T at 11-15; Exh. JRW-1T at 11-16.

²⁶ Exh. AMM-1T at 24.

²⁷ S&P Global Ratings, *North American Regulated Utilities’ Negative Outlook Could See Modest Improvement*, RatingsDirect (Jan. 20, 2021).

²⁸ S&P Global Ratings, *North America Regulated Utilities-An Industry With A Negative Outlook Despite Its Predictable Cash Flows*, Industry Top Trends 2021 (Dec. 10, 2020).

1 Mr. Parcell concluded, “Recent economic and financial circumstances have differed from
2 any that have prevailed since at the 1930s.”²⁹

3 **Q. How have utility betas been affected by the COVID-19 pandemic?**

4 A. Utility betas have increased significantly in the wake of the economic turmoil
5 caused by the pandemic. The average Value Line beta value for 38 publicly traded electric
6 utilities was 0.58 on January 24, 2020. This same group of utilities had an average beta of
7 0.88 on March 12, 2021. Similarly, Avista’s beta increased from 0.60 on January 24, 2020 to
8 0.95 on March 12, 2021.

9 **Q. Do market downturns necessarily cause beta to increase?**

10 A. No. It is important to recognize that market downturns, even significant
11 downturns such as the one experienced in March 2020, do not inherently lead beta values for
12 utility stocks to increase. Betas increase when stocks become more volatile relative to the
13 market, irrespective of the direction the market is moving. When a given stock price begins
14 move more relative to the broader stock market, its beta value will increase, and in the
15 context of investor perceptions it is generally accepted that increasing beta values signify
16 heightening risk for a given company. The standard economic interpretation of higher beta
17 values for utility stocks is that these companies are viewed as riskier investments than they
18 were pre-pandemic.

²⁹ Exh. DCP-1T at 15.

1 **Q. Mr. Parcell and Dr. Woolridge cited declines in yields for U.S. Treasury**
2 **securities.³⁰ Is this the proper focus?**

3 A. No. While Treasury bond yields provide one indicator of capital costs, they
4 do not serve as a direct guide to the magnitude—or even direction—for changes in the cost of
5 equity for utilities. For example, during times of heightened uncertainty and risk, investors
6 may prefer the relative safety of U.S. government bonds, which can lead to a significant fall
7 in Treasury bond yields at the same time that required returns on common stocks are
8 increasing. Treasury bond yields may also be disproportionately impacted by monetary
9 policies, such as quantitative easing, designed with the express intent of artificially
10 suppressing bond yields. FERC has recognized that movements in Treasury bond yields do
11 not provide a reliable guide to changes in required returns for utilities, concluding that,
12 “adjusting ROEs based on changes in U.S. Treasury bond yields may not produce a rational
13 result, as both the magnitude and direction of the correlation may be inaccurate.”³¹

14 **Q. Mr. Parcell suggests that investors expect that interest rates will remain**
15 **low.³² Do you agree?**

16 A. No. Economic forecasters anticipate that yields on Treasury securities will
17 increase significantly over the near-term. For example, Table R-3 below presents projections
18 from the most recent long-term forecasts published by Blue Chip, HIS Markit, and Value
19 Line.

³⁰ Exh. DCP-1T at 12-14, Exh. DCP-4, p. 2; Woolridge Direct at 12-16.

³¹ *Coakley v. Bangor Hydro-Elec.*, 147 FERC ¶ 61,234 at P 159 (2014).

³² *See, e.g.*, Parcell Direct at 12 (citing a “continuing reduction in actual and expected investment returns.”); Woolridge Direct at 7-9, and Oliver Direct at 24.

Table R-3 – Interest Rate Trends

		Change (bps)					
		<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2021-25</u>
	10-Yr. Treasury						
	Blue Chip	1.1%	1.3%	1.7%	2.0%	2.4%	140
	IHS Markit	1.2%	1.7%	2.0%	2.2%	2.5%	120
	Value Line	1.3%	1.6%	2.0%	2.3%	2.5%	120
	30-Yr. Treasury						
	Blue Chip	1.8%	2.1%	2.4%	2.8%	3.1%	130
	IHS Markit	2.0%	2.4%	2.7%	2.8%	3.0%	100
	Value Line	2.0%	2.3%	2.3%	2.5%	2.7%	70
	Aaa Corporate						
	Blue Chip	2.7%	2.8%	3.2%	3.6%	4.0%	140
	IHS Markit	2.3%	2.2%	2.5%	2.8%	3.0%	70
	Value Line	2.3%	2.4%	2.8%	3.1%	3.3%	100

Source

Wolters Kluwer, Blue Chip Financial Forecasts (Dec. 1, 2020).

IHS Markit, Long-Term Macro Forecast - Baseline (Mar. 1, 2021).

Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 26, 2021).

As indicated above, these forecasts anticipate that interest rates will rise over the period when rates established in this proceeding will be in effect. This evidence suggests that investors anticipate that long-term capital costs—including the cost of equity—will increase.

Q. Are these expectations of higher bond yields consistent with the views of the Federal Open Market Committee (“FOMC”)?³³

A. Yes. In conjunction with its most recent policy meeting on March 16-17, 2021, policymakers at the FOMC submitted their projections about where short-term interest rates are headed. The results are the dot plot—a visual, yet anonymous, representation of

³³ The FOMC is a committee composed of twelve members that serves as the monetary policymaking body of the Federal Reserve System.

1 where members think rates will go over the short, medium, and longer run. The most recent
2 dot plot indicates that a majority of the FOMC participants expect rates to remain at present
3 levels in 2021.³⁴ For 2022 and 2023, a minority expect that the target range for the federal
4 funds rate will increase. However, over the longer-run horizon of the FOMC's outlook (five
5 to six years), all Fed policymakers on the FOMC expect the federal funds benchmark to be
6 dramatically higher than current levels.³⁵

7 **Q. Mr. Parcell gives consideration business cycles and claims that the**
8 **COVID-19 recession “is continuing.”³⁶ Do you agree?**

9 A. No. In support of his claim, Mr. Parcell produced a table outlining four
10 previous business cycles and the alleged current contraction period, but his table relies on
11 NBER data that was last updated on June 8, 2020.³⁷ A recession is typically characterized by
12 two or more successive quarters of negative GDP growth. As I discuss in my direct
13 testimony, the U.S. experienced negative real GDP growth in the first and second quarters of
14 2020.³⁸ Since then, real GDP increased at an annual rate of 33.4 percent in the third quarter,
15 followed by annualized growth of 4.3 percent in the fourth quarter. Recently released data
16 indicate that the U.S. economy expanded at an estimated annualized rate of 6.4 percent in the
17 first quarter of 2021. These data clearly indicate that the COVID-19 recession ended in the
18 third quarter of 2020 as the U.S. has experienced real economic growth since that time.

³⁴ *Summary of Economic Projections* (Mar. 17, 2021).

<https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20210317.pdf>.

³⁵ The FOMC members are projecting a midpoint federal funds rate of 2.0 percent to 3.0 percent, versus the current level of 0.125 percent.

³⁶ Exh. DCP-1T at 13.

³⁷ *Id.* at 10.

³⁸ Exh. AMM-1T at 22.

1 **Q. Mr. Parcel claims that “[o]ne impact of the Great Recession and COVID -**
2 **19 recession has been a continuing reduction in actual and expected investment returns**
3 **and a corresponding reduction in capital costs.”³⁹ Do you agree?**

4 A. No. Investors’ required rates of return for Avista and other financial assets are
5 a function of risk, with greater exposure to uncertainty requiring higher—not lower—rates of
6 return to induce long-term investment. While growth rates may have moderated as the
7 economy softens, it is important not to confuse investors’ expectations for future growth with
8 their required rate of return. In fact, trends in growth rates say nothing at all about investors’
9 overall risk perceptions. The fact that investors’ required rates of return for long-term capital
10 can rise in tandem with expectations of declining growth that might accompany an economic
11 slowdown is demonstrated in the equity markets, with rising beta values for utility stocks
12 being indicative of greater risks and higher required returns. This is consistent with Dr.
13 Woolridge’s recent observation that “a higher equity cost rate is suggested by lower stock
14 prices (higher dividend yield in DCF)” in light of the uncertainties associated with the
15 COVID-19 pandemic.⁴⁰

16 In any event, given that the economy has achieved significant growth in each of the
17 past three quarters, the unsupported relationship between the COVID-19 recession and a
18 corresponding reduction capital costs posited by Mr. Parcell would not be expected to persist
19 since objective measures indicate that the economic recession has clearly come to an end.

³⁹ *Id.* at 12.

⁴⁰ Virginia State Corporation Commission, *Direct Testimony and Exhibits of Dr. J. Randall Woolridge* (July 30, 2020) at 19.

1 **II. RESPONSE TO MR. PARCELL**

2 **Q. How does Mr. Parcell arrive at his 9.3 percent recommended ROE for**
3 **Avista?**

4 A. Mr. Parcell's recommended ROE is based on the results of four analyses.
5 From his DCF analysis, he produces a range of 8.9 percent to 9.3 percent, with a midpoint of
6 9.1 percent. His CAPM results in a range of 7.4 percent to 7.5 percent, with a midpoint of
7 7.5 percent. His third approach, the CE method, yields a range of 9.0 percent to 10.0 percent,
8 with a midpoint of 9.5 percent. His fourth approach, the RP method, yields a range of 8.4
9 percent to 9.7 percent, with a midpoint of 9.0 percent. His final recommendation of 9.3
10 percent represents the midpoint of his DCF upper end (9.1 percent) and the midpoint of his
11 CE results (9.5 percent).⁴¹

12 **A. Proxy Group**

13 **Q. Mr. Parcell presents his DCF analyses based on two proxy groups, his**
14 **own and a “modified” McKenzie group. Do you agree with the changes that he**
15 **proposes to your comparable group?**

16 A. No. While I agree with Mr. Parcell's decision to exclude PNM Resources and
17 Sempra Energy,⁴² I disagree with his removal of Algonquin and Edison International.

⁴¹ Exh. DCP-1T at 4-5.

⁴² Mr. Parcell excludes PNM Resources due to its pending acquisition by Avangrid, Inc. While I disagree with Mr. Parcell's exclusion of Sempra Energy on the basis of wildfire risks, that company has also announced major transactions that significantly impact its business structure.

1 **Q. Would investors regard Algonquin as having risks and operations**
2 **comparable to those of other utilities in the proxy group?**

3 A. Yes. While Algonquin is not rated by Moody's, it has been assigned a credit
4 rating of BBB by S&P, which is identical to the S&P rating for the Company. The historical
5 stock price and dividend data necessary to apply the DCF model are available, and analysts'
6 consensus EPS growth estimates are also published for Algonquin.

7 Headquartered in Ontario, Canada, Algonquin is a North American diversified
8 generation, transmission, and distribution utility with approximately \$10 billion in total
9 assets. Algonquin provides regulated utility services in Arizona, Arkansas, California,
10 Georgia, Illinois, Iowa, Kansas, Massachusetts, Missouri, New Hampshire, New York,
11 Oklahoma, and Texas with its U.S. operations accounting for 93 percent of net utility sales in
12 2020.⁴³ In addition, Algonquin reports interim and annual consolidated financial statements
13 in U.S. dollars, its dividend is denominated in U.S. dollars, and its common shares are listed
14 on the New York Stock Exchange. While Algonquin is not rated by Moody's, it has been
15 assigned a credit rating of BBB by S&P, which is identical to Avista.

16 **Q. Mr. Parcell argues that Algonquin should be excluded because it has not**
17 **yet been included in the Value Line electric utility industry.⁴⁴ Is this a valid reason for**
18 **excluding Algonquin from the proxy group?**

19 A. No. Inclusion in Value Line's electric utility group is a reasonable starting
20 point but is not a necessary condition for proxy group inclusion. The objective in assembling

⁴³ Algonquin Power & Utilities Corp., SEC Form 40-F for the fiscal year ended December 31, 2020, *Annual Information Form* at 10.

⁴⁴ Exh. DCP-1T at 27-28.

1 a proxy group is not to find reasons to exclude individual companies; rather, it is to identify
 2 all of the publicly traded utilities that investors would view as comparable-risk investment
 3 opportunities. While Value Line’s industry groups may serve as a useful springboard, this
 4 single source is not the final arbiter that defines the universe of alternative opportunities
 5 available to investors. Other well-recognized investment information sources relied on by
 6 investors classify Algonquin as an electric or public utility,⁴⁵ and there is no basis to
 7 distinguish between Algonquin and other firms accepted as comparable.

8 **Q. Has the failure to consider Algonquin in the proxy group been recognized**
 9 **by other regulators as a fatal flaw that undermines the veracity of the DCF results?**

10 A. Yes. The question of whether or not to include Algonquin in the proxy group
 11 was a key point of contention in FERC Docket No. EL16-64-002. As a FERC Presiding
 12 Judge concluded on this issue:

13 The Commission’s point of performing a DCF analysis in these cases is
 14 to define the *actual* and *complete* distribution of those “business
 15 undertakings which are attended by corresponding, risks and
 16 uncertainties” that are comparable to the NETOs, as *Bluefield* says, and
 17 to determine where the NETOs’ current ROE falls in that existing
 18 distribution. Under this standard, Algonquin is no different from a
 19 business or financial risk standpoint than many of the other companies
 20 that have been included by all the DCF experts in their proxy groups.⁴⁶

21 * * *

22 In view of the deliberate omissions of Algonquin, these analyses are
 23 deficient.⁴⁷
 24

⁴⁵ See, Zacks Inv. Research, classifying Algonquin in the “Utility-Electric Power” industry group; CNNMoney.com, classifying Algonquin in the “Utilities” sector; Thomson Reuters, classifying Algonquin in the “Utilities / Multiline Utilities” sector; Jefferson Research, classifying Algonquin in its “Multi-Utilities” industry group.

⁴⁶ *Belmont Mun. Light Dept. v. Cent. Me. Power Co.*, 162 FERC ¶ 63,026 at P 217 (2018) (emphasis original).

⁴⁷ *Id.* at P 218.

1 The Presiding Judge ruled that the complainants' analyses in that case were "fatally
2 defective,"⁴⁸ in large part based on the omission of Algonquin from the proxy group.

3 **Q. Mr. Parcell argues that Edison International should be excluded because**
4 **its "financial characteristics" have been impacted by wildfire liabilities.⁴⁹ Do you agree**
5 **with his decision to exclude this company?**

6 A. No. As noted above, the key issue in identifying a proxy group is comparable
7 risk. While I do not disagree with Mr. Parcell's observation that exposure to wildfires is one
8 feature that investors would consider in evaluating the risks of Edison International, this
9 consideration is factored into the objective risk measures that I referenced in my direct
10 testimony.⁵⁰ The credit ratings and Value Line risk measures for Edison International fall
11 within the range for the other firms in my proxy group, it maintains stable dividend policies,
12 and is not involved in any significant merger or acquisition transactions that might distort the
13 results of quantitative methods. Accordingly, Edison International should be retained in the
14 proxy group.

15 **B. Discounted Cash Flow Model**

16 **Q. Mr. Parcell relies on historical growth rates to apply the DCF model. Is**
17 **this appropriate?**

18 A. No. I do not believe that historical trends provide a meaningful guide to
19 investors' expectations. As discussed at length in my direct testimony, it is investors' future
20 expectations—and not actual, historical results—that determine the current price they are

⁴⁸ *Id.* at P 206.

⁴⁹ Exh. DCP-1T at 26-27.

⁵⁰ Exh. AMM-3 at 9-11.

1 willing to pay for common stocks.⁵¹ Historical growth rates can differ significantly from the
2 forward-looking growth rate required by the DCF model. Moreover, to the extent historical
3 trends for utilities are meaningful, they are already captured in projected growth rates,
4 including those published by Value Line, IBES, and Zacks since securities analysts also
5 routinely examine and assess the impact and continued relevance (if any) of historical trends.

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

8 A. Yes, it is. For example, consider the historical EPS growth measures
9 displayed on page 3 of Exh. DCP-9 to Mr. Parcell's testimony. As shown there, nine of the
10 individual historical earnings growth rates relied on by Mr. Parcell fall at or below 2.5
11 percent, including several negative values. A negative growth rate implies a cost of equity
12 that falls below the utility's dividend yield, which makes no economic sense. Combining a
13 growth rate of 2.5 percent with a dividend yield of 3.9 percent (Exh. DCP-9 at 1) implies a
14 DCF cost of equity of 6.4 percent, which falls well below any credible estimate of the cost of
15 equity. As a result, these values provide no significant information regarding investors'
16 expectations and requirements.

17 **Q. Mr. Parcell asserts that "[i]t is not appropriate to rely exclusively on**
18 **analysts' short-term EPS growth forecasts in a DCF context."**⁵² **Do you agree?**

19 A. No. As I discussed in my Direct Testimony, evidence supports the contention
20 that investors rely primarily on EPS growth projections in forming their expectations.⁵³ The

⁵¹ Exh. AMM-3 at 14-18.

⁵² Exh. DCP-1T at 39.

⁵³ Exh. AMM-3 at 14-18.

1 continued success of investment services such as IBES,⁵⁴ Value Line, and Zacks, and the fact
2 that projected growth rates from such sources are widely referenced, provides strong
3 evidence that investors give considerable weight to analysts' earnings projections in
4 evaluating future growth. Future trends in EPS, which provide the source for dividends and
5 ultimately support share prices, play a pivotal role in determining investors' long-term
6 growth expectations. The importance of EPS in evaluating investors' expectations and
7 requirements is well accepted in the investment community, and surveys of analytical
8 techniques relied on by professional analysts indicate that earnings is far more influential
9 than dividends per share ("DPS") or book value per share ("BVPS").⁵⁵

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

⁵⁴ Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

⁵⁵ Stanley B. Block, "A Study of Financial Analysts: Practice and Theory," *Financial Analysts Journal* (July/August 1999).

1 The sheer volume of earnings forecasts available from the investment
2 community relative to the scarcity of dividend forecasts attests to their
3 importance. The fact that these investment information providers focus on
4 growth in earnings rather than growth in dividends indicates that the
5 investment community regards earnings growth as a superior indicator of
6 future long-term growth. Surveys of analytical techniques actually used by
7 analysts reveal the dominance of earnings and conclude that earnings are
8 considered far more important than dividends.⁵⁶
9

10 While I did not rely solely on EPS projections in applying the DCF model,⁵⁷ my
11 evaluation clearly supports greater reliance on EPS growth rate projections than other
12 alternatives.

13 **Q. Have other regulators recognized that analysts' EPS growth rate**
14 **estimates are a more meaningful guide to investors' expectations when applying the**
15 **DCF model?**

16 A. Yes. I discussed this in my Direct Testimony and noted specific examples
17 from the Public Utility Regulatory Authority of Connecticut, the Kentucky Public Service
18 Commission, the Regulatory Commission of Alaska, and FERC.⁵⁸

19 **Q. Mr. Parcell cites a 2010 McKinsey & Co. study that compares analysts'**
20 **projections to actual results.⁵⁹ Does the fact that analysts' EPS projections may deviate**
21 **from actual results hamper their use in applying the DCF model?**

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

⁵⁶ *Id.* at 302-303.

⁵⁷ As discussed in my direct testimony, I also examined the “br+sv”, sustainable growth rates for the companies in my proxy groups.

⁵⁸ *Id.* at 17-18.

⁵⁹ Exh. DCP-1T at 52.

1 investment decisions based on their best estimate of what the future holds in the way of long -
2 term growth for a particular stock, and securities prices are constantly adjusting to reflect
3 their assessment of available information. While the projections of securities analysts may
4 be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected
5 growth that investors have incorporated into current stock prices, and any bias in analysts’
6 forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts’ views.
7 As *New Regulatory Finance* concluded, “The accuracy of these forecasts in the sense of
8 whether they turn out to be correct is not an issue here, as long as they reflect widely held
9 expectations.”⁶⁰

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

⁶⁰ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 298.

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

3 ...Analysts' optimism, if any, is not necessarily a problem for the analysis in
4 this paper. If investors share analysts' views, our procedures will still yield
5 unbiased estimates of required returns and risk premia.⁶¹
6

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

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

15 A. No. Peer-reviewed empirical studies do not uniformly support his contention
16 that analysts' earnings projections are optimistically biased. For example, a study reported in
17 "Analyst Forecasting Errors: Additional Evidence" found no optimistic bias in earnings
18 projections for large firms (market capitalization of \$500-\$3,000 million), with data for the
19 largest firms (market capitalization > \$3,000 million) demonstrating a *pessimistic* bias.⁶²
20 Similarly, a 2005 article that examined analyst growth forecasts over the period 1990 through
21 2001 illustrated that Wall Street's forecasting is not inherently optimistic, and other research

⁶¹ Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, *Journal of Applied Finance* 11 (2001) at 8.

⁶² Lawrence D. Brown, *Analyst Forecasting Errors: Additional Evidence*, *Financial Analysts Journal* (November/December 1997).

1 on this topic also concludes that there is no clear support for the contention that analyst
2 forecasts contain upside bias.⁶³ Moreover, the study cited by Mr. Parcell does not focus on
3 large, rate-regulated utilities in relative stable industries, where the magnitude of any
4 potential bias is likely to be very small, if it exists at all.

5 **Q. Mr. Parcell cites an advisory issued by the Securities and Exchange**
6 **Commission (“SEC”).⁶⁴ Does this in any way call into question your findings regarding**
7 **analysts’ EPS growth rates?**

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

14 **Q. Does Dr. Woolridge’s DCF analysis give primary weight to analysts’**
15 **projected EPS growth rates?**

16 A. Yes. In his Direct Testimony, Dr. Woolridge states:

⁶³ Stephen Ciccone, *Trends in analyst earnings forecast properties*, International Review of Financial Analysis, 14:2-3 (2005); Jeffery Abarbanell and Lehigh 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).

⁶⁴ Exh. DCP-1T at 53.

1 In developing a growth rate for my DCF model for the proxy group, I have
2 reviewed 13 growth rate measures, including historic and projected growth-
3 rate measures, and have evaluated growth in dividends, book value, and
4 earnings per share. I give primary weight to analysts' projected EPS growth
5 rates.⁶⁵
6

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

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

14 For example, consider a utility with a dividend yield of 3.5 percent and three
15 hypothetical growth estimates of 0.0 percent, 6.5 percent, and 14.0 percent. Under Mr.
16 Parcell's method, the DCF estimate would be computed by adding the 6.8 percent average of
17 the three individual growth rates to the dividend yield, resulting in a cost of equity estimate
18 of 10.3 percent. The problem with this method is that it disguises the fact that two of the
19 underlying growth rates—0.0 percent and 14.0 percent—do not provide a meaningful guide
20 to investors' expectations. Rather than averaging the good with the bad, each implied cost of
21 equity estimate (in this example, 3.5 percent, 10.0 percent, and 17.5 percent) should be
22 evaluated on a stand-alone basis.⁶⁶ Mr. Parcell simply calculated the average of the
23 individual growth rates with no consideration for the reasonableness of the underlying data.

⁶⁵ JRW-1T at 8.

⁶⁶ The implied cost of equity estimates are calculated as the sum of the dividend yield (3.5 percent) and the respective growth rates (0.0 percent, 6.5 percent, and 14.0 percent).

1 Because Mr. Parcell failed to perform this essential step, his DCF analysis included
2 individual growth rates that do not reflect investors' expectations.

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

5 A. Yes. While Mr. Parcell retained three negative growth rates in his analysis, he
6 did eliminate a negative growth rate for FirstEnergy Corp. from his DCF calculations, noting
7 on page 5 of Exh. DCP-9 that, "negative values not used in calculations." As noted earlier, a
8 negative growth rate would imply a DCF cost of equity that falls below a utility's dividend
9 yield and Mr. Parcell is fully justified to exclude such results. However, Mr. Parcell should
10 have applied the same critical analysis to the remainder of his growth rate values, many of
11 which imply cost of equity estimates that are similarly illogical.

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

14 A. Yes. For example, Mr. Parcell reports a First Call growth rate of 1.3 percent
15 for Hawaiian Electric Industries.⁶⁷ Combining this growth rate with Hawaiian Electric's
16 corresponding dividend yield of 3.5 percent results in a cost of equity estimate of 4.8 percent.
17 Similarly, combining Avista Corp's Value Line growth rate of 1.0 percent with its dividend
18 yield of 3.9 percent produces an ROE estimate of 4.9 percent. These implied costs of equity
19 do not sufficiently exceed yields on current public utility bonds. As a result, these illogical
20 growth measures should have been removed from Mr. Parcell's constant growth DCF
21 analysis.

⁶⁷ Exh. DCP-9 at 4.

1 **Q. Why are Mr. Parcell’s retention growth rates understated?**

2 A. Mr. Parcell bases his calculations of the internal, “br” retention growth rate on
3 data from Value Line. If the rate of return, or “r” component of the internal growth rate, is
4 based on end-of-year book values, such as those reported by Value Line, it will understate
5 actual returns because of growth in common equity over the year.

6 Furthermore, Mr. Parcell uses the simplest form of the retention growth model, which
7 defines growth as a function of internally generated funds only. In applying this method, Mr.
8 Parcell should have used the “br + sv” form of the model, which considers both growth from
9 internally generated funds (the “br” term) and from issuances of equity at prices above book
10 value (the “sv” term). This is the form of the model that I use. Mr. Parcell’s decision to omit
11 the “sv” term leads to a further downward bias in his analysis.

12 **Q. In arriving at his recommendation, Mr. Parcell focuses on the highest of**
13 **his DCF results.⁶⁸ Does this in any way imply that he is conservative in his approach?**

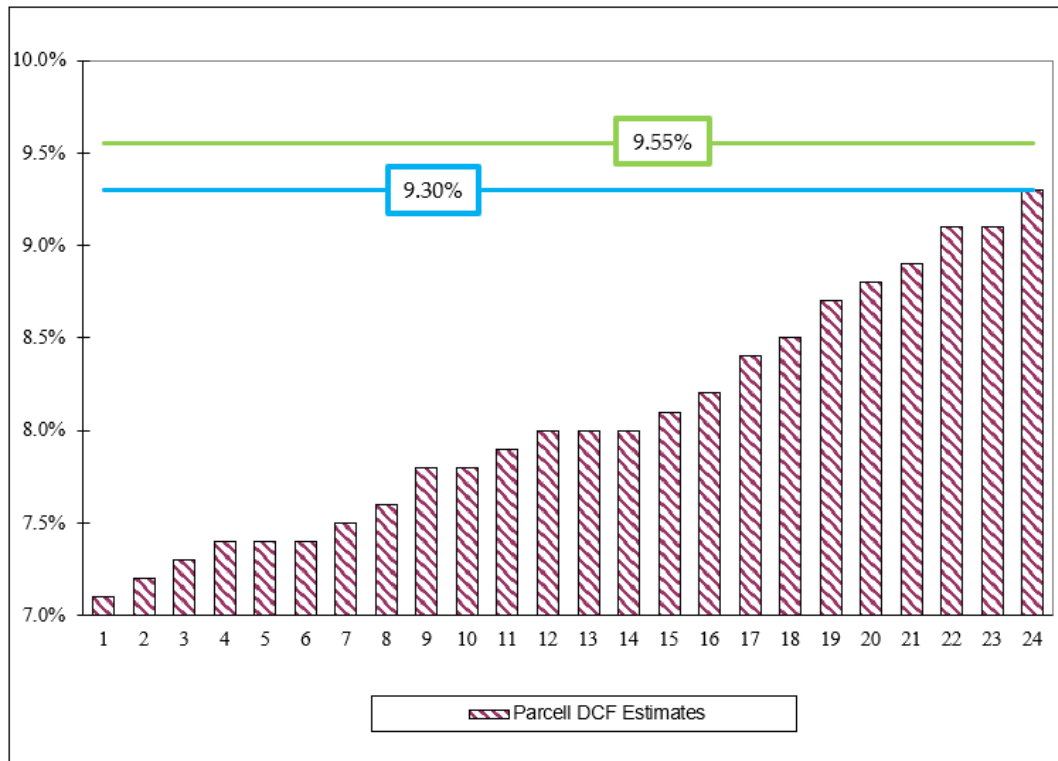
14 A. No. Mr. Parcell’s DCF study results in 24 means and medians,⁶⁹ which are
15 displayed in Figure R-1, below:

16

⁶⁸ Exh. DCP-1T at 55.

⁶⁹ Exh. DCP-9 at 5.

Figure R-1 – Parcell DCF Results



Interestingly, only four of these results fall within his recommended DCF range, with only one result as high as his 9.3 percent ROE recommendation. The 8.0% mean DCF cost of equity resulting from his DCF analysis falls 155 basis points below the average ROE of 9.55 percent authorized for vertically integrated electric utilities in 2020 reported by RRA. Mr. Parcell’s focus on the highest of his DCF estimates does not imply any concession on his part; rather, it is a pragmatic accommodation that stems from the inherent downward bias and unreasonable nature of his study results.

1 **C. Capital Asset Pricing Model**

2 **Q. Are the results of Mr. Parcell’s CAPM analysis credible?**

3 A. No. His CAPM estimates range from 7.4 percent to 7.5 percent, with a
4 midpoint of 7.5 percent.⁷⁰ An ROE outcome of 7.5 percent is over 200 basis points lower
5 than the average ROE authorized for vertically integrated electric utilities in 2020 and is
6 clearly illogical. Mr. Parcell acknowledges that his CAPM results are “low relative to the
7 other model results and can be considered anomalous” and does not directly incorporate them
8 in his ROE recommendation.⁷¹ However, he does add later in his testimony that the CAPM
9 results “should be considered as one factor in determining where, within the recommended
10 range, the cost of equity for Avista should fall.”⁷²

11 **Q. What is the fundamental problem associated with Mr. Parcell’s approach**
12 **to applying the CAPM method?**

13 A. Like the DCF model, risk premium methods – including the CAPM – are *ex-*
14 *ante*, or forward-looking models based on expectations of the future. As a result, in order to
15 produce a meaningful estimate of investors’ required rate of return, the risk premium
16 approach must be applied using data that reflects the expectations of actual investors in the
17 market. However, while Mr. Parcell recognized that “the cost of capital is an opportunity
18 cost and is prospective-looking,”⁷³ his application of the CAPM method is based entirely on
19 *historical* – not projected – rates of return. The primacy of current expectations is recognized

⁷⁰ *Id.* at 37.

⁷¹ Exh. DCP-1T at 5.

⁷² *Id.* at 56.

⁷³ Exh. DCP-1T at 8.

1 by Morningstar (now Duff & Phelps), one of the sources relied on by Mr. Parcell to apply the
2 CAPM:

3 The cost of capital is always an expectational or forward-looking concept.
4 While the past performance of an investment and other historical information
5 can be good guides and are often used to estimate the required rate of return
6 on capital, the expectations of future events are the only factors that actually
7 determine cost of capital.⁷⁴
8

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

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

14 A. No. Mr. Parcell bases his CAPM estimates on two alternative values of the
15 market risk premium component. One value relies on data for the S&P 500 from the period
16 1978-2019; the other figure relies on data for the S&P 500 from the 1926-2019 period.⁷⁵ In
17 other words, instead of directly considering requirements in today's capital markets, Mr.
18 Parcell is implicitly asserting that events and expectations for the time periods covered by
19 these historical studies are more representative of what is likely to occur going forward. This
20 assertion runs counter to the assumptions underlying the use of CAPM approaches to
21 estimate investors' required return, which are purely forward-looking models.

⁷⁴ Morningstar, *Ibbotson SBBI, 2013 Valuation Yearbook* at 21.

⁷⁵ Exh. DCP-1T at 35-36.

1 **Q. Is there good reason to entirely disregard the results of historical CAPM**
 2 **analyses such as those presented by Mr. Parcell?**

3 A. Yes. Mr. Parcell's analysis of historical returns for utility stocks extending
 4 back to 1926 does not capture the forward-looking expectations of investors and is unlikely
 5 to provide a meaningful indication of the risk premium under current capital market
 6 conditions. Morningstar recognized the primacy of current expectations:

7 The cost of capital is always an expectational or forward-looking concept.
 8 While the past performance of an investment and other historical information
 9 can be good guides and are often used to estimate the required rate of return
 10 on capital, the expectations of future events are the only factors that actually
 11 determine cost of capital.⁷⁶
 12

13 And while the backward-looking approach used by Mr. Parcell incorrectly assumes
 14 that investors' assessment of the relative risk differences, and their required risk premium,
 15 between Treasury bonds and common stocks is constant and equal to some historical average,
 16 FERC determined that CAPM methodologies based on historical data were suspect because
 17 whatever historical relationships existed between debt and equity securities may no longer
 18 hold.⁷⁷ FERC concluded that historical risk premiums are downward biased given recent
 19 trends of low yields for Treasury bonds.⁷⁸

20 Similarly, the Indiana Utility Regulatory Commission has previously concluded that:

21 Relying on historic market returns introduces some highly questionable
 22 assumptions, which must be taken on faith. Specificlaly [sic], one must
 23 assume that marketplace returns experienced historically are what
 24 investors were expecting to receive and continue to guide investor

⁷⁶ Morningstar, Ibbotson SBBI, *2013 Valuation Yearbook* at 21 (emphasis added).

⁷⁷ 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).

⁷⁸ See *New York Independent System Operator, Inc.*, 146 FERC ¶ 61,043 at P 105 (2014).

1 expectations today. It also assumes that asset relationships prevailing
 2 over the past 62 years continue today unchanged.⁷⁹
 3

4 There is every indication that the historical CAPM approach used by Mr. Parcell fails
 5 to fully reflect the risk perceptions of real-world investors in today's capital markets, and his
 6 results should be ignored.

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

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

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

15 A.[Michael McNally] The expected rate of return on the market was
 16 estimated by conducting a DCF analysis on the firms composing the S&P 500
 17 Index ('S&P 500'). ... Firms not paying a dividend as of July 1, 2010, or for
 18 which neither Zacks nor Reuters growth rates were available were eliminated
 19 from the analysis. The resulting company-specific estimates of the expected
 20 rate of return on common equity were then weighted using market value data
 21 from Zacks on July 2, 2010. The estimated weighted averaged expected rate
 22 of return for the remaining 367 firms composing 80.21% of the market
 23 capitalization of the S&P 500, equals 12.74 percent.⁸⁰

⁷⁹ Indiana Utility Regulatory Commission, *Indiana Michigan Power Co.*, Cause No. 38728 (Aug. 24, 1990).

⁸⁰ *Direct Testimony of Michael McNally*, Illinois Commerce Commission, Docket No. 10-0467, filed October 26, 2010, at 27-29. The Illinois Commerce Commission relied on this CAPM approach in arriving at the authorized ROE in this proceeding. Illinois Commerce Commission, Docket No. 10-0467, Order (May 24, 2011) at 153.

1 FERC has also adopted a forward-looking CAPM approach directly comparable to
2 the methodology applied in my direct testimony.⁸¹ Similarly, studies reported in the financial
3 literature have relied on a similar DCF approach to estimate a forward-looking rate of return
4 for the S&P 500.⁸²

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

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

9 The traditional thinking regarding the time horizon of the chosen Treasury
10 security is that it should match the time horizon of whatever is being valued.
11 When valuing a business that is being treated as a going concern, the
12 appropriate Treasury yield should be that of a long-term Treasury bond. Note
13 that the horizon is a function of the investment, not the investor. If an investor
14 plans to hold stock in a company for only five years, the yield on a five-year
15 Treasury note would not be appropriate, since the company will continue to
16 exist beyond those five years.⁸³
17

18 Since equity ownership represents a perpetual claim on a firm's cash flows, and
19 because the 30-year Treasury bond is the longest maturity risk-free security, it is the most
20 appropriate security for the CAPM application. Along with me, Dr. Woolridge also uses the
21 30-year Treasury bond as the basis for the risk-free rate in his CAPM approach. Mr. Parcell's
22 reliance on government debt with a shorter maturity serves to further deflate his CAPM
23 results.

⁸¹ Opinion No. 531, 147 FERC ¶ 61,234 at para. 147 (2014); Opinion No. 531-B 150 FERC ¶ 61,165 at para.(s) 108, 109 (2015); Opinion No. 551, 156 FERC ¶ 61,234 at para.(s) 165, 171 (2016).

⁸² R.S. Harris, and F.C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management (Summer 1992).

⁸³ Morningstar, *Ibbotson S&P 500 Valuation Yearbook*, at 44.

1 **Q. Is Mr. Parcell justified in relying on geometric means as a measure of**
2 **average rate of return when applying the historical CAPM?**⁸⁴

3 A. No. While both the arithmetic and geometric means are legitimate measures
4 of average return, they provide different information. Each may be used correctly, or
5 misused, depending upon the inferences being drawn from the numbers. The geometric
6 mean of a series of returns measures the constant rate of return that would yield the same
7 change in the value of an investment over time. The arithmetic mean measures what the
8 expected return would have to be each period to achieve the realized change in value over
9 time.

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

16 The best estimate of expected returns over a given future holding period is the
17 arithmetic average. Only arithmetic means are correct for forecasting
18 purposes and for estimating the cost of capital. There is no theoretical or
19 empirical justification for the use of geometric mean rates of returns as a
20 measure of the appropriate discount rate in computing the cost of capital or in
21 computing present values.⁸⁵ [emphasis added]
22

23 Similarly, Morningstar concluded that:

⁸⁴ Exh. DCP-1T at 36.

⁸⁵ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 116-117, (emphasis added).

1 For use as the expected equity risk premium in either the CAPM or the
2 building block approach, the arithmetic mean or the simple difference of the
3 arithmetic means of stock market returns and riskless rates is the relevant
4 number. ... The geometric average is more appropriate for reporting past
5 performance, since it represents the compound average return.⁸⁶
6

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

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

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

13 A. Yes. According to the CAPM, the expected return on a security should consist
14 of the riskless rate, plus a premium to compensate for the systematic risk of the particular
15 security. The degree of systematic risk is represented by the beta coefficient. The need for
16 the size adjustment arises because differences in investors' required rates of return that are
17 related to firm size are not fully captured by beta. To account for this, Duff and Phelps, the
18 same source relied on by Mr. Parcell,⁸⁷ has developed size premiums that need to be added to
19 the CAPM cost of equity estimates to account for the level of a firm's market capitalization
20 in determining the CAPM cost of equity. Accordingly, Mr. Parcell should have incorporated
21 an adjustment to recognize the impact of size distinctions between his proxy companies, as
22 measured by the average market capitalization.

⁸⁶ Morningstar, *Ibbotson S&P 500 2013 Valuation Yearbook* at 56.

⁸⁷ Exh. DCP-1T at 36.

1 **D. Comparable Earnings**

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

3 A. Mr. Parcell applies his CE analysis by examining realized ROEs for the
4 groups of proxy utilities, as well as unregulated companies. He also considers prospective
5 returns for his proxy utilities, but not for the unregulated companies. He determines an ROE
6 range from his CE analysis of 9.0 percent to 10.0 percent, with a midpoint of 9.5 percent.⁸⁸

7 **Q. Are these results reasonable?**

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

12 **Q. Are there similarities between Mr. Parcell's CE approach and your
13 expected earnings and Non-Utility DCF approaches?**

14 A. Yes. Mr. Parcell applies his CE methodology to two proxy groups of utility
15 companies, as well as to the firms in the S&P 500, which he says "is a well-recognized group
16 of firms that is widely utilized in the investment community and is indicative of the
17 competitive sector of the economy."⁸⁹ In a like manner, I apply my expected earnings
18 approach to my proxy group of utility companies and consider investors' requirements for a
19 reference group of low-risk companies in the non-utility sector of the economy through my
20 Non-Utility DCF approach.

⁸⁸ *Id.* at 48.

⁸⁹ *Id.* at 47.

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

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

8 A. I have three primary issues with Mr. Parcell's CE approach: 1) he includes
9 historical rates of return in his analysis; 2) his suggestion that M/B ratios provide a guide to
10 the reasonableness of returns is misguided, and 3) he omits the mid-year adjustment factor
11 necessary to convert Value Line's end-of-year data to average annual returns. As I detailed
12 earlier in my discussion of Mr. Parcell's DCF and CAPM analyses, setting Avista's ROE is a
13 forward-looking process, and Mr. Parcell's over-reliance on historical data is a flaw in his
14 methodologies. This same criticism applies to his CE analysis, which examines past data
15 from the period 2002-2020.⁹⁰ Estimating investors' required return depends on their future
16 expectations, not on data over an arbitrary 19-year historical period. The operating and
17 financial environment faced by utilities, like Avista, is significantly different now than it was
18 in 2002. Reliance on such data weakens Mr. Parcell's CE analysis.

⁹⁰ *Id.* at 45-46.

1 **Q. What are your comments on Mr. Parcell’s consideration of M/B ratios in**
2 **the context of his CE application?**

3 A. Mr. Parcell uses the M/B ratio as a type of indicator as to the reasonableness
4 of the returns developed through his CE analysis. For instance, he says that since recent and
5 prospective ROEs of 9.0 percent to 11.5 percent have been accompanied by M/B ratios
6 exceeding 1.45 (historical ROEs) and 1.70 (prospective ROEs), “it is apparent that
7 authorized returns below this level would continue to result in market-to-book ratios of well
8 above 100 percent.”⁹¹ He adds, “the fact that M/Bs substantially exceed 100 percent
9 indicates that historic and prospective ROEs of 9.5 percent reflect earning levels that are well
10 above the actual cost of equity for those regulated companies.”⁹²

11 I strongly disagree with Mr. Parcell’s suggestion that M/B ratios are a valid
12 consideration in setting the allowed rates of return for utilities. With M/B ratios for most
13 utilities above 1.0, Mr. Parcell is suggesting that, unless book value grows rapidly, regulators
14 should establish equity returns that will cause share prices to fall. Given the regulatory
15 imperative of preserving a utility’s ability to attract capital, this would be a truly nonsensical
16 result. *New Regulatory Finance* concludes that, “This is certainly not a realistic or accurate
17 view of regulation,”⁹³ and notes:

⁹¹ *Id.* at 48.

⁹² *Id.*

⁹³ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 376.

1 M/B ratios are determined by the marketplace, and utilities cannot be expected
 2 to compete for and attract capital in an environment where industrials are
 3 commanding M/B ratios well in excess of 1.0 while regulation reduces their
 4 M/B ratios toward 1.0. Moreover, if regulators were to currently set rates so
 5 as to produce an M/B of 1.0 . . . the inevitable consequence would be to inflict
 6 severe capital losses on shareholders. Investors have not committed capital to
 7 utilities with the expectation of incurring capital losses from a misguided
 8 regulatory process.

9 * * *

10 It is obvious that regulators, through their rate case decisions, and investors do
 11 not subscribe to the notion that utilities that have market prices above book
 12 value are over-earning. . . .

13 * * *

14 In short, economic principles do not support the notion that the market value
 15 of utility shares should necessarily equal book value. A basic economic
 16 principle holds that, in the long-run, market value should equal asset
 17 replacement cost in a given industry. In the presence of inflation and absent
 18 significant technological advances, replacement cost exceeds original cost
 19 book value of assets. Consequently, it is quite reasonable for the market value
 20 of utility shares to exceed their book value and there is no reason to conclude
 21 that market value should equal book value when one recognizes that
 22 regulation is intended to emulate competition.⁹⁴
 23

24 The M/B ratio is determined by investors in the stock market, and a utility would be
 25 foreclosed from attracting capital if regulators were to push the M/B ratio to 1.0 while other
 26 firms command prices well in excess of 1.0 times book value.

27 **Q. Is the simplistic notion that regulation should result in an M/B ratio of 1.0**
 28 **for utilities contradicted by other authoritative sources?**

29 A. Yes. In a 1988 publication, James C. Bonbright noted that focus on M/B
 30 ratios was unwarranted and outside the purview of regulators:

⁹⁴ *Id.* at 377-78.

1 In the first place, commissioners cannot forecast, except within wide limits,
2 the effect their rate orders will have on the market prices of the stocks of the
3 companies they regulate. In the second place, whatever the initial market
4 prices may be, they are sure to change not only with the changing prospects
5 for earnings, but with the changing outlook of an inherently volatile stock
6 market. In short, market prices are beyond the control, though not beyond the
7 influence, of rate regulation. Moreover, even if a commission did possess the
8 power of control, any attempt to exercise it . . . would result in harmful,
9 uneconomic shifts in public utility rate levels.⁹⁵
10

11 The well-known financial researcher Stewart C. Myers also observed the disconnect
12 between regulation and resulting M/B ratios:

13 [A] straightforward application of the cost of capital to a book value rate base
14 does not automatically imply that the market and book values will be equal.
15 This is an obvious but important point. If straightforward approaches did
16 imply equality of market and book values, then there would be no need to
17 estimate the cost of capital.⁹⁶
18

19 Similarly, Charles F. Phillips also recognized the divergence between the implications
20 of theoretical models and real-world considerations:

21 Many question the assumption that market price should equal book value,
22 believing that the earnings of utilities should be sufficiently high to achieve
23 market-to-book ratios which are consistent with those prevailing for stocks of
24 unregulated companies.⁹⁷

⁹⁵ James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates* 334 (Pub. Util. Reports, Inc., 1988).

⁹⁶ Stewart C. Myers, *The Application of Finance Theory to Public Utility Rate Cases*, Bell J. Econ. & Mgmt. Science 58-59 (Spring 1972).

⁹⁷ Charles F. Phillips, *The Regulation of Public Utilities-Theory and Practice* 395 (Pub. Util. Reports, Inc., 1993) (internal quotes omitted).

1

2 **Q. Are adjustments based on M/B ratios a common feature in determining**
3 **allowed ROEs for utilities?**

4 A. No. While arguments regarding the implications of an M/B greater than 1.0
5 are not uncommon, I am not aware of a single instance in recent history where a state
6 regulator has relied on M/B as the basis to evaluate a fair ROE. Meanwhile, the fallacy of
7 relying on M/B ratios in evaluating cost of equity estimates has been explicitly recognized
8 and characterized as “academic rhetoric.”⁹⁸ FERC has also specifically rejected the same
9 arguments, concluding that “[i]f, all else being equal, the regulator sets a utility’s ROE so that
10 the utility does not have the opportunity to earn a return on its book value comparable to the
11 amount that investors expect that other utilities of comparable risk will earn on their book
12 equity, the utility will not be able to provide investors the return they require to invest in that
13 utility.”⁹⁹

14 **Q. Earlier, in your discussion of retention growth, you criticized Mr. Parcell**
15 **for making a computational error. Does he make the same mistake in his CE analysis?**

16 A. Yes. In his calculations of the internal “br” retention growth rate, Mr. Parcell
17 relied on end-of-year data from Value Line. I criticized Mr. Parcell for not converting this
18 end-of-year information to average annual amounts, which account for growth in common
19 equity over the year. Mr. Parcell’s retention growth rates are understated due to his failure to
20 make this adjustment. The same principle applies to his CE analysis. Mr. Parcell neglected

⁹⁸ See, e.g., *Orange & Rockland Utils., Inc.*, 40 FERC ¶ 63,053 (1987) (Initial Decision).

⁹⁹ Opinion No. 531-B at P 129.

1 to convert his CE results, based on Value Line data, from end-of-year values to average
2 annual amounts. This flaw leads to further downward bias in Mr. Parcell's results.

3 **E. Other ROE Issues**

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

6 A. No. Mr. Parcell wrongly suggests that I applied the so-called "FERC low-end
7 threshold" methodology on a mechanical basis.¹⁰⁰ In actuality, I reference the FERC
8 methodology as a guide for evaluating unrealistic outcomes resulting from my DCF analysis.
9 As discussed in Exh. AMM-3, I added FERC's 100 basis-point premium to historical and
10 projected average utility bond yields in developing my low-end threshold. This resulted in a
11 threshold range of 5.8 percent to 6.6 percent. The DCF estimates that I eliminated ranged
12 from -3.4 percent to 6.3 percent. Based on my professional experience and the risk-return
13 tradeoff principle that is fundamental to finance, I concluded that it is not plausible to think
14 that investors would accept ROEs in this range when compared to current and future costs of
15 debt. Similarly, the Staff of the Maryland Public Service Commission recently concluded
16 that, "I exclude companies with an ROE below a lower bound of 6.5 percent because I
17 believe return[s] below that level would be too close to [the utility's] cost of debt to be
18 attractive to an equity investor."¹⁰¹

¹⁰⁰ *Id.* at 33.

¹⁰¹ Maryland Public Service Commission, Case No. 9655, *Direct Testimony and Exhibits of Drew M. McAuliffe* (Mar. 3, 2021) at 19.

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

3 A. In my market return computation, I use a DCF approach that relies on
4 analysts' growth projections to estimate the growth term. Mr. Parcell's primary objections to
5 this approach appears to be his concern with the singular reliance on analysts' growth
6 estimates, the disregard of historical growth rate data, and the accuracy of analysts'
7 forecasts.¹⁰² I have dealt with these issues previously. Analysts' growth estimates have been
8 shown to be more accurate than growth rates derived from historical data. Furthermore,
9 proving that the projections of securities analysts are optimistic or pessimistic in hindsight is
10 irrelevant in determining the expected growth that investors have built into current stock
11 prices. The accuracy of such projections is not the issue, as long as they reflect widely held
12 expectations.

13 **Q. Based on evidence cited by Duff & Phelps, you apply a size adjustment in**
14 **both your CAPM and ECAPM analyses. Is there any merit to Mr. Parcell's contention**
15 **that a size adjustment should not be applied to utilities?**¹⁰³

16 A. No. As a preliminary matter, I would reiterate that the size adjustment
17 referenced in my testimony relates strictly to the application of the CAPM and is not a
18 "premium" predicated on Avista's relative size.¹⁰⁴ Specifically, within the CAPM paradigm,
19 the degree of regulation, the nature of competition in the industry, the competence of
20 management, and every other firm-specific consideration is boiled down to a single question;

¹⁰² *Id.* at 38-41.

¹⁰³ Exh. DCP-1T at 41-43.

¹⁰⁴ See Exh. AMM-3 at 27-28.

1 namely, how much does the stock's price fluctuate in relation to the market as a whole? Beta
2 is the measure of that variability, and research demonstrates that beta does not fully account
3 for the impact of firm size. Mr. Parcell speculates that smaller companies "tend to be
4 engaged in riskier businesses,"¹⁰⁵ but as Duff & Phelps noted, its size premia "are 'beta-
5 adjusted,' meaning that they have been adjusted to remove the portion of excess return that is
6 attributable to beta, leaving only the size effect's contribution to excess return."¹⁰⁶

7 **Q. Mr. Parcell compares risk measures for utilities across four "buckets"**
8 **based on relative size.¹⁰⁷ Is this comparison at all relevant?**

9 A. No. Mr. Parcell's example does not refute the evidence cited by Duff &
10 Phelps, or more broadly in the financial research. Contrary to the assumption underlying Mr.
11 Parcell's comparison, the size adjustment required in applying the CAPM and ECAPM is not
12 based on a presumed relationship between size and beta or any of the other risk indicators
13 referenced by Mr. Parcell. Rather, it is based on the finding that *after controlling for risk*
14 *differences reflected in beta*, the CAPM overstates returns to companies with larger market
15 capitalizations and understates returns for relatively smaller firms.

16 Of course, there are any number of specific factors that distinguish a utility's risks
17 from other firms in the non-regulated sector, just as there are important distinctions between
18 the circumstances faced by airlines and drug manufacturers. But under the assumptions of
19 modern capital market theory on which the CAPM rests, these considerations are reduced to
20 a single risk measure—beta—which captures stock price volatility relative to the market.

¹⁰⁵ *Id.* at 42.

¹⁰⁶ Duff & Phelps, *Valuation Handbook 2017, U.S. Guide to Cost of Capital*, John Wiley & Son's, at 2-10 (2017).

¹⁰⁷ Exh. DCP-1T at 42-43.

1 Within the CAPM paradigm, the degree of regulation, the nature of competition in the
2 industry, the competence of management, and every other firm-specific consideration is
3 boiled down to a single question; namely, how much does the stock's price fluctuate in
4 relation to the market as a whole? Beta is the measure of that variability, and research
5 demonstrates that beta does not fully account for the impact of firm size.

6 Furthermore, Mr. Parcell's comparisons are limited to utility companies. Avista is
7 competing for funds in the capital markets alongside firms from all segments of the economy.
8 Limiting the comparison to utility companies does not constitute a rigorous test of the CAPM
9 or paint a complete picture of the market conditions faced by the Company. In contrast to
10 Mr. Parcell's narrow comparisons, published research by Duff & Phelps documents a very
11 clear relationship between size and equity risk premiums, as illustrated in Table R-4 below:
12

Table R-4 – Duff & Phelps Size Premiums**CRSP Deciles Size Premium as of December 31, 2020**

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	\$ 2,445.693	\$ 13,177.828	0.78%
Low Cap 6-8	451.955	2,444.745	1.43%
Micro-Cap 9-10	2.194	451.800	3.21%
Breakdown of Deciles 1-10			
1-Largest	\$ 29,025.803	\$ 1,966,078.882	-0.22%
2	13,178.743	28,808.073	0.49%
3	6,743.361	13,177.828	0.71%
4	3,861.858	6,710.676	0.75%
5	2,445.693	3,836.536	1.09%
6	1,591.865	2,444.745	1.37%
7	911.586	1,591.765	1.54%
8	451.955	911.103	1.46%
9	190.019	451.800	2.29%
10- Smallest	2.194	189.831	5.01%
Breakdown of CRSP 10th Decile			
10a	\$ 96.550	\$ 189.831	3.49%
10w	138.833	189.831	2.60%
10x	96.550	137.883	4.65%
10b	\$ 2.194	\$ 95.182	8.12%
10y	46.901	95.182	6.60%
10z	2.194	46.887	11.29%

Source: *Duff & Phelps Cost of Capital Navigator (d&pcostofcapital.com)*.

As shown above, the adjustments quantified by Duff & Phelps range from a premium of 501 basis points for the smallest firms in the 10th decile to a negative adjustment of 22 basis points for the largest firms in the 1st decile. Confirming the findings of Duff & Phelps, *New Regulatory Finance* observed that “small market-cap stocks experience higher returns than large market-cap stocks with equivalent betas,” and concluded that “the CAPM

1 understates the risk of smaller utilities, and a cost of equity based purely on a CAPM beta
2 will therefore produce too low an estimate.”¹⁰⁸

3 **Q. Mr. Parcell also places a significant weight on a 1992 study by Annie**
4 **Wong.¹⁰⁹ Does this article refute the need for a size adjustment in applying the CAPM**
5 **to a utility?**

6 A. No. A closer examination of this research reveals that it is largely
7 inconclusive, and inconsistent with the CAPM. In fact, her results demonstrate no material
8 difference between utilities and industrial firms with respect to size premiums, and her study
9 finds no significant relationship between beta and returns, which contradicts modern
10 portfolio theory and the CAPM. A more recent study published in the Quarterly Review of
11 Economics and Finance reconsiders Wong’s evidence and concludes that “new information
12 . . . indicates there is a small firm effect in the utility sector.”¹¹⁰

13 **Q. Is the size adjustment incorporated in your analysis consistent with how**
14 **FERC applies the CAPM?**

15 A. Yes. FERC has observed that “[t]his type of size adjustment is a generally
16 accepted approach to CAPM analyses,”¹¹¹ and includes the size adjustment in the CAPM
17 under its ROE methodology for electric utilities and natural gas and oil pipelines.¹¹² More
18 recently, FERC affirmed its practice of including a size adjustment, concluding that “the size

¹⁰⁸ Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 187.

¹⁰⁹ *Id.* at 54.

¹¹⁰ Thomas M. Zepp, *Utility stocks and the size effect—revisited*, Quarterly Review of Economics and Finance, 43 (2003) 578-582.

¹¹¹ *Coakley v. Bangor-Hydro-Elec. Co.*, Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015).

¹¹² *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-A, 171 FERC ¶ 61,154 (2020); *Policy Statement on Determining Return on Equity for Natural Gas and Oil Pipelines*, 171 FERC ¶ 61,155 (2020).

1 adjustment is necessary to correct for the CAPM’s inability to fully account for the impact of
 2 firm size when determining the cost of equity.”¹¹³

3 **Q. Mr. Parcell criticizes your risk premium approach.¹¹⁴ Are his criticisms**
 4 **valid?**

5 A. No. First, he suggests that data over the period 2011-2019 may be distorted.
 6 Second, he claims that certain data from my risk premium study is not acceptable because
 7 “[c]urrent ROEs reflect a suite of favorable regulatory mechanisms that greatly enhance
 8 utilities ability to recover costs, which is risk-reducing and thus warrants low ROEs.”¹¹⁵ And
 9 third, he takes issue with my use of prospective interest rates in one of my risk premium
 10 analyses, since “[i]nvestors cannot receive a prospective yield on their investments since
 11 such a yield is speculative, not actual.”¹¹⁶

12 None of these points are persuasive. As shown in Exh. AMM-10 (at 4), the “R
 13 Square” of the data in my risk premium study, which measures the relationship between
 14 interest rate levels and equity risk premiums is about 0.88. This indicates that about 88
 15 percent of the variation in risk premiums over the years covered by my study period is
 16 explained by variation in utility bond yields.¹¹⁷ In this case, it is a “negative” or inverse
 17 relationship. That is, as the “X Variable 1” coefficient from Exh. AMM-10 (at 4) indicates,
 18 for every 100 basis point decrease in interest rates, the equity risk premium increases by

¹¹³ *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-B, 173 FERC ¶ 61,159 at P 100 (2020).

¹¹⁴ Exh. DCP-1T at 51-52.

¹¹⁵ *Id.* at 51.

¹¹⁶ *Id.*

¹¹⁷ In addition to the relatively high R Square value, my regression’s F Statistic indicates that my overall regression model is statistically significant beyond a 99% confidence level.

1 about 42 basis points (and vice versa). It is entirely consistent with these results that the
2 highest risk premium would exist over the 2011-2019 period because this period coincides
3 with lower bond yields. According to the strong inverse correlation indicated by the statistics
4 discussed above, this is exactly the relationship that would be expected.

5 To Mr. Parcell's second point, that the risk premium study is not valid because
6 regulatory conditions are not exactly the same as they were 30-40 years ago, I would also
7 disagree with this allegation. Regulatory mechanisms are but one measure of a utility's risk
8 level. It is likely that utilities today face greater risk exposure related to increasingly severe
9 weather, cyber and physical threats, the imperative to maintain reliability in response to a
10 surge in new technologies and devices, customer demand for more flexible and customized
11 products, and the need to address environmental concerns. In fact, credit ratings for firms in
12 the electric utility industry have generally declined over the time period covered by my risk
13 premium study, indicating greater, not lower risks overall. For example, even as late as 2001,
14 S&P reported the majority of firms in the electric utility industry were rated single-A and
15 above, with over 20 firms having double-A ratings.¹¹⁸ A blanket statement, with no
16 supporting analysis, that the current climate faced by utilities is less risky than at any time in
17 the past, is potentially false and misleading. Moreover, it is contradictory to Mr. Parcell's
18 observation that risk premiums implied for utilities have increased and it ignores the fact that
19 my risk premium analysis incorporates current capital market data.

¹¹⁸ Standard & Poor's Corporation, *Downgrades Dominate U.S. Utility Ratings in First Half; Negative Trend Likely to Continue*, RatingsDirect (Jul. 10, 2001). Currently, the average credit rating is triple-B and there are no publicly traded electric utilities with credit ratings above single-A.

1 To Mr. Parcell’s third point, that it is improper to use a prospective interest rate in a
2 risk premium study, I again disagree with this assertion. Cost of capital estimation is
3 necessarily a forward-looking endeavor. The ROEs authorized in cases such as this will
4 dictate rates of return and utility prices out into the near future, often for a period of years.
5 As can be seen in Exh. AMM-10, I perform two risk premium analyses—one with a current
6 utility bond yield and another with a projected near-term (2021-2025) utility bond yield. The
7 addition of a projected near-term utility bond yield in my risk premium analyses more
8 correctly matches the time period of the analyses with the time period during which the
9 authorized ROE in this case will be in effect, and is therefore preferred to only using a
10 current bond yield, which technically would be an historical bond yield by the time Avista’s
11 ROE is authorized in this case.

12 As I have already discussed, Mr. Parcell noted that “the cost of capital is an
13 opportunity cost and is forward-looking,”¹¹⁹ He also implicitly recognized the value of
14 current and prospective inputs when he stated that “[t]he costs of capital for both fixed -cost
15 (debt and preferred stock) components and common equity are determined in part by current
16 and prospective economic and financial conditions.”¹²⁰ A prospective bond yield is a
17 prospective financial condition. Indeed, his own CE analysis incorporates prospective
18 returns along with historic returns.¹²¹ The consideration of a prospective near-term utility
19 bond yield as one component in my risk premium analysis is entirely consistent with the

¹¹⁹ Exh. DCP-1T at 8.

¹²⁰ *Id.* at 9.

¹²¹ *Id.* at 45-46.

1 current and prospective nature of ROE estimation, and it enhances the relevance of the
2 results.

3 **Q. Do you agree with Mr. Parcell’s criticisms of your expected earnings**
4 **approach?**¹²²

5 A. No. His primary concern with my expected earnings approach appears to be
6 that I did not consider M/B ratios as part of my analysis. I addressed this issue earlier at
7 pages 44 to 48 of my rebuttal testimony.

8 **Q. Mr. Parcell rejects your use of the ECAPM because he says it “adjusts”**
9 **each proxy company’s actual beta and “calculates hypothetical betas that are upward**
10 **biased due to the fact that electric utility betas are below 1.0.”**¹²³ **What is your**
11 **response?**

12 A. As I stated in my Direct Testimony,¹²⁴ the ECAPM is simply a variant of the
13 traditional CAPM approach that is designed to correct for an observed bias in the CAPM
14 result. The ECAPM reflects a refinement to adjust for a systematic tendency of low beta
15 portfolios to over-earn and high beta portfolios to under-earn relative to the predictions of the
16 CAPM capital market line. As one research study concluded:

17 The assertion that equity risk premiums are proportional to NYSE betas is
18 shown to result in a downward (upward) biased prediction of the cost of
19 equity capital for a public utility having an NYSE beta that is less (greater)
20 than unity.¹²⁵
21

¹²² *Id.* at 49-50.

¹²³ *Id.* at 43.

¹²⁴ Exh. AMM-3 at 27-29.

¹²⁵ Robert Litzenger, Krishna Ramaswamy, and Howard Sosin, *On the CAPM Approach to the Estimation of A Public Utility’s Cost of Equity Capital*, *Journal of Finance*, Vol. 35, No. 2 (May 1980).

1 The ECAPM addresses this observed bias.

2 **Q. Mr. Parcell objects to your treatment of flotation costs.¹²⁶ How do you**
3 **respond?**

4 A. Mr. Parcell argues against the inclusion of flotation costs because there has
5 been no demonstration that “Avista has or plans a public offering of common stock” and
6 because flotation costs “to the extent that they occur, are known to investors and thus are
7 reflected in the stock prices [and] thus, ROE model results.”¹²⁷ In my Direct Testimony, I
8 explained why an adjustment for flotation costs associated with past equity issues is
9 appropriate, even when the utility is not contemplating any new sales of common stock.¹²⁸ A
10 flotation cost adjustment in all future years is required to keep shareholders whole, and the
11 flotation cost adjustment must consider total equity, including retained earnings. In other
12 words, the flotation cost adjustment cannot be strictly forward-looking unless all past
13 flotation costs associated with past issues have been recovered.

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

19

¹²⁶ Exh. DCP-1 T at 58-59.

¹²⁷ *Id.*

¹²⁸ Exh. AMM-1 T at 45-47.

1 **III. RESPONSE TO DR. WOOLRIDGE**

2 **Q. What is the purpose of this section of your rebuttal testimony?**

3 A. My purpose here is to address the failings of Dr. Woolridge’s analyses, as well
4 as his mischaracterization of financial market conditions and their implications for a fair
5 ROE for Avista.

6 **Q. Like Mr. Parcell, Dr. Woolridge discusses MTB ratio and reaches several**
7 **conclusions in this area. Are his conclusions realistic?**

8 A. No. I previously discussed the various fallacies associated with a focus on
9 MTB ratios in my response to Mr. Parcell’s testimony. All of those points also apply to Dr.
10 Woolridge’s testimony.

11 **A. Proxy Group**

12 **Q. What proxy groups does Dr. Woolridge use as the basis for his**
13 **quantitative analyses?**

14 A. Dr. Woolridge analyzes three groups: his “Electric Proxy Group” of 27
15 companies,¹²⁹ a “Gas Proxy Group” of 9 companies, and a group he calls the “McKenzie
16 Proxy Group”. I would note that this is not the same group of 21 companies that I rely on in
17 my Direct Testimony. Dr. Woolridge modifies my group by subtracting eight companies. He
18 eliminates Avangrid and PNM Resources due to their pending merger, CenterPoint due to an
19 announced spinoff, FirstEnergy due to its credit ratings downgrade, Exelon due to its pending
20 divestiture, and Emera and Algonquin because they are traded in Canada. Dr. Woolridge also
21 excludes Hawaiian Electric without explanation, even though this company is included in his

¹²⁹ In his Table 5 on page 20 of Exh. JRW-1T, Dr. Woolridge characterizes his Electric Proxy Group as having 26 companies, but his exhibits are based on a group of 27 companies.

1 own Electric Proxy Group. I agree with the exclusion of Avangrid, PNM Resources,
2 CenterPoint, Exelon and FirstEnergy since these various merger and divestiture
3 announcements, along with FirstEnergy’s credit ratings bond downgrade, have occurred after
4 my Direct Testimony was originally filed. I disagree with Dr. Woolridge’s decision to
5 eliminate three more companies. This is not my recommendation and his reference to this
6 modified group as the “McKenzie Proxy Group” is inaccurate and misleading. To be clear,
7 the “McKenzie Proxy Group” is Dr. Woolridge’s proxy group, not mine.

8 **Q. Why should Algonquin and Emera remain in the proxy group?**

9 A. I addressed my objection to removing Algonquin from the proxy group
10 previously in response to Mr. Parcell. As I discussed in Exh. AMM-3,¹³⁰ Emera is primarily
11 engaged in electricity generation, transmission, and distribution; gas transmission and
12 distribution; and utility energy services and serves approximately 2.5 million customers.
13 Emera’s operations are dominated by its U.S.-based utilities, with regulated operations
14 accounting for 75 percent of total revenues in 2020.¹³¹ Thus, investors would regard Emera
15 as a comparable investment alternative that is relevant to an evaluation of the required rate of
16 return for Avista.

17 **Q. Why should Hawaiian Electric remain in the proxy group?**

18 A. Hawaiian Electric has an S&P rating of BBB-, which is one notch below
19 Avista’s BBB rating. Hawaiian Electric’s Moody’s rating is Baa2, which is identical to
20 Avista’s rating. Hawaiian Electric’s Value Line measures indicate slightly less risk than

¹³⁰ Exh. AMM-3 at 8-9.

¹³¹ Emera 2020 SEC Form 40-F. This falls within the range of other utilities included in Dr. Woolridge’s Electric Proxy Group. See Exh. JRW-4, p. 1.

1 Avista. Taken together, Hawaiian Electric’s risk measures are comparable to that of Avista,
 2 and therefore reasonable investors would regard Hawaiian Electric as a comparable
 3 investment alternative to Avista.

4 **Q. Dr. Woolridge states that Avista’s investment risk is “at the high end” of**
 5 **the range for his proxy groups.¹³² Do you agree?**

6 A. Yes. As Dr. Woolridge concluded:

7 I believe that bond ratings provide a good assessment of the investment risk of
 8 a company. Exhibit JRW-3 also shows S&P and Moody’s issuer credit ratings
 9 for the companies in the two groups. Avista’s issuer credit rating is BBB
 10 according to S&P and [Baa2] according to Moody’s. These ratings are lower
 11 than the average S&P and Moody’s issuer credit ratings for the Electric Proxy
 12 Group (BBB+ and Baa1), for the McKenzie Proxy Group, (BBB+ and Baa2),
 13 and the Gas Proxy Group (A-/BBB+ and Baa1). Therefore, I believe that
 14 Avista’s investment risk is at the high end of the range of the three proxy
 15 groups.¹³³
 16

17 Correspondingly, this also suggests that the average ROE for these proxy groups
 18 would understate the return that investors required from an investment in Avista’s common
 19 stock, given its higher risks.

20 **A. Discounted Cash Flow Model**

21 **Q. What are the fundamental problems with Dr. Woolridge’s DCF analyses?**

22 A. There are numerous shortcomings associated with the DCF analyses presented
 23 by Dr. Woolridge that lead to biased end results:

- 24 • Reliance on dividend growth rates and historical growth measures do
- 25 not reflect a meaningful guide to investors’ expectations.
- 26 • Dr. Woolridge discounts reliance on analysts’ EPS growth forecasts as

¹³² Exh. JRW-1T at 20.

¹³³ *Id.*

1 biased and fails to recognize that it is investors' perceptions and
2 expectations that must be considered in applying the DCF model.

- 3 • Because Dr. Woolridge fails to test the reasonableness of model inputs,
4 he incorrectly relies on data that results in illogical cost of equity
5 estimates.
- 6 • Dr. Woolridge's internal growth ("br") rates are downward biased
7 because of computational errors and omissions.
- 8 • Rather than looking to the capital markets for guidance as to investors'
9 forward-looking expectations, Dr. Woolridge applies the DCF model
10 based on his own personal views.

11 As a result of these flaws and omissions, the resulting DCF cost of equity estimates
12 are downward-biased and fail to reflect investors' required rate of return.

13 **Q. Do you believe that historical trends in dividends per share provide a**
14 **meaningful guide to investors' expectations?**

15 A. No. As discussed at length in my Direct Testimony, it is investors' future
16 expectations—and not actual, historical results—that determine the current price they are
17 willing to pay for common stocks.¹³⁴ Dr. Woolridge noted the pitfalls associated with
18 historical growth measures. As he correctly observed:

19 [T]o best estimate the cost of common equity capital using the conventional
20 DCF model, one must look to long-term growth rate expectations.¹³⁵
21

22 As he acknowledged, historical growth rates can differ significantly from the
23 forward-looking growth rate required by the DCF model:

¹³⁴ Exh. AMM-3 at 14-18.

¹³⁵ Exh. JRW-1T at 36.

1 [O]ne must use historical growth numbers as measures of investors'
2 expectations with caution. In some cases, past growth may not reflect future
3 growth potential. Also, employing a single growth rate number (for example,
4 for five or ten years) is unlikely to accurately measure investors' expectations,
5 due to the sensitivity of a single growth rate figure to fluctuations in
6 individual firm performance as well as overall economic fluctuations (i.e.,
7 business cycles).¹³⁶
8

9 Moreover, to the extent historical trends for utilities are meaningful, they are already
10 captured in projected growth rates, including those published by Value Line, IBES, and
11 Zacks since securities analysts also routinely examine and assess the impact and continued
12 relevance (if any) of historical trends.¹³⁷

13 **Q. Dr. Woolridge argues that the growth rate component in the DCF model**
14 **reflects “the long-term dividend growth rate.”¹³⁸ Do you agree that this is what**
15 **investors are most likely to consider in developing their long-term growth expectations?**

16 A. No. Again, implementation of the DCF model is solely concerned with
17 replicating the forward-looking evaluation of real-world investors. In the case of utilities,
18 growth rates in DPS are not likely to provide a meaningful guide to investors' current growth
19 expectations. Future trends in EPS, which provide the source for future dividends and
20 ultimately support share prices, play a pivotal role in determining investors' long-term
21 growth expectations.

22 Tellingly, despite Dr. Woolridge's indictment of analysts' EPS growth projections, this
23 data largely serves as the basis for his own DCF analysis. When selecting the final growth

¹³⁶ *Id.*

¹³⁷ In testimony before FERC, Dr. Woolridge has applied the DCF model without any reference to historical trends or growth rates in DPS. *See, e.g., Testimony of J. Randall Woolridge*, Docket No. EL11-66-000, Exhibit SC-100 (2012).

¹³⁸ Exh. JRW-1T at 35.

1 rates for both proxy groups referenced in his testimony, Dr. Woolridge gives “primary
2 weight” to the projected EPS growth rates of Wall Street analysts.¹³⁹ So, while Dr.
3 Woolridge complains vociferously about the suitability of analysts’ EPS growth projections,
4 he relies primarily on these same projections in reaching his ultimate DCF conclusions. His
5 criticisms of the use of analysts’ EPS growth projections ring hollow and are without merit in
6 this light.

7 **Q. Have other regulators recognized that analysts’ EPS growth rate**
8 **estimates are a more meaningful guide to investors’ expectations than growth in**
9 **dividends?**

10 Yes. I discussed this in my Direct Testimony and noted specific examples from the
11 Public Utility Regulatory Authority of Connecticut, the Kentucky Public Service
12 Commission, the Regulatory Commission of Alaska, and FERC.¹⁴⁰

13 **Q. Is the downward bias in Dr. Woolridge’s historical growth measures self-**
14 **evident?**

15 A. Yes, it is. As shown on page 3 of Exhibit JRW-7, twenty-four of the historical
16 growth rates reported by Dr. Woolridge for his electric proxy companies are 2.0 percent or
17 less, including five negative values. A negative growth rate implies a cost of equity that falls
18 below the utility’s dividend yield, which makes no economic sense. Similarly, combining a
19 growth rate of 2.0 percent with Dr. Woolridge’s dividend yield of 3.70 percent for his electric

¹³⁹ *Id.* at 42.

¹⁴⁰ Exh. AMM-3 at 17-18.

1 group¹⁴¹ implies a DCF cost of equity 5.70 percent, which falls below any reasonable guide
2 to the cost of equity.

3 **Q. Does Dr. Wooldridge also include low and negative growth rates in his**
4 **examination of projected growth rates?**

5 A. Yes, as shown on page 4 of Exhibit JRW-7, he includes seven growth rates at
6 2.0 percent or less (including one negative value) in his analysis of projected growth rates for
7 his electric group. These growth rates are not meaningful and should be excluded from his
8 DCF analysis.

9 **Q. Does Dr. Woolridge make any effort to test the reasonableness of the**
10 **individual growth estimates he relied on to apply the constant growth DCF model?**

11 A. No. Despite recognizing that caution is warranted in using historical growth
12 rates, Dr. Woolridge simply calculates the average and median of the individual growth rates
13 with no consideration for the reasonableness of the underlying data. In fact, as demonstrated
14 above, many of the cost of equity estimates implied by Dr. Woolridge's DCF application
15 make no economic sense.¹⁴²

16 **Q. Does reference to the median correct for any underlying bias in Dr.**
17 **Woolridge's historical growth rates?**

18 A. No. The median is simply the observation with an equal number of data
19 values above and below. For odd-numbered samples, the median relies on only a single

¹⁴¹ Exh. JRW-1T at 34.

¹⁴² For example, combining Yahoo growth rates of -0.50 percent and 1.30 percent for Edison International and Hawaiian Electric (Exhibit JRW-7, page 5) with their respective 30 day dividend yields of 4.6 percent and 3.4 percent (Exhibit JRW-7, page 2) results in cost of equity estimates for Edison and Hawaiian Electric of 4.1 percent and 4.7 percent, respectively.

1 number, e.g., the fifth number in a nine-number set. Reliance on the median value for a series
2 of illogical values does not correct for the inability of individual cost of equity estimates to
3 pass fundamental tests of economic logic.

4 **Q. Dr. Woolridge argues your analysis is flawed because of your**
5 **“asymmetric elimination” of some low-end DCF results.”¹⁴³ Is this a valid argument?**

6 A. No. I evaluated low-end outliers against the observable returns available from
7 long-term bonds. But the fact that there are numerous results that fail this test of
8 reasonableness says nothing about the validity of estimates at the upper end of the range of
9 results, and there is no basis to discard an equal number of values from the top of the range.

10 **Q. Would reference to median values alter your conclusions?**

11 A. No. The median values produced by my alternative analyses—without
12 elimination of any illogical values—are shown in Table R-5 below:

13

¹⁴³ Exh. JRW-1T at 65.

1 **Table R-5 – Comparison of ROE Results**

	(a) Median	(b) Average	Midpoint
DCF			
Value Line	8.7%	9.3%	10.4%
IBES	8.7%	9.4%	9.8%
Zacks	9.1%	9.3%	10.1%
Internal br + sv	<u>8.6%</u>	<u>8.8%</u>	<u>8.8%</u>
Average	8.7%	9.2%	9.8%
CAPM	11.1%	11.2%	11.6%
Empirical CAPM	11.3%	11.4%	11.8%
Utility Risk Premium			
Historical	9.3%	9.3%	9.3%
Projected	<u>10.1%</u>	<u>10.1%</u>	<u>10.1%</u>
Average	9.7%	9.7%	9.7%
Expected Earnings	10.3%	10.3%	10.9%
Indicated ROE	10.2%	10.4%	10.7%

11 (a) Includes all estimates.

12 (b) Excludes illogical estimates.

13 As illustrated above, including all low and high-end results from my analyses and
 14 averaging the resulting medians produces an indicated ROE of 10.2 percent. This outcome
 15 also demonstrates that Avista’s requested ROE of 9.9 percent is reasonable.

16 **Q. Dr. Woolridge relies on sustainable, “br” growth rates (Exhibit JRW-8, p.**
 17 **4). Should the Commission place any weight on these values?**

18 **A.** No. Dr. Woolridge’s internal growth rates are downward biased because of
 19 computational errors and omissions. Dr. Woolridge based his calculations of the internal,
 20 “br” retention growth rate on data from Value Line. These are end-of-period results. If the
 21 rate of return, or “r” component of the internal growth rate, is based on end-of-year book

1 values, such as those reported by Value Line, it will understate actual returns because of
2 growth in common equity over the year.

3 **Q. What other consideration leads to a downward bias in Dr. Woolridge's**
4 **calculation of internal, "br" growth?**

5 A. Dr. Woolridge ignored the impact of additional issuances of common stock in
6 his analysis of the sustainable growth rate. Under DCF theory, the "sv" factor is a
7 component designed to capture the impact on growth of issuing new common stock at a price
8 above, or below, book value. As noted by Myron J. Gordon in his 1974 study:

9 When a new issue is sold at a price per share $P = E$, the equity of the new
10 shareholders in the firm is equal to the funds they contribute, and the equity of
11 the existing shareholders is not changed. However, if $P > E$, part of the funds
12 raised accrues to the existing shareholders. Specifically...[v] is the fraction of
13 the funds raised by the sale of stock that increases the book value of the
14 existing shareholders' common equity. Also, "v" is the fraction of earnings
15 and dividends generated by the new funds that accrues to the existing
16 shareholders.¹⁴⁴
17

18 In other words, the "sv" factor recognizes that when new stock is sold at a price above
19 (below) book value, existing shareholders experience equity accretion (dilution). In the case
20 of equity accretion, the increment of proceeds above book value ($P > E$ in Professor Gordon's
21 example) leads to higher growth because it increases the book value of the existing
22 shareholders' equity. In short, the "sv" component is entirely consistent with DCF theory, and
23 the fact that Dr. Woolridge failed to consider the incremental impact on growth results in
24 another downward bias to his "internal" growth rates, which should be given no weight.

¹⁴⁴ Myron J. Gordon, *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies (1974) at 31-32.

1 **Q. What do you conclude based on your review of Dr. Woolridge’s DCF**
2 **analyses?**

3 A. Even a cursory review of pages 3-5 of Exhibit JRW-8 suggests that Dr.
4 Woolridge could basically have arrived at any DCF growth rate that he wanted. These pages
5 are a mishmash of historical and projected growth rates over varying time periods and not
6 just for earnings, but for dividends and book value, as well. There are literally hundreds of
7 growth rates to choose from, and almost any DCF result could have been interpreted based
8 on this data. For this reason, his DCF-based ROE recommendations are suspect and should
9 be weighted accordingly.

10 Furthermore, trends in DPS are distorted by fundamental changes in industry
11 financial policies and Dr. Woolridge failed to evaluate the underlying reasonableness of
12 individual growth rates. Finally, the calculations used to arrive at Dr. Woolridge’s internal
13 growth rates are flawed and incomplete because he does not adjust his end-of-year book
14 values for growth in common equity over the year and because he failed to include the “sv”
15 factor designed to capture the impact on growth of issuing new common stock. As a result,
16 his DCF cost of equity estimates are biased downward and fall short of investors’ required
17 rate of return.

18 **B. Capital Asset Pricing Model**

19 **Q. What is the fundamental problem associated with the approach that Dr.**
20 **Woolridge used to apply the CAPM?**

21 A. The CAPM applications presented by Dr. Woolridge are based entirely on
22 *historical* rates of return, not current projections. Because he failed to look directly at the
23 returns investors are currently requiring in the capital markets, the 7.6 percent historical

1 CAPM estimates developed by Dr. Woolridge¹⁴⁵ fall woefully short of investors' current
2 required rate of return.

3 **Q. Dr. Woolridge characterizes his risk premium as *ex ante*.¹⁴⁶ Is this an**
4 **accurate assessment?**

5 A. No. To be considered a forward-looking, *ex ante* estimate of the current
6 market risk premium, the analysis must be predicated on investors' current expectations. Dr.
7 Woolridge does not attempt to develop a market risk premium using current capital market
8 information. Rather, he simply presents the results of various studies and surveys conducted
9 in the past. Certain of these studies may have attempted to infer the equity risk premium
10 using expected data at the time they were developed, but expectations at some point in the
11 past are not equivalent to investors *ex ante* requirements in capital markets today.

12 **Q. Is there good reason to entirely disregard the results of historical CAPM**
13 **analyses such as those presented by Dr. Woolridge?**

14 A. Yes. Applying the CAPM is complicated by the impact of the Federal
15 Reserve's policies on investors' risk perceptions and required returns. As FERC concluded,
16 historical applications of the CAPM are subject to bias "because of the potential impact on
17 the historical relationship between the market returns for government debt and common
18 equities."¹⁴⁷ Backward-looking approaches incorrectly assume that investors' assessment of
19 the relative risk differences, and their required risk premium, between Treasury bonds and
20 common stocks is constant and equal to some historical average. As one of Dr. Woolridge's

¹⁴⁵ Exh. JRW-9, page 1.

¹⁴⁶ Exh. JRW-1T at 55.

¹⁴⁷ *New York Indep. Sys. Operator, Inc.*, 146 FERC ¶ 61,043 at P 105 (2014).

1 own sources observed, “Since the 2008 crisis, with its aftermath of low government bond
2 rates and a simmering economic crisis, risk premiums in the United States have behaved
3 differently than they have historically.”¹⁴⁸ There is every indication that the historical CAPM
4 approach used by Dr. Woolridge fails to fully reflect the risk perceptions of real-world
5 investors in today’s capital markets, and his results should be ignored.

6 **Q. Does Dr. Woolridge also recognize the frailties of his historical CAPM**
7 **approaches?**

8 A. Yes. Dr. Woolridge noted that *ex post*, historical rates of return “are not the
9 same as *ex ante* expectations,” and observed that, “historical evaluation of returns can be a
10 problem.”¹⁴⁹ Dr. Woolridge admitted that “market risk premiums can change over time ...
11 such that *ex post* historical returns are poor estimates of *ex ante* expectations.”¹⁵⁰

12 **Q. Is there evidence that the studies referenced by Dr. Woolridge do not**
13 **reflect investors’ expectations?**

14 A. Yes. The vast majority of the equity risk premium findings reported by Dr.
15 Woolridge do not make economic sense and contradict his own testimony. For example,
16 page 5 of Dr. Woolridge’s Exhibit JRW-9 reveals that almost eighty percent of the historical
17 studies included in his review found market equity risk premiums of approximately 5.5
18 percent or below.¹⁵¹ But combining a market equity risk premium of 5.5 percent with Dr.

¹⁴⁸ Aswath Damodaran, *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2021 Edition* (Updated: March 23, 2021) at 13.

¹⁴⁹ Exh. JRW-1T at 52.

¹⁵⁰ *Id.*

¹⁵¹ This is also true for thirteen of the twenty individual risk premium studies that Dr. Woolridge classified as “more recent.” Exhibit JRW-9, p. 6.

1 Woolridge’s 2.5 percent risk-free rate results in an indicated cost of equity for the market as a
2 whole of 8.0 percent, which is well below his ROE recommendation for Avista in this case.

3 As Dr. Woolridge notes, the theory underlying the CAPM holds that beta is the only
4 relevant measure of investment risk and the market is assumed to have a beta of 1.0.¹⁵²
5 Given that the average beta for the firms in Dr. Woolridge’s proxy groups range from 0.87 to
6 0.88,¹⁵³ this indicates that investors’ required return on the market as a whole should exceed
7 the cost of equity for electric utilities. It follows, therefore, that a market rate of return that
8 does not significantly exceed his own downward biased ROE recommendation has no
9 relation to the current expectations of real-world investors. The fact that much of his CAPM
10 “evidence” violates the risk-return tradeoff that is fundamental to financial theory clearly
11 illustrates the frailty of Dr. Woolridge’s analyses.

12 **Q. Are there other shortcomings associated with the sources cited by Dr.**
13 **Woolridge?**

14 A. Yes. For example, the *Fernandez* survey cited by Dr. Woolridge is the result
15 of a mass solicitation to more than 15,000 email addresses, out of which approximately 1,950
16 responses were received.¹⁵⁴ While many of the responses were undoubtedly from informed
17 professionals, there is no ability verify the experience or familiarity of the respondents with
18 the subject matter. In addition, the wording of the surveys is imprecise and open to
19 interpretation. For example, the survey simply asks, “The Market Risk Premium that I am

¹⁵² Exh. JRW-1T at 47.

¹⁵³ Exh. JRW-9 at 3.

¹⁵⁴ Pablo Fernandez, Eduardo de Apellaniz, and Javier F. Acin, *Survey: Market Risk Premium and Risk-Free Rate used for 81 countries in 2020* (March 2020).

1 using in 2020 for USA is _____%,”¹⁵⁵ which is entirely unclear. The respondent has no idea
 2 whether he or she is being queried for a risk premium during 2020, or over some other
 3 period; nor is the basis on which the risk premium is calculated even specified.¹⁵⁶

4 Meanwhile, the *Damodaran* study cited by Dr. Woolridge derives a market risk
 5 premium by forcing the growth rate for all competitive firms to a constant long-term rate
 6 after five years. In addition, *Damodaran* assumes that this long term rate of growth will
 7 equal the current yield on U.S. Treasury bonds, or 0.93 percent in its current rendition.¹⁵⁷
 8 This is far below even the GDP growth rate range of 4.0 percent to 5.0 percent advocated by
 9 Dr. Woolridge.¹⁵⁸ There is no demonstrable link between investors’ growth expectations for
 10 common stocks and the current Treasury bond yield, and I know of no credible source of
 11 investment guidance that is expecting growth for all companies in the economy to collapse to
 12 0.93 percent over the next five years.¹⁵⁹

13 As with Mr. Parcell’s CAPM application, the fundamental problem with Dr.
 14 Woolridge’s approach is that instead of looking directly at an equity risk premium based on
 15 current expectations he pursues an unrelated tactic of compiling selected computations from
 16 the historical record. The only relevant issue for application of the CAPM in a regulatory

¹⁵⁵ *Id.* at 12.

¹⁵⁶ One respondent to a previous *Fernandez* survey characterized the imprecision and ambiguity this way: “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?” Pablo Fernandez, Alberto Ortiz Pizarro, and Isabela F. Acin, “Market Risk Premium Used in 71 Countries in 2016: A Survey with 6,932 Answers,” (May 2016) https://papers.ssm.com/sol3/Delivery.cfm/SSRN_ID2776636_code12696.pdf?abstractid=2776636&mirid=1&type=2.

¹⁵⁷ Aswath Damodaran, *Equity Risk Premium (ERP): Determinants, Estimation and Implications – The 2021 Edition* (Updated: March 23, 2021) at 98.

¹⁵⁸ Exh. JRW-1T at 75.

¹⁵⁹ Dr. Damodaran reports a cost of equity for the total market of 5.37 percent and a cost of equity for utilities of 4.42 percent. <http://www.stern.nyu.edu/~adamodar/pc/datasets/wacc.xls> (last visited May 13, 2021).

1 context is the return investors currently expect to earn on money invested today in the risky
2 market portfolio versus the risk-free U.S. Treasury alternative.

3 **Q. Are there reputable sources that confirm the downward bias inherent in**
4 **Dr. Woolridge's CAPM market rate of return?**

5 A. Yes. Morningstar, which is a widely recognized source of current investment
6 information, reports a current dividend yield of 1.50 percent for the S&P 500, with an
7 expected long-term EPS growth rate of 12.97 percent.¹⁶⁰ This implies an expected rate of
8 return for the S&P 500 of 14.47 percent, versus the 11.6 percent used in my application of the
9 CAPM.¹⁶¹

10 **Q. Is Dr. Woolridge (Exhibit JRW-9, pp. 5 and 6) justified in relying on**
11 **geometric means as a measure of average rate of return when applying the historical**
12 **CAPM?**

13 A. No. As discussed earlier in response to Mr. Parcell, the arithmetic mean
14 provides the best estimate of expected returns when estimating the cost of capital. As with
15 Mr. Parcell, Dr. Woolridge's reference to geometric average rates of return provides yet
16 another element of built-in downward bias.

¹⁶⁰ Morningstar, *S&P 500 PR*, <https://portfolios.morningstar.com/fund/index-summary?t=SPX®ion=usa&culture=en-US> (retrieved May 13, 2021).

¹⁶¹ Similarly, State Street Global Advisors reported expected EPS growth of 14.75 percent for the S&P 500 and a dividend yield of 1.46 percent, which implies an expected return of 16.21 percent. State Street Global Advisors, *SPDR® S&P 500®ETF Trust Fact Sheet* (Mar. 31, 2021). <https://www.ssga.com/library-content/products/factsheets/etfs/us/factsheet-us-en-spy.pdf>

1 **C. Other ROE Issues**

2 **Q. Dr. Woolridge says that “it is well known that the long-term EPS growth**
3 **rate forecasts of Wall Street securities analysts are overly optimistic and upwardly**
4 **biased.”¹⁶² Is this a valid concern?**

5 A. No. I cover this issue in my Direct Testimony.¹⁶³ While the projections of
6 securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in
7 assessing the expected growth that investors have incorporated into current stock prices, and
8 any bias in analysts’ forecasts—whether pessimistic or optimistic—is irrelevant if investors
9 share analysts’ views. Earnings growth projections of security analysts provide the most
10 frequently referenced guide to investors’ views and are widely accepted in applying the DCF
11 model.

12 **Q. Dr. Woolridge criticizes the market return that you use in your CAPM**
13 **and ECAPM analyses claiming that “long-term EPS and GDP growth are directly**
14 **linked.”¹⁶⁴ What is your response to this claim?**

15 A. The use of long-term GDP growth as an upper bound to the DCF growth rate
16 is not justified. There are several reasons why GDP growth is not relevant in applying the
17 DCF model:

- 18 • Practical application of the DCF model does not require a long-term
19 growth estimate over a horizon of 25 years and beyond – it requires a
20 growth estimate that matches investors’ expectations.
21 • My evidence supports the conclusion that investors do not reference
22 long-term GDP growth in evaluating expectations for individual

¹⁶² Exh. JRW-1T at 39.

¹⁶³ Exh. AMM-3 at 16-17.

¹⁶⁴ Exh. JRW-1T at 72-73.

1 common stocks.

- 2 • The theoretical proposition that growth rates for all firms converge to
3 overall growth in the economy over the very long horizon does not
4 guide investors' views, and growth rates for individual stocks can and
5 do exceed GDP growth.
6

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

11 **Q. The DCF model assumes an infinite stream of cash flows. Why wouldn't**
12 **a transition to GDP growth make sense?**

13 A. First, this view confuses the theory underlying the DCF model with the
14 practicalities of its application in the real world. While the notion of long-term growth
15 should presumably relate to the specific firm at issue, or at the very least to a particular
16 industry, there are no long-term growth projections available for the companies in electric
17 utility industry, or the broader market. By applying the DCF model in a way that is
18 inconsistent with the information that is available to investors and how they use it, the use of
19 GDP growth places the theoretical assumptions of a financial model ahead of investor
20 behavior. The only relevant growth rate is the growth rate used by investors. Investors do
21 not have clarity to see far into the future, and there is little to no evidence to suggest that
22 investors share the view that growth in GDP must be considered a limit on earnings growth
23 over the long-term.

24 Second, arguments concerning the sustainability of any individual growth rate for a
25 single firm in the S&P 500 miss the point. The growth rate underlying the market cost of

1 equity represents a weighted average of the expectations for the dividend paying firms in the
2 S&P 500. Within this large group of firms, growth expectations for some firms may be
3 extremely anemic, while projections for other firms are considerably more optimistic. In
4 addition, growth rates for one company may moderate over time, while for others they may
5 increase. Finally, the composition of the S&P 500 is not static. As a result, formerly
6 successful firms are supplanted by new firms with potential for high growth (*e.g.*, Sears is
7 supplanted by Amazon, or Blockbuster is supplanted by Netflix). On balance, however, the
8 growth rates used in my CAPM study are representative of the consensus expectations for the
9 dividend paying firms in the S&P 500 as a whole. This contradicts Dr. Woolridge's position
10 that investors' growth expectations should be constrained by a threshold tied to GDP.

11 **Q. Are long-term GDP growth rates commonly referenced as a direct guide**
12 **to future expectations for specific firms?**

13 A. No. Certainly, investors consider broad secular trends in economic activity as
14 one foundation for their expectations for a particular industry or firm. But there is no
15 evidence to support the idea that investment advisory services view GDP growth as a direct
16 guide to long-term expectations for a particular firm – much less for every firm in an entire
17 industry.

18 On the contrary, the financial media typically refers to three-to-five year EPS growth
19 forecasts for individual companies and rarely mentions long-term GDP forecasts. Long-term
20 GDP growth rates are simply not discussed within the context of establishing investors'
21 expectations for individual firms. For example, Value Line reports are routinely relied on as

1 a reliable source of investment data and analysis.¹⁶⁵ But despite Dr. Woolridge’s suggestion
2 that GDP has a fundamental role in shaping investors’ growth estimates, Value Line does not
3 even mention trends in GDP in its evaluation of the firms in the electric utility industry.
4 Value Line’s purpose is to inform investors of the pertinent factors that could affect future
5 expectations specific to each of the common stocks it covers. If the trajectory of GDP
6 growth out to the year 2050 and beyond had direct relevance in investors’ evaluation of
7 common stocks, Value Line and other securities analysts would highlight this in their
8 analyses.

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

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

17 **Q. Are there academic studies that recognize the shortcomings of adopting a**
18 **generic long-term growth rate, such as GDP growth?**

19 A. Yes. Professor Myron J. Gordon, who pioneered the application of the DCF
20 approach, concluded that reference to a generic long-term growth rate, such as Dr. Woolridge

¹⁶⁵ 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*, Pub. Util. Reports, Inc. (2006) at 71.

1 advocates, was unsupported.¹⁶⁶ More specifically, Dr. Gordon concluded that any
2 assumption of a single time horizon for a transition to a generic long-term growth rate was
3 highly questionable and failed to reduce error in DCF estimates. Instead, Dr. Gordon
4 specifically recognized that, “it is the growth that investors expect that should be used” in
5 applying the DCF model, and he concluded: “A number of considerations suggest that
6 investors may, in fact, use earnings growth as a measure of expected future growth.”¹⁶⁷

7 Similarly, a subsequent paper co-authored by Professor Gordon concluded that:

8 Analysts do not predict earnings beyond five years, which suggests that any
9 consensus of opinion among investors probably deteriorates quickly after five
10 years.¹⁶⁸
11

12 Dr. Gordon further concluded that “the consensus among investors is that the future
13 has a finite horizon of approximately seven years.”¹⁶⁹ In other words, reference to long-term
14 forecasts of GDP growth in applying the DCF model is inconsistent with investor behavior.

15 **Q. Is there evidence that using Dr. Woolridge’s long-term GDP growth rates**
16 **will understate investors’ expectations?**

17 A. Yes. Actual historical growth rates for individual firms in Dr. Woolridge’s
18 proxy group again refute the notion that long-term growth is constrained by GDP. For
19 example, Value Line reports that 13 of the 27 companies in Dr. Woolridge’s Electric Proxy
20 Group achieved earnings growth over the last 10 years that exceeded the 4.5 percent

¹⁶⁶ Myron J. Gordon, *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies (1974) at 100-01.

¹⁶⁷ *Id.* at 89.

¹⁶⁸ Joseph R. Gordon and Myron T. Gordon, *The Finite Horizon Expected Return Model*, *Financial Analysts Journal* (May-Jun. 1997) at 52-61.

¹⁶⁹ *Id.*

1 midpoint of Dr. Woolridge's 4.0 percent to 5.0 percent GDP growth rate range.¹⁷⁰ These
2 values indicate that firms can and do achieve long-term growth higher than the GDP growth
3 rate ceiling suggested by Dr. Woolridge.

4 **Q. Please summarize your objection to Dr. Woolridge's reference to GDP**
5 **growth rates in your market DCF analysis?**

6 A. Dr. Woolridge presents no meaningful information to suggest that earnings
7 growth rates of companies are limited to the growth rate in GDP. There is no link between
8 Dr. Woolridge's GDP growth rate ceiling and the actual expectations of investors in the
9 capital markets, which are the determining factor in any analysis of a fair ROE.

10 **Q. Is there any merit to Dr. Woolridge's argument that the size premium**
11 **does not apply to utility common stocks?**¹⁷¹

12 A. No. I spoke to this issue earlier in my rebuttal testimony. There is no credible
13 basis to conclude that utilities are immune from the well-documented relationship between
14 smaller size and higher realized rates of return. As Duff & Phelps concluded:

15 [O]bservation of the size effect is consistent with a modification of the pure
16 CAPM. Studies have shown the limitations of beta as a sole measure of risk.
17 The size premium is an empirically derived correction to the pure CAPM.¹⁷²

¹⁷⁰ See JRW-8, page 3.

¹⁷¹ Exh. JRW-1T at 83.

¹⁷² Duff & Phelps, *2016 Valuation Handbook, Guide to Cost of Capital* at 4-27.

1

2 **Q. Dr. Woolridge points out that there is not a uniform understanding of**
3 **what gives rise to the empirical findings underlying the size adjustment. Is that a**
4 **reason to ignore it?**

5 A. No. A 2018 article published in *Business Valuation Review* refuted similar
6 criticisms raised by Dr. Woolridge, concluding that “the size premium critique . . . is not
7 warranted.”¹⁷³ In contrast Dr. Woolridge’s assertions, the *Grabowski* article noted that “none
8 of the academic papers throughout the last three decades have qualified the [size premium] as
9 a statistical error,” and a recent publication available from the National Association of
10 Certified Valuators and Analysts documented the continued relevance of the size adjustment
11 in applying the CAPM:

12 [A] beta-adjusted size premium is also an indication of the relative market
13 performance of small-cap versus large-cap stocks, but is typically used for a
14 very specific purpose: as a “size” adjustment within the context of the capital
15 asset pricing model (CAPM) when developing cost of equity capital estimates.
16 A size adjustment is typically applied to the CAPM to make up for the fact
17 that the betas of smaller companies do not fully explain their observed returns.
18 Because the CAPM already includes a beta input in its textbook specification,
19 the size premium is then “beta adjusted” to remove the portion of realized
20 excess return that is attributable to beta, thereby isolating the size effect’s
21 contribution to realized excess return and avoiding double counting the impact
22 of each factor.
23 * * *

¹⁷³ Roger A. Grabowski, *The Size Effect Continues To Be Relevant When Estimating the Cost of Capital*, *Business Valuation Review* (Fall 2018) at 93-109.

1 Another way of saying this is that within the context of the CAPM, the betas
 2 of small-cap companies do not fully account for (or explain) their actual
 3 returns. Because the amount of this difference (what actually happened versus
 4 what CAPM predicted) varies with “size” (in this case, as measured by market
 5 capitalization) we call it a “size premium”.¹⁷⁴
 6

7 This article went on to conclude that “valuation professionals typically add a ‘size
 8 premium’ to the base CAPM equation. . .”¹⁷⁵

9 **Q. Dr. Woolridge asserts that the ECAPM “has not been theoretically or
 10 empirically validated in scholarly journals.”¹⁷⁶ Is this an accurate assessment?**

11 A. No. The ECAPM equation relied on in my testimony is based on the results
 12 of a number of empirical studies reported in the financial literature, as documented in *New*
 13 *Regulatory Finance*.¹⁷⁷ As indicated in my Direct Testimony,¹⁷⁸ this ECAPM approach has
 14 been recognized by a number of regulatory agencies and adopted by numerous witnesses
 15 representing a variety of parties in utility rate proceedings.

¹⁷⁴ *Using a Non-Beta-Adjusted Size Premium in the Context of the CAPM Will Likely Overstate Risk and Understate Value* (Jan. 30, 2019), available at <http://quickreadbuzz.com/2019/01/30/business-valuation-grabowski-harringtonsing-a-non-beta-adjusted-size-premium/>.

¹⁷⁵ *Id.*

¹⁷⁶ Exh. JRW-1T at 68.

¹⁷⁷ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 190 (*citing*, Black, Fischer, *Beta and Return*, Journal of Portfolio Management (Fall 1993); Black, Fischer, Jensen, M.C., Scholes, M, *The Capital Asset Pricing Model: Some Empirical Tests*, Studies I the Theory of Capital Markets, Praeger Publishers, Inc. (1972); Fama, E.F. and MacBeth, J.D., *Risk, Returns and Equilibrium: Empirical Tests*, Journal of Political Economy (Sep. 1972); Fama, E.F. and French, K.R., *The Cross-Section of Expected Stock Returns*, Journal of Finance (June 1992); Litzenberger, R.H. and Ramaswamy, K., *The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence*, Journal of Financial Economics (June 1979); Litzenberger, R.H., Ramaswamy, K., and sosin, H., *On the CAPM Approach to the Estimation of a Public Utility’s Cost of Equity Capital*, Journal of Finance (May 1980); Pettengill, G.N., Sundaram, S. and Mathur, I., *The Conditional Relation Between Beta and Returns*, Journal of Financial and Quantitative Analysis, Vol. 30, No. 1 (Mar. 1995)).

¹⁷⁸ Exh. AMM-3 at 30-32.

1 **Q. Dr. Woolridge suggests that your risk premium study is flawed because**
2 **some of the state-commission cases that you rely on may be based on settlements.¹⁷⁹ Is**
3 **this a legitimate concern?**

4 A. No. Dr. Woolridge’s suggestion that my risk premium study should be given
5 little weight because it contains ROEs resulting from settlements is also misguided. Other
6 than a general observation that settlements may involve a trade-off among the parties over
7 relevant issues in a rate proceeding, Dr. Woolridge presents no analysis or explanation as to
8 how ROEs resulting from settlements might differ from those established by litigated
9 proceedings. In fact, settlement provisions—including ROE—are subject to review and
10 approval of the respective regulatory agencies and are routinely evaluated as to their
11 reasonableness. Contradicting Dr. Woolridge’s speculation, RRA concluded that it “has
12 found no discernible pattern in the average authorized ROEs in cases that were settled versus
13 those that were fully litigated.”¹⁸⁰ Similarly, FERC has determined that consideration of
14 ROEs resulting from settlements “does not affect the reliability of a risk premium
15 analysis.”¹⁸¹

¹⁷⁹ Exh. JRW-1T at 87.

¹⁸⁰ S&P Global Market Intelligence, *RRA Regulatory Focus, Major Rate Case Decisions – January – June 2020*, Regulatory Research Associates (Jul. 22, 2020).

¹⁸¹ *Martha Coakley, et al.*, 150 FERC ¶ 61,165 at P 98 (2015).

1 **Q. Dr. Woolridge argues that the BBB utility bond yield average used in**
2 **your application of the risk premium approach is erroneous.¹⁸² Is there any merit to**
3 **this claim?**

4 A. No. Dr. Woolridge asserts that because bondholders face interest rate risk and
5 default risk, using contemporaneous bond yields to compute an equity risk premium will
6 somehow lead to an “overstatement” of investors’ required return. This is not correct. The
7 starting point for the application of the risk premium method is an estimate of investors’
8 expected return on utility common stocks, as measured by the average returns allowed by
9 state regulators. This proxy for the cost of common equity is not impacted by default risk or
10 interest rate risk, and the premium over observable utility bond yields provides a meaningful
11 benchmark to measure the additional compensation that must be offered if investors are to
12 assume the higher risks of investing in utility common stocks versus bonds. Dr. Woolridge
13 does not document any systemic shifts in default risks or interest rate risks over time, and
14 there is no evidence that the consistent use of utility bond yields as the basis for the risk
15 premium approach leads to inherent bias, either upward or downward, in the resulting cost of
16 equity estimates.

17 **Q. Have other regulators adopted a similar methodology based on risk**
18 **premiums calculated against public utility bond yields?**

19 A. Yes. For example, the Mississippi Public Service Commission relies on the
20 same approach applied in my direct testimony to establish the cost of equity under formula

¹⁸² *Id.* at 86.

1 rate plans approved in that state.¹⁸³ Similarly, the methodology used by FERC calculates
2 equity risk premiums by subtracting a six-month average yield on Baa utility bonds from the
3 authorized ROE.¹⁸⁴

4 **Q. Dr. Woolridge says that your expected earnings approach is flawed due to**
5 **unregulated operations of the proxy groups.¹⁸⁵ Do you agree with this assessment?**

6 A. Not at all. The appeal of the expected earnings approach is that it does not
7 require theoretical models to indirectly infer investors' perceptions from stock prices or other
8 market data. As mentioned earlier, as long as the proxy companies are similar in risk, their
9 expected earned returns on invested capital provide a direct benchmark for investors'
10 opportunity costs that is independent of fluctuating stock prices, M/B ratios, debates over
11 DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.
12 While companies in the proxy groups may have varying levels of unregulated operations,
13 they have all been judged to be of comparable overall risk and this condition overrides
14 specific differences between them.

15 Again, M/B ratios have no place in applying the expected earnings approach.
16 Traditional applications of the expected earnings approach do not involve M/B adjustments.

¹⁸³ See, e.g., Entergy Mississippi, Inc., Formula Rate Plan Rider Schedule FRP-7, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiLs4Sy67nsAhVKHq_wKHddgA1wOFjABegQIBRAC&url=https%3A%2F%2Fcdn.entyer-mississippi.com%2Fuserfiles%2Fcontent%2Fprice%2Ftariffs%2Feml_frp.pdf&usg=AOvVaw1vyc6J_1IccZshzpfCtD0v (last visited Mar. 17, 2021).

¹⁸⁴ *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 171 FERC ¶ 61,154 at P 111; Appendix I (2020).

¹⁸⁵ JRW-1T at 90.

1 Nor is such an adjustment recommended in recognized texts such as *New Regulatory*
2 *Finance*.¹⁸⁶

3 **Q. Dr. Woolridge notes that the expected earnings approach is not a market-**
4 **based method.¹⁸⁷ Does this undermine its relevance?**

5 A. No. While market-based models are certainly important tools in estimating
6 investors required rate of return, this in no way invalidates the usefulness of the expected
7 earnings approach. In fact, the distinction between financial models, which are dependent on
8 the interpretation of market data under certain theoretical assumptions, and the expected
9 earnings approach is one of its advantages.

10 **Q. How could the lack of a market-based construct furnish an advantage to**
11 **the expected earnings approach?**

12 A. While a utility's cost of equity is established in the capital markets based on
13 investors' expectations of the returns available from other investment opportunities of
14 comparable risk, the limitations of all theoretical models of investor behavior—including
15 those associated with the DCF and CAPM approaches—greatly complicate our ability to
16 infer investors' true return requirements from observable market data. The underlying
17 assumptions of market-based financial models strain credulity,¹⁸⁸ and as the submissions in
18 this proceeding make clear, virtually every element of a market-based financial analysis is
19 disputed. The difficulties associated with applying market-based methods in a way that

¹⁸⁶ Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006).

¹⁸⁷ Exh. JRW-1T at 88.

¹⁸⁸ For example, the standard DCF model assumes that dividends, earnings, and stock price grow at a constant rate to infinity, while the CAPM assumes a world where there are no transactions costs, no taxes, and investors have the unlimited ability to borrow and lend at the risk-free rate.

1 accurately reflects investors' expectations are further magnified during times of market
2 turmoil.

3 Against this backdrop, the expected earnings approach relies on the straight-forward
4 concept that when evaluating two investments of comparable risk, investors will choose the
5 alternative with the higher expected return. As I discuss in my direct testimony,¹⁸⁹ evidence
6 demonstrates that the expected earnings approach offers a meaningful benchmark in
7 assessing the return necessary for a firm to maintain financial integrity and attract capital.
8 The fact that this approach is not market-based does not discount its usefulness as a
9 meaningful approach for investors and regulators to compare expected returns in one utility
10 over another, which is consistent with the requirements of *Hope* and *Bluefield*. The expected
11 earnings approach serves as a direct measure of the expected returns on equity that investors
12 associate with companies of comparable risk, which provides regulators with a meaningful
13 guide to the corresponding return the utility should be expected to earn on its book equity
14 investment.

15 The traditional regulatory paradigm explicitly recognizes the validity of book value of
16 equity by choosing to measure rate base and capital structure components based on book
17 value, rather than market value. Moreover, the financial integrity standards enshrined in
18 *Hope* and *Bluefield* are directly related to the book value of a utility's equity and expected
19 earnings. Such accounting-based measures underpin published credit ratings, which are
20 widely accepted as a guide to a utility's financial integrity and ability to attract capital. For
21 example, rating agencies' standard criteria include an evaluation of the ratio of debt to

¹⁸⁹ Exh. AMM-3 at 39-40.

1 capitalization (including common equity), as measured using book values. Similarly, cash
2 flow-related credit metrics depend directly on net income which, under the revenue
3 requirements model used in the traditional regulatory paradigm, derives directly from the
4 return on the book value of equity.¹⁹⁰ The expected earnings approach is uniquely matched
5 to the financial integrity standard and complements the use of market-based methods to
6 ensure that the end-result of the Commission’s ROE findings satisfies the requirements of
7 *Hope* and *Bluefield*.

8 **Q. Has the expected earnings approach been recognized as a meaningful**
9 **methodology in evaluating a just and reasonable ROE?**

10 A. Yes. As discussed earlier, the expected earnings approach is directly
11 analogous to the comparable earnings method that predominated before the advent of the
12 DCF and other financial models,¹⁹¹ and it has long been referenced and relied on in
13 regulatory proceedings.

14 For example, a survey conducted by the National Association of Regulatory Utility
15 Commissioners reported that 19 regulatory jurisdictions cited the comparable earnings
16 approach as a primary method favored in determining the allowed ROE, while an additional
17 16 jurisdictions reported that this approach was considered along with the results of other
18 methods.¹⁹² S&P recently observed that, “[h]istorically, there have been two approaches in

¹⁹⁰ See, Moody’s Investors Service, *Rating Methodology, Regulated Electric and Gas Utilities* (June 23, 2017) at 4.

¹⁹¹ The term “expected earnings” distinguishes my methodology from a traditional comparable earnings analysis, in that it is based on forward-looking projections representative of investors’ expectations, rather than backward-looking, historical data on actual earned returns on equity.

¹⁹² Nat’l Ass’n of Regulatory Util. Comm’rs, *Utility Regulatory Policy in the U.S. and Canada, 1995-1996* (Dec. 1996).

1 calculating ROE in regulatory proceedings, a comparable earnings approach and a market
2 analysis. In a comparable approach, similar investments with similar risks are analyzed to
3 determine an appropriate ROE.”¹⁹³ As noted earlier, the North Carolina Utilities
4 Commission recently affirmed its practice of giving “significant weight” to the expected
5 earnings approach, as an adjunct to market-based methods.¹⁹⁴

6 **Q. Is there evidence that returns on book value influence investors’ valuation**
7 **decisions?**

8 A. Yes. S&P cited the relevance of earned returns on book value in highlighting
9 the primary credit considerations in the utility industry, noting that “required rate of return on
10 equity investment is closely linked to a utility company's profitability.”¹⁹⁵ S&P indicated
11 that, “[f]or regulated utilities subject to full cost-of-service regulation and return-on-
12 investment requirements, we normally measure profitability using ROE, the ratio of net
13 income available for common stockholders to average common equity.” While recognizing
14 that “the regulator ultimately bases its decision on an authorized ROE,” S&P observed that
15 “different factors such as variances in costs and usage may influence the return a utility is
16 actually able to earn, and consequently our analysis of profitability for cost-of-service-based
17 utilities centers on the utility's ability to consistently earn the authorized ROE.” In other
18 words, in S&P’s view, the earned return on book value may provide better insight into the

¹⁹³ S&P Global Market Intelligence, *The rate case process: establishing a fair return for regulated utilities*, RRA Regulatory Focus (Jun. 29, 2020).

¹⁹⁴ North Carolina Utilities Commission, Docket No. E-7, SUB 1187, *et al.*, *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* (Mar. 31, 2021) at 94.

¹⁹⁵ Standard & Poor’s Corporation, *Utilities: Key Credit Factors For The Regulated Utilities Industry*, Criteria Corporates (Nov. 19, 2013).

1 financial health of the utility because it reflects the end-result of regulation, not the
2 theoretical outcome implied by an authorized ROE.

3 Similarly, Moody’s also recognizes the relevance of returns on book value in its
4 assessment of a utility’s future prospects. While noting that “[t]he authorized ROE is a
5 popular focal point in many regulatory rate case proceedings,” Moody’s recognized that
6 “earned ROEs, as reported by utilities and adjusted by Moody’s,” are a key gauge of
7 financial performance.¹⁹⁶ As Moody’s concluded, “utilities are closer to earning their
8 authorized equity returns, which is positive from an equity market valuation perspective.”

9 A research paper by Dr. Aswath Damodaran—a researcher cited by Dr.
10 Woolridge¹⁹⁷—emphasized the importance of considering returns on book value in
11 evaluating performance and alternative investments.¹⁹⁸ Contradicting Dr. Woolridge’s
12 conclusion that returns on book value are unrelated to an evaluation of investors’ expected
13 return on investment, Dr. Damodaran noted that, “[w]hile returns on equity and capital are
14 based upon accounting earnings and capital, and are designed to measure the quality of a
15 firm’s existing investments, they are correlated with returns you would make investing in the
16 publicly traded equity of the firm.”¹⁹⁹ A number of other peer-reviewed research studies also

¹⁹⁶ Moody’s Investors Service, *Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles*, Sector In-Depth 5 (Mar. 10, 2015).

¹⁹⁷ Exh. JRW-9, page 6.

¹⁹⁸ Aswath Damodaran, *Return on Capital (ROC), Return on Invested Capital (ROIC) and Return on Equity (ROE): Measurement and Implications*, New York University, Stern School of Business (July 2007).

¹⁹⁹ *Id.* at 49.

1 confirm the relationship between accounting-based performance measures, such as the return
2 on book equity, and market-based measures such as stock returns.²⁰⁰

3 As Dr. Damodaran stated, “we can safely conclude that the key number in a valuation
4 is not the cost of capital that we assign a firm but the return earned on capital that we
5 attribute to it.”²⁰¹ This is exactly what the expected earnings method seeks to measure. If the
6 allowed ROE is insufficient to provide a return on the book value of a utility’s investment as
7 compared with what investors expect other utilities of comparable risk to earn, the utility’s
8 ability to compete for capital will be undermined. The expected earnings approach provides
9 a measure of this necessary return as one component of the evaluation of a just and
10 reasonable ROE.

11 **Q. Dr. Woolridge contends that the expected earnings approach is circular.**²⁰²

12 **Is this concern justified?**

13 A. No. While expected earned rates of return for the utilities in the proxy groups
14 are certainly influenced by the returns authorized by regulators, these allowed ROEs
15 themselves are premised on a variety of information, which presumably would include the
16 results of market-based methods, such as the DCF and CAPM approaches. Regulatory
17 agencies routinely consider the results of multiple financial models in their deliberations. As

²⁰⁰ See, e.g., Kenneth Lehn, Anil Makhija, *EVA, Accounting Profits, and CEO Turnover: An Empirical Examination, 1985-1994*, *Journal of Applied Corporate Finance*, Vol 10.2 (Summer 1997) at 90 (documenting a significant, positive correlation between ROE and stock returns); D. Craig Nichols, James M. Wahlen, *How Do Earnings Numbers Relate to Stock Returns? A Review of Classic Accounting Research with Updated Evidence*, *Accounting Horizons*, Vol 18, No. 4 (Dec. 2004) at 272–274, 285 (documenting a significant positive relationship between stock returns and earnings relative to assets measured at book value).

²⁰¹ Damodaran, *supra* n.196 at 6.

²⁰² Exh. JRW-1T at 89.

1 a result, it is wrong to suggest that reference to projected earned returns on book value as one
2 facet of the Commission’s fact-finding is somehow circular.

3 Moreover, given the importance of the return on equity component of a utility’s
4 revenue requirements, virtually every measure of future financial performance—including
5 cash flow measures, profitability, and dividend policies—is impacted by the ROE established
6 by regulators. As a result, the projections of earned returns used to apply the expected
7 earnings approach are no more susceptible to concerns over regulatory influence (past,
8 present, or future) than the analysts’ EPS growth rates. If analysts’ estimates are rendered
9 unusable because they are, in part, a function of expectations regarding future allowed ROEs,
10 then under Dr. Woolridge’s own logic, the DCF model must be rejected as well. This is
11 misguided and the Commission should dismiss such arguments.²⁰³

12 **Q. Dr. Woolridge criticizes your use of a low-risk group of non-utility**
13 **companies as an ROE check of reasonableness.²⁰⁴ Are his criticisms justified?**

14 A. No. The implication that an estimate of the required return for firms in the
15 competitive sector of the economy is not useful in determining the appropriate return to be
16 allowed for rate-setting purposes is wrong and inconsistent with reality, investor behavior,
17 and the *Bluefield* and *Hope* decisions. In fact, returns in the competitive sector of the
18 economy form the very underpinning for utility ROEs because regulation purports to serve as
19 a substitute for the actions of competitive markets.

²⁰³ FERC has also rejected similar arguments, concluding, “[W]e disagree...that [the] expected earnings analysis will nevertheless raise issues of circularity or lead to the convergence of Commission-approved ROEs and the Value Line projections.” *Assoc. of Businesses Advocating Tariff Equity, et al.*, 156 FERC ¶ 61,234 at P 233 (2016).

²⁰⁴ Exh. JRW-1T at 90-91.

1 The cost of capital is an opportunity cost based on the returns that investors could
2 realize by putting their money in other alternatives, which include all other securities
3 available in the stock, bond or money markets. Consistent with this view, Dr. Woolridge
4 noted the Supreme Court’s economic standards and concluded that the fair rate of return on
5 equity should be “comparable to returns investors expect to earn on investments with similar
6 risks.”²⁰⁵ Clearly the total capital invested in utility stocks is only the tip of the iceberg of
7 total common stock investment and there are a plethora of other investment opportunities of
8 comparable risk available to investors beyond those in the utility industry.

9 True enough, utilities are sheltered from competition, but they undertake other
10 obligations and lose the ability to set their own prices and decide when to exit a market. The
11 Supreme Court has recognized that it is the degree of risk, not the nature of the business,
12 which is relevant in evaluating an allowed ROE for a utility.

13

14 **IV. RESPONSE TO MR. MULLINS**

15 **Q. How did Mr. Mullins arrive at his 9.4 percent recommended ROE for**
16 **Avista?**

17 **A.** The entire justification for Mr. Mullins’ 9.4 percent ROE recommendation in
18 limited to a single paragraph. He states:

²⁰⁵ *Id.* at 3.

1 Where a utility has recently concluded a rate case, and absent significant
2 changes in capital markets, I recommend against making dramatic changes,
3 which can send conflicting signals to rating agencies, investors, and can
4 subject ratepayers to unnecessary rate volatility. Avista's current rates became
5 effective approximately one year ago on April 1, 2020 in Docket Nos. UE-
6 190334 and UE 190335. While capital markets have fluctuated with the
7 COVID-19 pandemic, the circumstances at the present are not materially
8 different than when Avista's current rates were approved, and certainly do not
9 support a substantial increase to Avista's ROE from 9.4 percent to 9.9
10 percent.²⁰⁶
11

12 **Q. Does Mr. Mullins present any evidence in support of his contention that**
13 **“the circumstances at the present are not materially different than when Avista’s**
14 **current rates were approved” on April 1, 2020?**

15 A. No. Mr. Mullins did not analyze current capital market conditions; he did not
16 discuss the guiding principles of *Bluefield* and *Hope*; he did not select a proxy group of
17 comparable risk utilities; he did not implement generally accepted financial models such as
18 DCF and CAPM; he did not address flotation costs or capital structure; and he did not rebut
19 my direct testimony in any meaningful way.

20 **Q. Do you agree with Mr. Mullins that circumstances in the financial**
21 **markets are not materially different now as compared to April 1, 2020?**

22 A. No. As Mr. Parcell succinctly summarized, “Recent economic and financial
23 circumstances have differed from any that have prevailed since at least the 1930s.”²⁰⁷ One
24 barometer of the impact that these events have had on the required returns for electric utility
25 common stocks is provided by beta. As noted earlier, in the wake of the economic turmoil
26 caused by the COVID-19 pandemic the average Value Line beta value for the 38 companies

²⁰⁶ Exh. BGM-1T at 6-7.

²⁰⁷ Exh. DCP-1T at 15.

1 included in its Electric Utility industry group increased from 0.58 on January 24, 2020 to
 2 0.88 on March 12, 2021. Contradicting Mr. Mullins' view, this higher beta value implies a
 3 significant increase in the required cost of equity.

4 **Q. Can you summarize your view on Mr. Mullins' ROE recommendation?**

5 A. The supposition underlying Mr. Mullins' 9.4 percent ROE is incorrect, his
 6 testimony provides no support for his conclusions, and his recommendation should be given
 7 no consideration.

8
 9 **V. CAPITAL STRUCTURE**

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

11 A. The capital structure proposals in this case are summarized in Table R-6
 12 below:

13 **Table R-6 – Proposed Capital Structures**

	<u>Common Equity</u>	<u>Long-term Debt</u>	<u>Short-term Debt</u>
14 Parcell	48.50%	49.02%	2.48%
15 Woolridge	48.50%	51.50%	0.00%
16 Avista	50.00%	50.00%	0.00%

17
 18 **Q. How do you respond to the other recommendations in this case?**

19 A. As I stated in my direct testimony, a 50 percent common equity ratio is
 20 consistent with Avista's need to maintain its credit standing and financial flexibility, with the
 21 range of capitalizations for the proxy utilities, and with the importance of an adequate equity
 22 layer to accommodate the pressures of funding significant capital investments and to balance

1 off-balance sheet commitments (such as purchased power agreements) which carry with them
2 some level of imputed debt.

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

11 **Q. Mr. Parcell presents a table purporting to illustrate the common equity**
12 **ratios allowed by state regulatory commissions.²⁰⁸ Does this offer a meaningful**
13 **comparison?**

14 A. No. Mr. Parcell appears to have considered cases in which cost-free items or
15 tax credit balances were included in the reported capital structure, which biases the common
16 equity ratio downwards. Table R-7 below presents the range and average common equity
17 ratios approved for electric utilities over the most recent nine quarters of published data, after
18 removing those observations:
19

²⁰⁸ *Id.* at 21.

Table R-7 – Electric Utility Allowed Common Equity Ratios

	Low	High	Average
Q1-19	48.00%	-- 52.82%	50.86%
Q2-19	51.37%	-- 57.02%	53.11%
Q3-19	49.46%	-- 53.49%	51.41%
Q4-19	47.97%	-- 56.00%	51.37%
Q1-20	42.50%	-- 55.61%	50.07%
Q2-20	48.23%	-- 54.77%	51.63%
Q3-20	46.00%	-- 56.83%	51.33%
Q4-20	48.00%	-- 56.83%	51.50%
Q1-21	43.25%	-- 52.07%	51.18%
Average	47.20%	-- 55.05%	51.38%

Source: S&P Global Market Intelligence, *Major Rate Case Decisions*, RRA Regulatory Focus (Apr. 28, 2021; Feb. 2, 2021; Jan. 31, 2020). Excludes capital structures that include cost-free items or tax credit balances.

As demonstrated in table above, the 50.0 percent common equity ratio requested by Avista falls below the average approved for other electric utilities.

Q. Dr. Woolridge suggests that Avista’s proposed common equity ratio of 50 percent is inconsistent with the capitalization ratios maintained by the companies in your proxy group.²⁰⁹ Is this an accurate assessment?

A. No. As I discuss in my direct testimony, Avista’s proposed common equity ratio falls well within the range maintained by the twenty-one firms in my proxy group, with one-third of these companies having common equity ratios of 50 percent or greater on a historical and projected basis.²¹⁰

²⁰⁹ *Id.*

²¹⁰ Exh. AMM-5, page 1.

1 **Q. Is capital structure already considered by the credit rating agencies in**
2 **their evaluation?**

3 A. Yes. The ratings assigned to a utility by the rating agencies encompass a
4 comprehensive evaluation of the utility's overall business and financial risks. The evaluation
5 of financial risk involves an examination of financial data concerning earnings protection,
6 capital structure, cash flow adequacy, and financial flexibility. The degree of debt leverage
7 implicit in a utility's capital structure is one aspect of credit analysis that ultimately
8 determines assigned ratings; a utility's relative reliance on debt leverage is factored into the
9 analysis of overall risks that results in an assigned rating. Credit ratings consider business
10 risk and financial risk, and similar credit ratings provide a strong indicator of comparability
11 of risk.

12 As noted earlier, based on a comparison of credit ratings between Avista and the
13 proxy groups, Dr. Woolridge concluded that Avista's overall investment risks fall at the upper
14 end of the range for his proxy groups. The Company's proposed capital structure is
15 consistent with the need to accommodate these risks and bolster Avista's credit standing.

16 **Q. Do ongoing economic and capital market uncertainties also influence the**
17 **appropriate capital structure for Avista?**

18 A. Yes. Financial flexibility plays a crucial role in ensuring the wherewithal to
19 meet funding needs, and utilities with higher financial leverage may be foreclosed or have
20 limited access to additional borrowing, especially during times of stress. As Moody's
21 observed:

1 Utilities are among the largest debt issuers in the corporate universe and
2 typically require consistent access to capital markets to assure adequate
3 sources of funding and to maintain financial flexibility. During times of
4 distress and when capital markets are exceedingly volatile and tight, liquidity
5 becomes critically important because access to capital markets may be
6 difficult.²¹¹
7

8 Confirming this view, S&P noted that “availability to the equity market remains
9 extraordinarily challenging” for utilities, and concluded that “lack of access to the equity
10 market” will also pose a risk to financial standing in the industry.²¹² As a result, the
11 Company’s capital structure must maintain adequate equity to preserve the flexibility
12 necessary to maintain continuous access to capital even during times of unfavorable market
13 conditions. This further disproves Dr. Woolridge’s capital structure arguments.

14 **Q. Mr. Parcell includes short-term debt and, while Dr. Woolridge does not**
15 **include short-term debt in his recommended capital structure, he argues that it should**
16 **be considered in computing industry benchmarks.²¹³ Do you agree?**

17 A. No. The facilities that Avista employs to provide electric utility service are
18 long-lived assets. To match the nature of the Company’s investment in plant and equipment,
19 the capital structure should consist of permanent capital—long-term debt, preferred stock,
20 and common equity. Short-term debt is generally not viewed as part of the permanent capital
21 used to finance investment in plant and equipment. Indeed, short-term debt is typically used
22 to meet seasonal working capital needs and may also be used to finance capital

²¹¹ Moody’s Investors Service, *FAQ on credit implications of the coronavirus outbreak*, Sector Comment (Mar. 26, 2020).

²¹² S&P Global Ratings, *COVID-19: The Outlook For North American Regulated Utilities Turns Negative* (Apr. 2, 2020).

²¹³ Exh. DCP-1T at 23; Exh. JRW-1T at 22.

1 improvements until a sufficient balance has accumulated to economically issue common
2 stock or long-term debt.

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

4 **A. Yes, it does.**