

**Exh. DCP-1T
Dockets UE-170485/UG-170486
Witness: David C. Parcell**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**AVISTA CORPORATION d/b/a
AVISTA UTILITIES,**

Respondent.

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

TESTIMONY OF

DAVID C. PARCELL

**ON BEHALF OF THE STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

Cost of Capital

October 27, 2017

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1 **I. INTRODUCTION**

2

3 **Q. Please state your name, occupation, and business address.**

4 A. My name is David C. Parcell. I am a Principal and Senior Economist of Technical
5 Associates, Inc. My business address is Suite 130, 1503 Santa Rosa Rd., Richmond,
6 Virginia 23229.

7

8 **Q. Please summarize your educational background and professional experience.**

9 A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic
10 Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia
11 Commonwealth University. I have been a consulting economist with Technical
12 Associates since 1970. I have provided cost of capital testimony in public utility
13 ratemaking proceedings dating back to 1972 and I have previously filed testimony and/or
14 testified in over 555 utility proceedings before about 50 regulatory agencies in the United
15 States and Canada. I have previously filed testimony on behalf of the Staff of the
16 Washington Utilities and Transportation Commission (Commission) in proceedings
17 involving Cascade Natural Gas, Puget Sound Energy and Pacific Power & Light
18 Company, as well as Avista Corporation (“Avista” or “Company”). Exh. DCP-2
19 provides a more complete description of my education and relevant work experience.

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. I have been retained by the Commission Staff to evaluate the cost of capital (“COC”)
3 aspects of the current electric and natural gas rate cases of Avista. I have performed
4 independent studies and I am making recommendations of the current COC for Avista.

5
6 **Q. Have you prepared an exhibit in support of your testimony?**

7 A. Yes. In addition to Exh. DCP-2, identified above, I have prepared Exh. DCP-3 through
8 Exh. DCP-16. These exhibits were prepared either by me or under my direction. The
9 information contained in these exhibits is correct to the best of my knowledge and belief

10

11

II. RECOMMENDATIONS AND SUMMARY

12

13 **Q. What are your COC recommendations in this proceeding?**

14 A. My overall COC recommendations for Avista are shown on Exh. DCP-3 and can be
15 summarized as follows:

16

Item	Percent	Cost			Weighted Cost		
Short-Term Debt	2.90%	3.26%			0.09%		
Long-Term Debt	48.60%	5.54%			2.69%		
Common Equity	48.50%	8.70%	9.10%	9.50%	4.22%	4.41%	4.61%
Total	100.0%				7.01%		7.39%
						7.20%	

17

18 Avista’s application requests a COC of 7.76 percent and a cost of equity (“ROE”)
19 of 9.90 percent.

20

1 **Q. Please summarize your analyses and conclusions.**

2 A. This proceeding is concerned with Avista's regulated electric utility and natural gas
3 operations in Washington. My analyses concern the Company's COC. As noted in a
4 later section of my testimony, Avista performs its electric and natural gas operations in
5 Washington, and all other states except Alaska, through its Avista Utilities division.
6 Avista Utilities is not a distinct corporate entity and does not have its own financial
7 statements and capital structure. Avista has traditionally used its corporate structure,
8 exclusive of its Alaska operations, to establish rates in Washington. In addition, it has
9 not distinguished between its electric and natural gas operations from a COC perspective.
10 I have followed this tradition in my COC analyses and thus focus on Avista's
11 capitalization and a single ROE for both its electric and natural gas operations.

12 The first step in performing my COC analyses is to develop the appropriate
13 capital structure. Avista proposes use of a capital structure comprised of 50 percent
14 common equity and 50 percent debt,¹ which is a hypothetical capital structure. These are
15 not the same capital structure ratios adopted by the Commission in the previous rate
16 proceedings,² where a capital structure with 48.5 percent common equity was employed.
17 I use this previously-adopted capital structure,³ which I believe remains the proper capital
18 structure for the Company.

19 The second step in a cost of capital calculation is to determine the embedded cost
20 rates of debt. Avista proposes use of a 5.62 percent cost of debt (which includes both the
21 costs of long-term debt and short-term debt), which are estimated cost rates as of May 1,

¹ Thies, Exh. MTT-1T at 13:18 – 14:1.

² Dockets UE-150204 and UG-150205.

³ My COC analyses separate the short-term debt and long-term debt components. Avista's analyses combine these. There is little difference in the COC conclusions arising from these different approaches.

1 2018.⁴ I do not use this proposed cost rate for debt. I have accepted the Company's cost
2 of short-term debt, as shown on Exh. MTT-2C. However, I have used the 5.41 percent
3 cost of debt recommended by Commission Staff, which does not recognize the SWAP
4 loss/gain components of the "3.54% Series" bonds issued in December of 2016, as
5 proposed by Avista. The long-term debt portion of this 5.41 percent cost is 5.54 percent.

6 The third step in the COC calculation is to estimate the ROE. I employ three
7 recognized methodologies to estimate Avista's ROE, each of which I apply to two proxy
8 groups of utilities. These three methodologies and my findings are:

<u>Methodology</u>	<u>Range</u>
Discounted Cash Flow ("DCF")	8.4%-8.7% (8.55% mid-point)
Capital Asset Pricing Model ("CAPM")	6.6%-6.9% (6.75% mid-point)
Comparable Earnings ("CE")	9.0%-10.0% (9.50% mid-point)

9
10 Based upon these findings, I conclude that Avista's ROE is within a range of 8.70 percent
11 to 9.50 percent, which is based upon the upper end of the range of the results for the DCF
12 model and mid-point of the range of results for the CE model.⁵ I specifically recommend
13 a 9.10 percent ROE for Avista.

14 15 **III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES**

16
17 **Q. What are the primary economic and legal principles that establish the standards for**
18 **determining a fair rate of return for a regulated utility?**

⁴ Thies, Exh. MTT-2C.

⁵ As I indicate in a later section, my ROE recommendation does not directly incorporate the CAPM results, which I believe to be somewhat low at this time, relative to the DCF and CE results.

1 A. Public utility rates are normally established in a manner designed to allow the recovery of
2 their costs, including capital costs. This is frequently referred to as “cost of service”
3 ratemaking. Rates for regulated public utilities traditionally have been primarily
4 established using the “rate base – rate of return” concept. Under this method, utilities are
5 allowed to recover a level of operating expenses, taxes, and depreciation deemed
6 reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of
7 return on the assets utilized (i.e., rate base) in providing service to their customers.

8 The rate base is derived from the asset side of the utility’s balance sheet as a
9 dollar amount and the rate of return is developed from the liabilities/owners’ equity side
10 of the balance sheet as a percentage. Thus, the revenue impact of the cost of capital is
11 derived by multiplying the rate base by the rate of return, including income taxes.

12 The rate of return is developed from the cost of capital, which is estimated by
13 weighting the capital structure components (i.e., debt, preferred stock, and common
14 equity) by their percentages in the capital structure and multiplying these values by their
15 cost rates. This is also known as the weighted cost of capital.

16 Technically, “fair rate of return” is a legal and accounting concept that refers to an
17 *ex post* (after the fact) earned return on an asset base, while the cost of capital is an
18 economic and financial concept which refers to an *ex ante* (before the fact) expected, or
19 required, return on a capital base. In regulatory proceedings, however, the two terms are
20 often used interchangeably, and I have equated the two concepts in my testimony.

21 From an economic standpoint, a fair rate of return is normally interpreted to mean
22 that an efficient and economically managed utility will be able to maintain its financial
23 integrity, attract capital, and establish comparable returns for similar risk investments.

1 These concepts are derived from economic and financial theory and are generally
2 implemented using financial models and economic concepts.

3 Although I am not a lawyer and I do not offer a legal opinion, my testimony is
4 based on my understanding that two United States Supreme Court decisions provide the
5 controlling standards for a fair rate of return. The first decision is *Bluefield Water Works*
6 *and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679 (1923). In
7 this decision, the Court stated:

8 What annual rate will constitute just compensation depends upon many
9 circumstances and must be determined by the exercise of a fair and
10 enlightened judgment, having regard to all relevant facts. A public utility
11 is entitled to such rates as will permit it to earn a return on the value of the
12 property which it employs for the convenience of the public equal to that
13 generally being made at the same time and in the same general part of the
14 country on investments in other business undertakings which are attended
15 by corresponding risks and uncertainties, but it has no constitutional right
16 to profits such as are realized or anticipated in highly profitable enterprises
17 or speculative ventures. The return should be reasonably sufficient to
18 assure confidence in the financial soundness of the utility, and should be
19 adequate, under efficient and economical management, to maintain and
20 support its credit and enable it to raise the money necessary for the proper
21 discharge of its public duties. A rate of return may be reasonable at one
22 time and become too high or too low by changes affecting opportunities
23 for investment, the money market, and business conditions generally.
24

25 It is generally understood that the *Bluefield* decision established the following
26 standards for a fair rate of return: comparable earnings, financial integrity, and capital
27 attraction. It also noted that required returns change over time, and there is an underlying
28 assumption that the utility be operated efficiently.

29 The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.*, 320
30 U.S. 591 (1942). In that decision, the Court stated:

31 The rate-making process under the [Natural Gas] Act, i.e., the fixing of
32 'just and reasonable' rates, involves a balancing of the investor and
33 consumer interests. . . . From the investor or company point of view it is

1 important that there be enough revenue not only for operating expenses
2 but also for the capital costs of the business. These include service on the
3 debt and dividends on the stock. . . . By that standard the return to the
4 equity owner should be commensurate with returns on investments in
5 other enterprises having corresponding risks. That return, moreover,
6 should be sufficient to assure confidence in the financial integrity of the
7 enterprise, so as to maintain its credit and to attract capital.
8

9 The three economic and financial parameters in the *Bluefield* and *Hope* decisions
10 – comparable earnings, financial integrity, and capital attraction – reflect the economic
11 criteria encompassed in the “opportunity cost” principle of economics. The opportunity
12 cost principle provides that a utility and its investors should be afforded an opportunity
13 (not a guarantee) to earn a return commensurate with returns they could expect to achieve
14 on investments of similar risk. The opportunity cost principle is consistent with the
15 fundamental premise on which regulation rests, namely, that it is intended to act as a
16 surrogate for competition.
17

18 **Q. How can the *Bluefield* and *Hope* parameters be employed to estimate the cost of**
19 **capital for a utility?**

20 A. Neither the courts nor economic/financial theory has developed exact and mechanical
21 procedures for precisely determining the cost of capital. This is the case because the cost
22 of capital is an opportunity cost and is prospective-looking, which dictates that it must be
23 estimated. However, there are several useful models that can be employed to assist in
24 estimating the ROE, which is the COC item that is the most difficult to determine. These
25 include the DCF, CAPM, CE and risk premium (“RP”) methods. I have not directly
26 employed a RP model in my analyses although, as discussed later, my CAPM analysis is

1 a form of the RP methodology. Each of these methodologies will be described in more
2 detail later in my testimony.

3
4 **IV. GENERAL ECONOMIC CONDITIONS**

5
6 **Q. Are economic and financial conditions important in determining the costs of capital
7 for a public utility?**

8 A. Yes. The costs of capital for both fixed-cost (debt and preferred stock) components and
9 common equity are determined in part by current and prospective economic and financial
10 conditions. At any given time, each of the following factors has an influence on the costs
11 of capital:

- 12 • The level of economic activity (i.e., growth rate of the economy);
- 13 • The stage of the business cycle (i.e., recession, expansion, or transition);
- 14 • The level of inflation;
- 15 • The level and trend of interest rates; and,
- 16 • Current and expected economic conditions.

17 My understanding is that this position is consistent with the *Bluefield* decision that
18 noted “[a] rate of return may be reasonable at one time and become too high or too low
19 by changes affecting opportunities for investment, the money market, and business
20 conditions generally.”⁶

21

⁶ *Bluefield*, 262 U.S. at 693.

1 **Q. What indicators of economic and financial activity did you evaluate in your**
2 **analyses?**

3 A. I examined several sets of economic statistics from 1975 to the present. I chose this time
4 period because it permits the evaluation of economic conditions over four full business
5 cycles plus the current cycle allowing for an assessment of changes in long-term trends.
6 Consideration of economic/financial conditions over a relatively long period of time
7 allows me to assess how such conditions have had impacts on the level and trends of the
8 costs of capital. This period also approximates the beginning and continuation of active
9 rate case activities by public utilities that generally began in the mid-1970s.

10 A business cycle is commonly defined as a complete period of expansion
11 (recovery and growth) and contraction (recession). A full business cycle is a useful and
12 convenient period over which to measure levels and trends in long-term capital costs
13 because it incorporates the cyclical (i.e., stage of business cycle) influences and, thus,
14 permits a comparison of structural (or long-term) trends.

15
16 **Q. Please describe the timeframes of the four prior business cycles and the current**
17 **cycle.**

18 A. The four prior complete cycles and current cycle cover the following periods:

<u>Business Cycle</u>	<u>Expansion Cycle</u>	<u>Contraction Period</u>
1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
1991-2001	Mar. 1991-Mar. 2001	Apr. 2001-Nov. 2001
2001-2009	Nov. 2001-Nov. 2007	Dec. 2007-June 2009
Current	July 2009 -	

Source: The National Bureau of Economic Research, "U.S. Business Cycle Expansions and Contractions."⁷

⁷ <http://www.nber.org/cycles/cyclesmain.html>.

1 **Q. Do you have any general observations concerning the recent trends in economic**
2 **conditions and their impact on capital costs over this broad period?**

3 A. Yes, I do. From the early 1980s until the end of 2007, the United States economy
4 enjoyed general prosperity and stability. This period was characterized by longer
5 economic expansions, relatively tame contractions, low and declining inflation, and
6 declining interest rates and other capital costs.

7 However, in 2008 and 2009 the economy declined significantly, initially as a
8 result of the 2007 collapse of the “sub-prime” mortgage market and the related liquidity
9 crisis in the financial sector of the economy. Subsequently, this financial crisis
10 intensified with a more broad-based decline initially based on a substantial increase in
11 petroleum prices and a dramatic decline in the U.S. financial sector, culminating with the
12 collapse and/or bailouts of a significant number of well-known institutions such as Bear
13 Stearns, Lehman Brothers, Merrill Lynch, Freddie Mac, Fannie Mae, AIG and Wachovia.
14 The recession also witnessed the demise of national companies such as Circuit City and
15 the bankruptcies of automotive manufacturers Chrysler and General Motors.

16 This decline has been described as the worst financial crisis since the Great
17 Depression and has been referred to as the “Great Recession.” Beginning in 2008, the
18 U.S. and other governments implemented unprecedented actions to attempt to correct or
19 minimize the scope and effects of this recession.

20 The recession reached its low point in mid-2009, when the economy began to
21 expand again, although at a slow and uneven rate. However, the length and severity of
22 the recession, as well as a relatively slow and uneven recovery, indicate that the impacts
23 of the recession have been and will be felt for an extended period of time.

1 **Q. Please describe recent and current economic and financial conditions and their**
2 **impact on the costs of capital.**

3 A. One impact of the Great Recession has been a reduction in actual and expected
4 investment returns and a corresponding reduction in capital costs. This decline is
5 evidenced by a decline in both short-term and long-term interest rates and the
6 expectations of investors and is reflected in cost of equity model results (such as DCF,
7 CAPM and CE). Regulatory agencies throughout the United States have recognized the
8 decline in capital costs by authorizing lower returns on equity for regulated utilities in
9 each of the last several years.⁸

10 Exh. DCP-4 shows several sets of relevant economic and financial statistics for
11 the cited time periods. Page 1 contains general macroeconomic statistics, page 2 shows
12 interest rates, and page 3 contains equity market statistics.

13 Page 1 shows that in 2007 the economy stalled and subsequently entered a
14 significant decline, as indicated by the lower growth rate in real (*i.e.*, adjusted for
15 inflation) Gross Domestic Product (“GDP”), lower levels of industrial production, and an
16 increase in the unemployment rate. This recession lasted until mid-2009, making it a
17 longer-than-normal recession, as well as a much deeper recession. Since then, economic
18 growth has been somewhat erratic and the economy has grown slower than in prior
19 expansions.

20 Page 1 also shows the rate of inflation. As reflected in the Consumer Price Index
21 (“CPI”), inflation rose significantly during the 1975-1982 business cycle and reached
22 double-digit levels in 1979-1980. The rate of inflation has declined substantially since

⁸ Regulatory Research Associates, “Regulatory Focus”, July 26, 2017.

1 1981. Since 2008, the CPI has been 3 percent or lower, with both 2014 and 2015 being
2 below 1 percent and 2016 being 2.1 percent. It is thus apparent that the rate of inflation
3 has generally been declining over the past several business cycles. Recent and current
4 levels of inflation are at the lowest levels of the past 35 years, which is reflective of lower
5 capital costs.⁹

6
7 **Q. What have been the trends in interest rates over the four prior business cycles and**
8 **at the current time?**

9 A. Page 2 shows several series of interest rates. Both short-term and long-term rates rose
10 sharply to record levels in 1975-1981 when the inflation rate was high. Interest rates
11 have declined substantially in conjunction with the corresponding declines in inflation
12 since the early 1980's.

13 From 2008 to late 2015, the Federal Reserve System ("Federal Reserve")
14 maintained the Federal Funds rate (i.e., short-term interest rate) at 0.25 percent, an all-
15 time low. The Federal Reserve has subsequently raised the Federal Funds rate on four
16 occasions between December of 2015 and June of 2017.¹⁰ The Federal Reserve also
17 purchased U.S. Treasury securities to stimulate the economy.¹¹

18 As seen on page 2, since 2013 both U.S. and corporate bond yields declined to
19 their lowest levels in the past four business cycles and in more than 35 years. Even with

⁹ The rate of inflation is one component of interest rate expectations of investors, who generally expect to receive a return in excess of the rate of inflation. Thus, a lower rate of inflation has a downward impact on interest rates and other capital costs.

¹⁰ These were December 2015, December 2016, March 2017, and June 2017.

¹¹ This is referred to as Quantitative Easing, which was comprised of three "rounds." In "round" 3, known as QE3, the Federal Reserve initially purchased some \$85 billion of U.S. Treasury Securities per month in order to stimulate the economy. The Federal Reserve eventually "tapered" its purchase of U.S. Treasury securities through October 2014, at which time Quantitative Easing ended.

1 the “tapering” and eventual ending of the Federal Reserve’s Quantitative Easing program,
2 as well as the Federal Reserve’s raising of the Federal Funds rate, interest rates have
3 remained low. Currently, both government and utility long-term lending rates remain
4 near historically low levels, again reflective of lower capital costs.

5
6 **Q. What does Exh. DCP-4 show for trends of common share prices?**

7 A. Page 3 shows several series of common stock prices and ratios. These indicate that stock
8 prices were essentially stagnant during the high inflation/high interest rate environment
9 of the late 1970s and early 1980s. The 1983-1991 business cycle and the more recent
10 cycles witnessed a significant upward trend in stock prices. The beginning of the recent
11 financial crisis saw stock prices decline precipitously as stock prices in 2008 and early
12 2009 were down significantly from peak 2007 levels, reflecting the financial/economic
13 crisis. Beginning in the second quarter of 2009, prices recovered substantially and
14 ultimately reached and exceeded the levels achieved prior to the “crash.” On the other
15 hand, recent equity markets have been somewhat volatile.

16
17 **Q. What conclusions do you draw from your discussion of economic and financial**
18 **conditions?**

19 A. Recent economic and financial circumstances have differed from any that have prevailed
20 since at least the 1930s. In conjunction with the Great Recession, there was a decline in
21 capital costs and returns which significantly reduced the value of most retirement
22 accounts, investment portfolios and other assets. One significant aspect of this has been a

1 decline in investor expectations of returns¹² even with the return of stock prices to levels
2 achieved prior to the “crash.”¹³ This is evident in several ways: (1) lower interest rates
3 on bank deposits; (2) lower interest rates on U.S. Treasury and utility bonds; and (3)
4 lower authorized ROEs by regulatory commissions. Finally, as noted above, utility bond
5 interest rates are currently at levels below those prevailing prior to the financial crisis of
6 late 2008 to early 2009 and are near the lowest levels in the past 35 years. Even with the
7 increase in long-term rates in late 2016, utility bond yields still remain well below the
8 levels prevailing at the beginning of 2016. Furthermore, long-term utility bond rates in
9 2017 have decreased, notwithstanding the Fed’s increase in short-term rates as evidenced
10 by the September 2017 yield on A-rated utility bonds (i.e., 3.87 percent) being below the
11 levels prevailing at the beginning of 2017 (i.e., 4.14 percent), as shown on my Exh. DCP-
12 4, page 2.

13
14 **Q. How do these economic/financial conditions impact the determination of a cost of**
15 **equity for regulated utilities?**

16 A. The costs of capital for regulated utilities have declined in recent years. For example, the
17 current interest costs that utilities pay on new debt remain near the low point of the last
18 several decades. In addition, the results of the traditional cost of equity models (i.e.,
19 DCF, CAPM and CE) are lower than was the case prior to the Great Recession. In light

¹² See, e.g., Kiplinger’s Personal Finance, “Investors Brace for Smaller Gains, Focus on Long-Term”, August 30, 2015.

¹³ See e.g., Vanguard News & Perspectives. “Stabilization, Not Stagnation: Expect Modest Returns”, March 30, 2017, www.personal.vanguard.com/us/insights/artical/infographic-stabilization-032017.

1 of this, it is not surprising that the average equity returns authorized by state regulatory
2 agencies have declined and continue to decline through 2017, as follows:¹⁴

<u>Year</u>	<u>Electric</u>	<u>Natural Gas</u>
2007	10.31%	10.22%
2008	10.37%	10.39%
2009	10.52%	10.22%
2010	10.29%	10.15%
2011	10.19%	9.91%
2012	10.01%	9.93%
2013	9.81%	9.68%
2014	9.75%	9.78%
2015	9.60%	9.60%
2016	9.60%	9.53%
2017 (2Q)	9.61%	9.50%

3 **V. AVISTA’S OPERATIONS AND BUSINESS RISKS**

4
5 **Q. Please summarize Avista and its operations.**

6 A. Avista is a public utility that generates and delivers electricity and natural gas through its
7 generation, transmission, and distribution systems to customers in Washington, Oregon,
8 Idaho, Alaska and a small portion of Montana.

9 Avista, in its present form, is a public utility that operates two reportable business
10 segments:¹⁵

- 11 • Avista Utilities – an operating division of Avista that delivers electricity and
12 natural gas in Washington, Oregon, Idaho and Montana; and,
- 13 • Alaska Electric Light & Power (“AEL&P”) – a subsidiary of Avista (acquired
14 July 1, 2014), and is an electric utility located in Juneau, Alaska. AEL&P is a

¹⁴ Regulatory Research Associates, “Regulatory Focus”, July 26, 2017, General Rate Cases.

¹⁵ Avista Corp., 2016 Form 10-K, page 3.

1 direct subsidiary of Alaska Energy and Resources Co. (“AERC”) which, in
2 turn, is owned by Avista.

3 Avista’s other businesses include sheet metal fabrication, venture fund
4 investments, real estate investments, a company that explores markets, as well as certain
5 other investments of Avista Capital, which is a direct, wholly owned subsidiary of Avista.
6 These activities do not represent a reportable business segment and are conducted by
7 various direct and indirect subsidiaries of Avista Corp., including AM&D, doing business
8 as METALfx.¹⁶

9 The Avista Utilities segment accounts for the vast majority of Avista’s operations,
10 as it accounted for about 95 percent of Avista’s 2016 operating revenues.¹⁷

11

12 **Q. Are there any pending changes in the ownership of Avista?**

13 A. Yes. Avista has agreed to be acquired by Hydro One, a Canadian utility holding
14 company. This acquisition is pending approval before the Commission at this time.

15

16 **Q. What are the current security ratings of Avista?**

17 A. The present debt ratings of Avista are shown in Exh. DCP-5 and are as follows:

	<u>Secured</u>	<u>Unsecured</u>	<u>Corp./Issuer</u>
Moody’s	A2	Baa1	Baa1
Standard & Poor’s	A-	BBB	BBB

18

19

¹⁶ Avista Corp., 2016 Form 10-K, page 3.

¹⁷ Avista Corp., 2016 Form 10-K, page 25.

1 **Q. What have been the trends in Avista's bond ratings?**

2 A. This is also shown on Exh. DCP-5. As this indicates, Avista's ratings by Moody's have
3 improved over the past several years.

4

5 **Q. How do the bond ratings of Avista compare to other electric and combination
6 gas/electric utilities?**

7 A. Avista's ratings are generally similar to most electric utilities in the United States. This is
8 evidenced by the Moody's and Standard & Poor's debt ratings, as shown on my Exh.
9 DCP-8 and which indicates that Avista's ratings are generally similar to those of the two
10 groups of proxy electric utilities used to develop the cost of equity recommendations in
11 my testimony.

12

13 **VI. CAPITAL STRUCTURE AND COSTS OF DEBT**

14

15 **Q. What is the importance of determining a proper capital structure in a regulatory
16 framework?**

17 A. A utility's capital structure is important because the concept of rate base – rate of return
18 regulation requires the capital structure to be utilized in estimating the total cost of
19 capital. Within this framework, it is proper to ascertain whether the utility's capital
20 structure is appropriate relative to its level of business risk and relative to other utilities.

21 As discussed in Section III of my testimony, the purpose of determining the
22 proper capital structure for a utility is to ascertain its capital costs. The rate base – rate of
23 return concept recognizes the assets employed in providing utility services and provides

1 for a return on these assets by identifying the liabilities and common equity (and their
 2 cost rates) used to finance the assets. In this process, the rate base is derived from the
 3 asset side of the balance sheet and the cost of capital is derived from the
 4 liabilities/owners' equity side of the balance sheet. The inherent assumption in this
 5 procedure is that the dollar values of the capital structure and the rate base are
 6 approximately equal and the former is utilized to finance the latter.

7 The common equity ratio (i.e., the percentage of common equity in the capital
 8 structure) is the capital structure item which normally receives the most attention. This is
 9 the case because common equity: (1) usually commands the highest cost rate; (2)
 10 generates associated income tax liabilities; and (3) causes the most controversy since its
 11 cost cannot be precisely determined.

12
 13 **Q. What are the historic capital structure ratios of Avista?**

14 A. I have examined the historic (2012-2016) capital structure ratios of Avista, which is
 15 shown on Exh. DCP-6. The common equity ratios have been:

	Avista Consolidated		Avista Utilities	
	Including S-T Debt	Excluding S-T Debt	Including S-T Debt	Excluding S-T Debt
2012	47.0%	48.0%	49.2%	50.2%
2013	45.4%	48.3%	46.1%	49.2%
2014	47.2%	48.9%	48.6%	50.4%
2015	46.9%	48.5%	48.0%	49.7%
2016	47.1%	48.7%	48.0%	49.8%

16
 17 This indicates that Avista, on a consolidated basis, has had an equity ratio that has
 18 generally been stable over the past five years. The Avista Utilities (Division) capital

1 structure¹⁸ has been fairly stationary, with equity ratios (including short-term debt) of
2 about 48 percent over the past three years.

3
4 **Q. How do these capital structures compare to those of investor-owned electric**
5 **utilities?**

6 A. Exh. DCP-7 shows the common equity ratios (excluding short-term debt in capitalization)
7 for the groups of proxy electric utilities used in developing my cost of equity models and
8 related conclusions. These are:

	<u>Period</u>	<u>Average</u>	<u>Median</u>
Parcell Proxy Group	2012-2016	51.2%	50.3%
	2020-2022	51.4%	51.5%
McKenzie Proxy Group	2012-2016	50.4%	50.0%
	2020-2022	49.8%	50.0%

9
10 These equity ratios are similar to those of Avista Utilities (excluding short-term debt).

11
12 **Q. What have been the average common equity ratios adopted by U.S. State**
13 **Regulatory Agencies in recent years?**

14 A. Over the past several years, the average common equity ratios cited in U.S. state
15 regulatory electric rate proceedings have been:¹⁹

2012	50.69%
2013	49.25%
2014	50.28%
2015	49.54%
2016	48.91%
2017 (2Q)	48.26%

¹⁸ Avista's Utilities (Division) capital structures exclude affiliate debt and equity.

¹⁹ Regulatory Research Associates, "Regulatory Focus", July 26, 2017.

1 These are slightly higher than those of Avista Utilities' common equity ratios, except for
2 the most recent year. It is noteworthy, on the other hand, that those reflect a combination
3 of approved capital structures, some of which include short-term debt and some of which
4 exclude short-term debt.

5
6 **Q. What capital structure has Avista requested in the proceedings?**

7 A. Avista proposes a capital structure comprised as follows:

	<u>Percent</u>
Debt	50.0
Common Equity	50.0

8
9 According to the Direct Testimony of Avista witness Mark T. Thies, this requested
10 capital structure would allow Avista to have “a solid financial profile”, would solidify
11 Avista’s current credit ratings, and moves Avista “closer to our long-term goal of having
12 a corporate credit rating of BBB+.”²⁰

13
14 **Q. How does this proposed capital structure compare to the capital structure approved
15 in Avista’s most recent rate proceedings.**

16 A. It reflects an increase in Avista’s equity ratio from 48.5 percent to 50.0 percent. In
17 Dockets UE-150204/UG-150205 the parties stipulated to a capital structure with 51.5
18 percent debt/48.5 percent equity.²¹ This capital structure was Avista’s “forecast capital
19 structure at December 31, 2015.”²²

20

²⁰ Thies, Exh. MTT-1, page 15, lines 5-16.

²¹ Multiparty Settlement Stipulation dated May 1, 2015.

²² Thies, Dockets UE-150204/UG-150205, Exh. MTT-1T at 14:20-23.

1 **Q. What capital structures do you propose to use in these proceedings?**

2 A. I have also used a capital structure with 48.5 percent for the purposes of these
3 proceedings. My proposed capital structure is:

Short-Term Debt	2.90%
Long-Term Debt	48.60%
Common Equity	48.50%

4
5 **Q. Why are you proposing a capital structure for Avista containing 48.5 percent**
6 **common equity?**

7 A. I first note that Avista Utilities' actual capital structure as of December 31, 2016,
8 contained 48.0 percent common equity, as shown on Exh. DCP-6. Thus, my proposed
9 capital structure is similar to, but slightly exceeds, the recent actual capital structure ratio
10 of Avista Utilities.

11 Second, the actual equity ratios of Avista Utilities have not increased in recent
12 years.

13 Third, this capital structure matches the capital structure stipulated to by the
14 parties and adopted by the Commission in Avista's last rate proceeding.²³

15 Fourth, the proposed capital structure is similar to that of other electric and
16 combination electric utilities, as shown on Exh. DCP-7.

17
18 **Q. What is your understanding of this Commission's policy on the proper capital**
19 **structure to use to determine the COC?**

20 A. It is my understanding that the Commission's policy on determining a capital structure
21 balances safety (the preservation of investment quality credit ratings and access to

²³ Dockets UE-150204 and UG-150205.

1 capital) against economy (the lowest overall cost to attract and maintain capital). The
2 Commission noted that the appropriate capital structure can either be the Company's
3 historical capital structure, the projected capital structure, or a hypothetical capital
4 structure.²⁴

5
6 **Q. Is your recommended capital structure consistent with this policy?**

7 A. Yes. The capital structure that I use is similar to recent actual ratios of Avista, as well as
8 its 2016 capital structure, and is consistent with the capital structure of other utilities. I
9 also believe that the capital structure that I propose provides a "balance of safety and
10 economy" as cited above.

11
12 **Q. What are the cost rates of debt in Avista's applications?**

13 A. Avista provides the cost of short-term and long-term debt as of May 1, 2018.²⁵ Avista's
14 proposed cost of debt combines the cost of long-term debt and short-term debt into a
15 single debt cost of 5.62 percent.²⁶

16
17 **Q. Do you agree with this debt cost?**

18 A. No, I do not. Avista's proposed cost of debt includes the effects of numerous "SWAP
19 Loss/(Gain)" values associated with the Company's interest rate hedging program. I note
20 that the latest debt issue of Avista, the December 2016 3.54% Series, had a SWAP loss of
21 about \$54 million, a very substantial portion of the \$175 million principal amount of the

²⁴ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy, Inc.*, Dockets UE-040640 and UG-040641, Order 06, ¶ 27 (February 18, 2005).

²⁵ Thies, Exh. MTT-2C.

²⁶ Thies, Exh. MTT-2C.

1 issue. Commission Staff, through the testimony of Chris McGuire, is proposing that this
2 \$54 million of SWAP Losses not be recovered in customer rates through the cost of debt.
3 Instead, Staff is proposing a cost of debt of 5.41 percent. The long-term debt component
4 of this contains a cost rate of 5.54 percent, which was developed from Exh. MTT-2. I use
5 this long-term debt cost in my COC analyses. For the cost of short-term debt, I use the
6 3.264 percent cost rate cited in Mr. Thies' testimony.

7
8 **Q. Can the ROE be determined with the same degree of precision as the cost of debt?**

9 A. No. The cost rates of debt are largely determined by interest payments, issue prices, and
10 related expenses. The ROE, on the other hand, cannot be precisely quantified, primarily
11 because this cost is an opportunity cost. As mentioned previously, there are several
12 models that can be employed to estimate the ROE. Three of the primary methods – DCF,
13 CAPM, and CE – are developed in the following sections of my testimony.

14
15 **VII. SELECTION OF PROXY GROUPS**

16
17 **Q. How have you estimated the ROE for Avista?**

18 A. Avista is a publicly-traded company. Consequently, it is possible to directly apply ROE
19 models to Avista. However, in COC analyses, it is customary to analyze groups of
20 comparison, or “proxy,” companies as a substitute for Avista to determine its ROE.

21 I have accordingly selected two groups for comparison to Avista. I selected one
22 group of electric utilities similar to Avista using the criteria listed on Exh. DCP-8. These
23 criteria are as follows:

- 1 (1) Market cap of \$1 billion to \$10 billion;
- 2 (2) Common equity ratio 40% or greater;
- 3 (3) Value Line Safety rank of 1, 2, or 3;
- 4 (4) Standard & Poor's ("S&P") stock ranking of A or B;
- 5 (5) S&P and Moody's bond ratings of A or BBB;
- 6 (6) Currently pays dividends; and
- 7 (7) Not involved in major merger or acquisition.

8 In addition, I have conducted studies of the cost of equity for the proxy group that
9 was selected by Avista witness Adrien M. McKenzie.

10

11 **Q. Please explain why you are using two proxy groups in your cost of equity analyses.**

12 A. It has long been my practice to develop my own independently-determined proxy group
13 and to also conduct cost of equity analyses on the utility witness' proxy group. My
14 conclusions and recommendations, in turn, are based upon the results of both proxy
15 groups.

16

17 **VIII. DCF ANALYSIS**

18

19 **Q. What is the theory and methodological basis of the DCF model?**

20 A. The DCF model is one of the oldest and most commonly-used models for estimating the
21 ROE for public utilities.²⁷

²⁷ Certain regulatory commissions (e.g., Federal Energy Regulatory Commission) rely primarily on the DCF methodology in determining the ROE for public utilities.

1 The DCF model is based on the “dividend discount model” of financial theory,
2 which maintains that the value (price) of any security or commodity is the discounted
3 present value of all future cash flows.

4 The most common variant of the DCF model assumes that dividends are expected
5 to grow at a constant rate (the “constant growth” or “Gordon DCF model”). In this
6 framework, the ROE is derived from the following formula:

$$7 \qquad K = \frac{D}{P} + g$$

8 where: P = current price

9 D = current dividend rate

10 K = discount rate (cost of capital)

11 g = constant rate of expected growth

12 This formula essentially recognizes that the return expected or required by investors is
13 comprised of two factors: the dividend yield (current income) and expected growth in
14 dividends (future income).

15
16 **Q. Please explain how you employ the DCF model.**

17 A. I use the constant growth DCF model. In doing so, I combine the current dividend yield
18 for each of the proxy utility stocks described in the previous section with several
19 indicators of expected dividend growth.

20
21 **Q. How did you derive the dividend yield component of the DCF equation?**

22 A. Several methods can be used to calculate the dividend yield component. These methods
23 generally differ in the manner in which the dividend rate is employed (i.e., current versus

1 future dividends or annual versus quarterly compounding variant). I used a quarterly
2 version of the dividend yield, which is expressed as follows:

$$3 \quad Yield = \frac{D_0(1 + 0.5g)}{P_0}$$

4 This dividend yield component recognizes the timing of dividend payments and dividend
5 increases.

6 The P_0 in my yield calculation is the average of the high and low stock price for
7 each proxy company for the most recent three month period (July-September 2017). The
8 D_0 is the current annualized dividend rate for each proxy company.

9
10 **Q. How do you estimate the dividend growth component of the DCF equation?**

11 A. The DCF model's dividend growth rate component is usually the most crucial and
12 controversial element involved in using this methodology. The objective of estimating
13 the dividend growth component is to reflect the growth expected by investors that is
14 embodied in the price (and yield) of a company's stock. As such, it is important to
15 recognize that individual investors have different expectations and consider alternative
16 indicators in deriving their expectations. This is evidenced by the fact that every
17 investment decision resulting in the purchase of a particular stock is matched by another
18 investment decision to sell that stock.

19 A wide array of indicators exists for estimating investors' growth expectations.
20 As a result, it is evident that investors do not always use one single indicator of growth.
21 It therefore is necessary to consider alternative dividend growth indicators in deriving the
22 growth component of the DCF model. I have considered five indicators of growth in my
23 DCF analyses. These are:

- 1 1. Years 2012-2016 (5-year average) earnings retention, or fundamental growth;
- 2 2. Five-year average of historic growth in earnings per share (EPS), dividends
- 3 per share (DPS), and book value per share (BVPS);
- 4 3. Years 2017, 2018 and 2020-2022 projections of earnings retention growth
- 5 (per Value Line);
- 6 4. Years 2014-2016 to 2020-2022 projections of EPS, DPS, and BVPS (per
- 7 Value Line); and
- 8 5. Five-year projections of EPS growth (per First Call).

9 I believe this combination of growth indicators is a representative and appropriate set
10 with which to begin the process of estimating investor expectations of dividend growth
11 for the groups of proxy companies. I also believe that these growth indicators reflect the
12 types of information that investors consider in making their investment decisions. As I
13 indicated previously, investors have an array of information available to them, all of
14 which would be expected to have some impact on their decision-making process.

15
16 **Q. Please describe your DCF calculations.**

17 A. Exh. DCP-9 presents my DCF analysis. Page 1 shows the calculation of the “raw” (i.e.,
18 prior to adjustment for growth) dividend yield for each proxy company. Pages 2 and 3
19 show the growth rates for the groups of proxy companies. Page 4 shows the DCF
20 calculations, which are presented on several bases: mean, median, low and high values.

21 These results can be summarized as follows:

22
23
24

	<u>Mean</u>	<u>Median</u>	<u>Mean Low²⁸</u>	<u>Mean High²⁹</u>	<u>Median Low³⁰</u>	<u>Median High³¹</u>
Parcell Proxy Group	7.8%	7.6%	6.8%	8.7%	6.7%	8.7%
McKenzie Proxy Group	7.6%	7.6%	6.7%	8.4%	6.6%	8.4%

1 I note that the individual DCF calculations shown on Exh. DCP-9 should not be
2 interpreted to reflect the expected cost of capital for individual companies in the proxy
3 groups; rather, the individual values shown should be interpreted as alternative
4 information considered by investors.

5
6 **Q. What do you conclude from your DCF analyses?**

7 A. The DCF rates resulting from the analysis of the proxy groups fall into a wide range
8 between 6.6 percent and 8.7 percent. The highest DCF rates are 8.4 percent to 8.7
9 percent.

10 I believe a range of 8.4 percent to 8.7 percent (8.55 percent mid-point) represents
11 the current DCF-derived ROE for the proxy groups. This range includes the highest DCF
12 rates and exceeds the low and mean/median DCF rates.

13

14 **IX. CAPM ANALYSIS**

15

16 **Q. Please describe the theory and methodological basis of the CAPM.**

17 A. CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory
18 (MPT), which studies the relationships among risk, diversification, and expected returns.

²⁸ Using only the lowest average growth rate.

²⁹ Using only the highest average growth rate.

³⁰ Using the lowest median growth rate.

³¹ Using only the highest median growth rate.

1 The CAPM describes and measures the relationship between a security's investment risk
2 and its market rate of return.

3

4 **Q. How is the CAPM derived?**

5 A. The general form of the CAPM is:

$$6 \quad K = R_f + \beta(R_m - R_f)$$

7 where: K = cost of equity

8 R_f = risk free rate

9 R_m = return on market

10 β = beta

11 R_m-R_f = market risk premium

12 The CAPM is a variant of the RP method. I believe the CAPM is generally superior to
13 the simple RP method because the CAPM specifically recognizes the risk of a particular
14 company or industry (i.e., beta), whereas the simple RP method assumes the same ROE
15 for all companies exhibiting similar bond ratings or other characteristics.

16

17 **Q. What do you use for the risk-free rate?**

18 A. The first input of the CAPM is the risk-free rate (R_f). The risk-free rate reflects the level
19 of return that can be achieved without accepting any risk.

20 In CAPM applications, the risk-free rate is generally recognized by use of U.S.
21 Treasury securities. Two general types of U.S. Treasury securities are often utilized as
22 the R_f component, short-term U.S. Treasury bills and long-term U.S. Treasury bonds.

1 I have performed CAPM calculations using the three-month average yield (July-
2 September 2017) for 20-year U.S. Treasury bonds. I use the yields on long-term
3 Treasury bonds since this matches the long-term perspective of ROE analyses. Over this
4 three month period, these bonds had an average yield of 2.58 percent.

5
6 **Q. What is beta and what betas do you employ in your CAPM?**

7 A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation
8 to the overall market. Betas less than 1.0 are considered less risky than the market,
9 whereas betas greater than 1 are more risky. Utility stocks traditionally have had betas
10 below 1. I utilize the most recent Value Line betas for each company in the proxy
11 groups.

12
13 **Q. How do you estimate the market risk premium component?**

14 A. The market risk premium component ($R_m - R_f$) represents the investor-expected premium
15 of common stocks over the risk-free rate, or long-term government bonds. For the
16 purpose of estimating the market risk premium, I considered alternative measures of
17 returns of the S&P 500 (a broad-based group of large U.S. companies) and 20-year U.S.
18 Treasury bonds (i.e., same timeframe as employed in Duff & Phelps source used to
19 develop risk premiums).

20 First, I compared the actual annual returns on equity of the S&P 500 with the
21 actual annual income returns of U.S. Treasury bonds. Exh. DCP-10 shows the ROE for
22 the S&P 500 group for the period 1978-2016 (all available years reported by S&P). This
23 schedule also indicates the annual yields on 20-year U.S. Treasury bonds and the annual

1 differentials (i.e., risk premiums) between the S&P 500 and U.S. Treasury 20-year bonds.
2 Based upon these returns, I conclude that the risk premium from this analysis is 7.0
3 percent.

4 I next considered the total returns (i.e., dividends/interest plus capital
5 gains/losses) for the S&P 500 group as well as for long-term government bonds, as
6 tabulated by Duff & Phelps (formerly Morningstar/Ibbotson), using both arithmetic and
7 geometric means. I considered the total returns for the entire 1926-2016 period reported
8 by this source, which are as follows:

	<u>S&P 500</u>	<u>L-T Gov't Bonds</u>	<u>Risk Premium</u>
Arithmetic	12.0%	6.0%	6.0%
Geometric	10.0%	5.5%	4.5%

9
10 I conclude from this analysis that the expected risk premium is about 5.8 percent (i.e.,
11 average of all three risk premiums: 7.0 percent from Exh. DCP-10; 6.0 percent
12 arithmetic and 4.5 percent geometric from Duff & Phelps). I believe that a combination
13 of arithmetic and geometric means is appropriate since investors have access to both
14 types of means³² and presumably, both types are reflected in investment decisions and
15 thus, stock prices and the ROE.

16
17 **Q. What are your CAPM results?**

18 A. Exh. DCP-11 shows my CAPM calculations. The results are:

	<u>Mean</u>	<u>Median</u>
Parcell Proxy Group	6.9%	6.6%
McKenzie Proxy Group	6.7%	6.6%

19

³² For example, Value Line uses compound (i.e., geometric) growth rates in its projection. In addition, mutual funds report growth rates on a compound basis.

1 **Q. What is your conclusion concerning the CAPM ROE?**

2 A. The CAPM results collectively indicate a ROE of 6.6 percent to 6.9 percent for the
3 groups of proxy utilities. I conclude that an appropriate CAPM ROE estimation for
4 Avista is 6.6 percent to 6.9 percent.

5

6 **X. CE ANALYSIS**

7

8 **Q. Please describe the basis of the CE methodology.**

9 A. The CE method is derived from the “corresponding risk” concept discussed in the
10 *Bluefield* and *Hope* cases. This method is thus based upon the economic concept of
11 opportunity cost. As previously noted, the ROE is an opportunity cost: the prospective
12 return available to investors from alternative investments of similar risk.

13 The CE method is designed to measure the returns expected to be earned on the
14 original cost book value of similar risk enterprises. Thus, it provides a direct measure of
15 the fair return, since it translates into practice the competitive principle upon which
16 regulation rests.

17 The CE method normally examines the experienced and/or projected return on
18 book common equity. The logic for examining returns on book equity follows from the
19 use of original cost rate base regulation for public utilities, which uses a utility’s book
20 common equity to determine the cost of capital. This cost of capital is, in turn, used as
21 the fair rate of return which is then applied (multiplied) to the book value of rate base to
22 establish the dollar level of capital costs to be recovered by the utility. This technique is
23 thus consistent with the rate base – rate of return methodology used to set utility rates.

1 **Q. How do you apply the CE methodology in your analysis of Avista's ROE?**

2 A. I apply the CE methodology by examining realized ROEs for the groups of proxy
3 utilities, as well as unregulated companies, and evaluating investor acceptance of these
4 returns by reference to the resulting market-to-book ratios ("M/Bs"). In this manner it is
5 possible to assess the degree to which a given level of return equates to the COC. It is
6 generally recognized for utilities that an M/B of greater than one (i.e., 100 percent)
7 reflects a situation where a company is able to attract new equity capital without dilution
8 (i.e., above book value). As a result, one objective of a fair cost of equity is the
9 maintenance of stock prices at or above book value. There is no regulatory obligation to
10 set rates designed to maintain an M/B significantly above one.

11 I further note that my CE analysis is based upon market data (through the use of
12 M/Bs) and is thus essentially a market test. As a result, my CE analysis is not subject to
13 the criticisms occasionally made by some who maintain that past earned returns do not
14 represent the cost of capital. In addition, my CE analysis also uses prospective returns
15 and thus is not backward looking.

16
17 **Q. What time periods do you examine in your CE analysis?**

18 A. My CE analysis considers the experienced ROEs of the proxy groups of utilities for the
19 period 2002-2016 (i.e., the last 15 years). The CE analysis requires that I examine a
20 relatively long period of time in order to determine trends in earnings over at least a full
21 business cycle. Further, in estimating a fair level of return for a future period, it is
22 important to examine earnings over a diverse period of time in order to avoid any undue
23 influence from unusual or abnormal conditions that may occur in a single year or shorter

1 period. Therefore, in forming my judgment of the current cost of equity, I focused on
 2 two periods: 2009-2016 (the current business cycle) and 2002-2008 (the most recent
 3 business cycle). I have also considered projected ROEs for 2017, 2018 and 2020-2022.

4
 5 **Q. Please describe your CE analysis.**

6 A. Exh. DCP-12 and Exh. DCP-13 contain summaries of experienced ROEs and M/Bs for
 7 three groups of companies, while Exh. DCP-14 presents a risk comparison of utilities
 8 versus unregulated firms.

9 Exh. DCP-12 shows the ROEs and M/Bs for the groups of proxy utilities. These
 10 can be summarized as follows:

	Parcell Proxy Group	McKenzie Electric Group
Historic ROE		
Mean	9.2%	9.9-11.3%
Median	9.3-9.4%	9.3-10.4%
Historic M/B		
Mean	147%	156-170%
Median	144-148%	144-160%
Prospective ROE		
Mean	9.5-10.1%	9.6-10.4%
Median	9.5-10.0%	9.5-10.0%

11
 12 These results indicate that historic ROEs of 9.2 percent to 11.3 percent have been
 13 adequate to produce M/Bs of 144 percent to 170 percent for the groups of utilities.
 14 Furthermore, projected returns on equity for 2017, 2018 and 2020-2022 are within a
 15 range of 9.5 percent to 10.4 percent for the utility groups. These relate to 2016 M/Bs of
 16 170 percent or greater.

1 **Q. Do you also review the earnings of unregulated firms?**

2 A. Yes. As an alternative, I also examine the S&P's 500 Composite group. This is a well-
3 recognized group of firms that is widely utilized in the investment community and is
4 indicative of the competitive sector of the economy. Exh. DCP-13 presents the earned
5 ROEs and M/Bs for the S&P 500 group over the past fifteen years (i.e., 2002-2016). As
6 this schedule indicates, over the two business cycle periods, this group's average ROEs
7 ranged from 12.4 percent to 13.3 percent, with average M/Bs ranging between 233
8 percent and 275 percent.

9
10 **Q. How can the above information be used to estimate Avista's ROE?**

11 A. The recent ROEs of the proxy utilities and S&P 500 group can be viewed as an indication
12 of the level of return realized and expected in the regulated and competitive sectors of the
13 economy. In order to apply these returns to the ROE for the proxy utilities, however, it is
14 necessary to compare the risk levels of the utilities and the competitive companies. I do
15 this in Exh. DCP-14, which compares several risk indicators for the S&P 500 group and
16 the utility groups. The information in this exhibit indicates that the S&P 500 group is
17 more risky than the utility proxy groups.

18
19 **Q. What ROE is indicated by your CE analysis?**

20 A. Based on recent ROEs and M/Bs, my CE analysis indicates that the ROE for the proxy
21 utilities is no more than 9.0 percent to 10.0 percent (9.5 percent mid-point). Recent
22 ROEs of 9.2 percent to 11.3 percent have resulted in M/Bs of 144 percent and over.
23 Prospective ROEs of 9.5 percent to 10.4 percent have been accompanied by M/Bs over

1 170 percent. As a result, it is apparent that authorized returns below this level would
2 continue to result in M/Bs of well above 100 percent. As I indicated earlier, the fact that
3 M/Bs substantially exceed 100 percent indicates that historic and prospective ROEs of
4 9.5 percent reflect earning levels that are well above the actual cost of equity for those
5 regulated companies. I also note that a company whose stock sells above book value can
6 attract capital in a way that enhances the book value of existing stockholders, thus
7 creating a favorable environment for financial integrity. Finally, I note that my 9.0
8 percent to 10.0 percent CE recommendation generally reflects the actual and prospective
9 ROEs for the proxy groups. I have made no adjustments to these return levels to reflect
10 the high M/Bs.

11
12 **XI. RETURN ON EQUITY RECOMMENDATION**

13
14 **Q. Please summarize the results of your three ROE analyses.**

15 **A.** My three ROE analyses produced the following:

	<u>Mid-Point</u>	<u>Range</u>
DCF	8.55%	8.4-8.7%
CAPM	6.75%	6.6-6.9%
CE	9.5%	9.0-10.0%

16
17 These results indicate an overall broad range of 6.6 percent to 10.0 percent, which
18 focuses on the respective individual model results. Using mid-point values, the range is
19 6.75 percent to 9.50 percent. I recommend a ROE range of 8.70 percent to 9.50 percent
20 for Avista (mid-point of 9.10 percent). This range includes the upper end of my DCF
21 results and the mid-point of my CE results. My specific ROE recommendation is 9.10
22 percent.

1 **Q. It appears that your CAPM results are less than your DCF and CE results. Does**
2 **this imply that the CAPM results should not be considered in determining the cost**
3 **of equity for Avista?**

4 A. No. It is apparent that the CAPM results are less than the DCF and CE results. There are
5 two reasons for the lower CAPM results. First, risk premiums are lower currently than
6 was the case in prior years. This is the result of lower equity returns that have been
7 experienced over the past several years. This is also reflective of a decline in investor
8 expectations of equity returns and risk premiums. Second, the level of interest rates on
9 U.S. Treasury bonds (i.e., the risk free rate) has been lower in recent years. This is
10 partially the result of the actions of the Federal Reserve System to stimulate the economy.
11 This also impacts investor expectations of returns in a negative fashion. I note that,
12 initially, investors may have believed that the decline in Treasury yields was a temporary
13 factor that would soon be replaced by a rise in interest rates. However, this has not been
14 the case as interest rates have remained low and continued to decline for the past six-plus
15 years. As a result, it cannot be maintained that low interest rates (and low CAPM results)
16 are temporary and do not reflect investor expectations. Consequently, the CAPM results
17 should be considered as one factor in determining the cost of equity for Avista.

18

19 **XII. TOTAL COST OF CAPITAL**

20

21 **Q. What is the total COC for Avista?**

22 A. Exh. DCP-3 reflects the total COC for Avista using my proposed capital structure and
23 embedded costs of debt, as well as my ROE recommendations. The resulting COC is a

1 range of 7.01 percent to 7.39 percent. With my 9.10 percent ROE, my COC
2 recommendation is 7.20 percent.

3
4 **Q. Avista is requesting a three-year rate plan as part of its filings. Do your ROE and**
5 **COC recommendations apply to all years of this rate plan?**

6 A. Yes, they do. I note, in this regard, that the proposed capital structure matches Avista's
7 recent capital structures, and so my COC recommendations reflect an "on-going" capital
8 structure. The costs of debt, as proposed by Staff and utilized by me, reflect 2018 figures
9 and I am not aware of any significant proposed new issues that would impact the 2018
10 cost of debt. Finally, my ROE recommendation is based on financial models which are
11 forward-looking and thus reflect an on-going perspective.

12
13 **XIII. COMMENTS ON COMPANY TESTIMONY**

14
15 **Q. What ROE is Avista requesting in this proceeding?**

16 A. Avista is requesting a 9.90 percent ROE for both its electric and natural gas operations.
17 This 9.90 percent ROE is sponsored by Avista's cost of capital witness Adrien M.
18 McKenzie.³³

19
20 **Q. What is the basis of Mr. McKenzie's 9.90 percent ROE recommendation?**

21 A. Mr. McKenzie's ROE analyses are summarized on page 4 of Exh. AMM-1T as well as
22 on Exh. AMM-4. These are shown as follows:

³³ McKenzie, Exh. AMM-1T at 5:7-21.

	<u>Average</u>	<u>Midpoint</u>
<u>DCF</u>		
Value Line	9.2%	10.1%
IBES	9.3%	10.3%
Zacks	9.2%	9.7%
S&P Capital/IQ	9.1%	9.5%
Internal br + sv	8.0%	8.2%
<u>CAPM</u>		
Historical Bond Yield	9.9%	9.9%
Projected Bond Yield	10.2%	10.3%
<u>Empirical CAPM</u>		
Historical Bond Yield	10.5%	10.5%
Projected Bond Yield	10.7%	10.8%
<u>Utility Risk Premium</u>		
Historical Bond Yield		10.1%
Projected Bond Yield		10.9%
<u>Expected Earnings</u>		
Industry		10.7%
Proxy Group	10.3%	11.1%
<u>Cost of Equity Recommendation</u>		
Cost of Equity Range	9.5%	10.7%
<u>Flotation Cost Adjustment</u>		
Flotation Cost Percentage Adjustment		0.10%
<u>ROE Recommendation</u>		
	9.96%	10.8%

1 **Q. Do you have any general comments on Mr. McKenzie’s methodologies and**
2 **conclusions?**

3 A. Yes. Each of Mr. McKenzie’s methodologies is biased in a way that overstates the
4 current and prospective ROE for his Electric Group and for Avista. I address each of his
5 methodologies and conclusions below.

6
7 **Q. Mr. McKenzie claims, on page 18, that “[i]nvestors continue to anticipate that**
8 **interest rates will increase significantly from present levels.” What is your response**
9 **to this assertion?**

10 A. I disagree with Mr. McKenzie. I note that this is a crucial and underlying component of
11 Mr. McKenzie’s testimony and conclusions.

1 There is no consensus that interest rates on long-term debt will increase
2 significantly.

3
4 **Q. Have long-term utility bond yields risen in recent months in conjunction with the**
5 **expectation and eventual raising of short-term interest rates by the Federal**
6 **Reserve?**

7 A. No, they have not. The table below depicts the trends in long-term utility Baa bond
8 yields over the latter months of 2016 and first quarter of 2017 (i.e., the time frame prior
9 to the filing of Mr. McKenzie’s testimony), as well as the second and third quarters of
10 2017 (i.e., the time frame subsequent to the filing of Mr. McKenzie’s testimony):

<u>Month</u>	<u>Baa-Rated Utility Bonds</u>
Sept. 2016	4.27%
Oct. 2016	4.34%
Nov. 2016	4.64%
Dec. 2016	4.79%
Jan. 2017	4.62%
Feb. 2017	4.58%
Mar. 2017	4.62%
Apr. 2017	4.51%
May 2017	4.50%
June 2017	4.32%
July 2017	4.36%
Aug. 2017	4.23%
Sept. 2017	4.24%

11
12 This shows virtually no increase in Baa-rated utility bond yields since September of
13 2016. They have declined since December, the month the Federal Reserve started its
14 most recent three-phase increase in short-term rates, and they have fallen since April
15 2017, the latest date of data in Mr. McKenzie’s analyses. This invalidates Mr.
16 McKenzie’s prediction of significantly increasing long-term interest rates.

1 **Q. Please summarize Mr. McKenzie's DCF methodology and describe how he over-**
2 **states the ROE in his methodology and interpretation of DCF results.**

3 A. Mr. McKenzie calculates DCF results for his group of 18 proxy electric utilities by
4 combining each proxy company's dividend yield (for last 30 trading days as of April 28,
5 2017) with five sets of growth rates, three of which are forecasts of EPS.³⁴

6 I do not have any serious disagreements with Mr. McKenzie's yield calculation.
7 His use of 30 trading days, which usually amounts to about 40 calendar days, is a
8 somewhat shorter date than the three months I use in my DCF yield calculations, but our
9 respective calculations are not materially different due to this difference. My DCF
10 calculations are, of course, more current than his due to the sequence of our respective
11 filings in this proceeding.

12 Mr. McKenzie considers five sets of growth rates in his DCF analyses:³⁵

- 13 1. Value Line EPS estimates
- 14 2. IBES EPS Estimates
- 15 3. Zack's EPS Estimates
- 16 4. S&P Capital IQ
- 17 5. br + sv growth

18 Mr. McKenzie calculates individual DCF results for each proxy company with
19 each of the five growth rates, then calculates average and midpoint values for the proxy
20 group using each of the five growth rates. The respective results are:³⁶

³⁴ McKenzie, Exh. AMM-6.

³⁵ McKenzie, Exh. AMM-6 at 2.

³⁶ McKenzie, Exh. AMM-6 at 3.

<u>Growth Rate</u>	<u>Average</u>	<u>Midpoint</u>
Value Line EPS	9.2%	10.1%
IBES EPS	9.3%	10.3%
Zacks EPS	9.2%	9.7%
S&P Capital IQ	9.1%	9.5%
br + sv	8.0%	8.2%

1 I note that these conclusions do not reflect all of Mr. McKenzie’s individual DCF
2 calculations as he eliminates those below a “threshold” of 4.1 percent to 6.9 percent
3 (“illogical values”).³⁷ As justification for this “threshold,” he cites the Federal Energy
4 Regulatory Commission’s (“FERC”) “100 basis-point premium to the historical and
5 projected average utility bond yields. . . .”³⁸

6
7 **Q. Do you agree with Mr. McKenzie’s implied interpretation and use of the so-called**
8 **“FERC low-end threshold?”**

9 A. No. Mr. McKenzie has mischaracterized the actual process that FERC uses to eliminate
10 “low-end outliers.” What FERC actually does is eliminate individual DCF results that
11 are less than 100 basis points greater than actual historical yields on utility debt. FERC
12 does not apply the threshold to “projected” utility bond yields.³⁹

13 During the six-month period (i.e., October 2016-March 2017) prior to Mr.
14 McKenzie’s DCF analyses (a six-month time period is used by FERC), the average yield
15 on Baa utility bonds was 4.60 percent (as shown on Exh. DCP-2, Schedule 2, page 2).
16 This implies a low-end threshold of 5.60 percent. The average for the most current six-

³⁷ McKenzie, Exh. AMM-1T at 32:12-14.

³⁸ *Id.* at Exh. AMM-3 at 18:8-9.

³⁹ *Martha Coakley, Mass. Attorney Gen. v. Bangor Hydro-Elec. Co.*, 147 FERC ¶ 61,234, ¶¶ 122-123 (Order on Initial Decision) (2014) *vacated and remanded on other grounds Maine v. Fed. Energy Regulatory Comm’n*, 854 F.3d 9, 30 (D.C. Cir. 2017).

1 month period (April-September, 2017) was 4.36 percent, which implies a low-end
2 threshold of 5.36 percent.

3
4 **Q. Have you updated and corrected Mr. McKenzie's DCF analyses?**

5 A. Yes. Exh. DCP-15 updates and corrects Mr. McKenzie's DCF analyses using the
6 following data and methodologies:

7 Yield – current DPS and average stock prices for July-September 2017

8 Growth-

9 Most current Value Line EPS for each proxy company

10 Most current IBES EPS as of October 1, 2017

11 Most current Zacks EPS as of October 1, 2017

12 S&P Capital IQ (not updated)

13 br + sv (not updated)

14 Low-end outliers – individual DCF results less than 5.6 percent not included in
15 averages

16 As is shown on Exh. DCP-15, the updated and corrected DCF results are as

17 follows:

18

<u>Growth Rate</u>	<u>Average</u>	<u>Midpoint</u>	<u>Median</u>
Value Line EPS	9.1%	9.3%	9.1%
IBES EPS	8.7%	9.6%	8.3%
Zacks EPS	8.9%	9.3%	9.0%
S&P Capital IQ ⁴⁰	8.7%	9.0%	8.6%
br + sv ⁴¹	7.4%	7.7%	7.2%

⁴⁰ Using S&P Capital IQ, as shown on McKenzie, Exh. AMM-6.

⁴¹ Using br + sv Growth, as shown on McKenzie, Exh. AMM-6.

1 These DCF results are seen to be more-in-line with my DCF results (i.e., 8.4 percent to
2 8.7 percent).

3
4 **Q. What is your response to Mr. McKenzie’s CAPM analyses and conclusions?**

5 A. Mr. McKenzie performs four sets of CAPM analyses:⁴²

- 6 1. Traditional (CAPM) with current bond yields
- 7 2. Traditional (CAPM) with projected bond yields
- 8 3. Empirical (ECAPM) with current bond yields
- 9 4. Empirical (ECAPM) with projected bond yields

10
11 **Q. What are your disagreements with these various CAPM methodologies and
12 conclusions?**

13 A. Each of Mr. McKenzie’s CAPM methodologies over-states the cost of equity for his
14 proxy groups and Avista. Mr. McKenzie’s methodologies contain the following
15 problems:

- 16 • Mr. McKenzie over-states the proper risk premium component in both his
17 CAPM and ECAPM
- 18 • Mr. McKenzie is incorrect in using projected interest rates as the risk-free rate;
19 and
- 20 • Mr. McKenzie is incorrect in making a “size adjustment” to his CAPM and
21 ECAPM

22

⁴² McKenzie, Exh. AMM-8 and Exh. AMM-9.

1 **Q. Please summarize Mr. McKenzie's risk premium components.**

2 A. Mr. McKenzie calculates two sets of risk premiums. These two risk premiums are
3 developed as follows. The "market return" (Rm) component of both risk premiums is an
4 11.6 percent DCF cost of equity for the dividend-paying companies of the S&P 500. The
5 "current bond yield" risk premium subtracts from this 11.6 percent Rm the 2.9 percent
6 average yield on 30-year U.S. Treasury bonds to derive an 8.7 percent risk premium.⁴³ In
7 turn, the "projected bond yield" risk premium subtracts from this 11.6 percent Rm the 4.1
8 percent forecast yield on 30-year U.S. Treasury bonds to derive a 7.5 percent risk
9 premium.⁴⁴

10

11 **Q. Do you have any criticisms of Mr. McKenzie's CAPM Market Risk Premium**
12 **components?**

13 A. Yes. My initial disagreement is with Mr. McKenzie's 8.7 percent and 7.5 percent market
14 risk premium estimations. There are several problems with his methodology employed to
15 develop this market risk premium.

16 Mr. McKenzie's CAPM risk premium is derived from his development of a DCF
17 cost for the dividend-paying stocks in the S&P 500 using only 5-year EPS growth
18 projections as the growth component.⁴⁵ It is not appropriate to rely exclusively on
19 analysts' short-term EPS growth projections in a DCF analysis.

⁴³ McKenzie, Exh. AMM-8, page 1.

⁴⁴ McKenzie, Exh. AMM-8 at 2.

⁴⁵ McKenzie, Exh. AMM-8 at 1-2.

1 **Q. Please explain why it is not appropriate to rely exclusively on EPS growth forecasts**
2 **in a DCF context.**

3 A. There are several reasons why it is not appropriate to rely exclusively on analysts' short-
4 term EPS growth forecasts in a DCF context. First, it is not realistic to believe that
5 investors rely exclusively on a single factor, such as analysts' forecasts, in making their
6 investment decisions. Investors have an abundance of available information to assist
7 them in evaluating stocks; EPS forecasts are only one of many such statistics.

8 Second, Value Line – one of Mr. McKenzie's sources of EPS projections –
9 publishes both historic and forecasted data, as well as ratios, for a large number of
10 publicly-traded companies. Presumably, both types of information are published for the
11 consideration of its subscribers/investors. Yet Mr. McKenzie considers only one factor,
12 the forecast version of EPS, in his analyses.

13 Third, the vast majority of information available to investors, by both individual
14 companies in the form of annual reports and offering circulars, and by investment
15 publications such as Value Line, is historic data. It is neither realistic nor logical to
16 maintain that investors only consider projected (estimated) data to the exclusion of other
17 data.

18 Fourth, the experience over the past several years should be a clear signal to
19 investors that analysts cannot accurately predict EPS levels. Few, if any, analysts
20 predicted the decline in security prices in the financial crisis of 2008 and 2009.⁴⁶ Thus,

⁴⁶ As demonstration of this, see "Security Analysts and their Recommendations",
(<http://thismatter.com/money/stocks/valuation/security-analysts.htm>).

1 relying only on forecasted EPS levels, while ignoring other growth indicators, cannot and
2 will not produce accurate results.

3 In summary, investors are now very much aware of recent inabilities of security
4 analysts to accurately predict EPS growth. These problems clearly call into question the
5 exclusive reliance on analysts' forecasts as the only source of growth in a DCF context.
6 As a result, the landscape has changed in recent years and investors have ample reasons
7 to doubt the exclusive reliability of such forecasts at the present time. In light of the
8 above, it is problematic to rely exclusively on such forecasts in determining the DCF
9 result for Mr. McKenzie's portfolio of S&P 500 stocks.

10
11 **Q. Are you aware of any recent analyses and comments on the accuracy of analysts'**
12 **forecasts?**

13 A. Yes, I am. A 2010 study by McKinsey & Company, titled, "Equity Analysts: Still Too
14 Bullish" concludes that "after almost a decade of stricter regulation, analysts' earnings
15 forecasts continue to be excessively optimistic."⁴⁷ The significance of this study, as well
16 as the points I raised previously, is that investors should be hesitant to rely exclusively on
17 analysts' forecasts in making investment decisions.

18

⁴⁷ McKinsey on Finance, "Equity Analysts: Still Too Bullish", No. 35, Spring 2010.

1 **Q. Has the United States Securities and Exchange Commission issued any reports that**
2 **address the exclusive reliance on analysts' recommendations?**

3 A. Yes. In a 2010 "Investor Alert: Analyzing Analyst Recommendations" the Securities
4 and Exchange Commission ("SEC") made the following statement:⁴⁸

5 As a general matter, investors should not rely solely on an analyst's
6 recommendation when deciding whether to buy, hold, or sell a stock.
7 Instead, they should also do their own research – such as reading the
8 prospectus for new companies or for public companies, the quarterly and
9 annual reports filed with the SEC – to confirm whether a particular
10 investment is appropriate for them in light of their individual financial
11 circumstances.

12
13 This SEC "Investor Alert" also cites the potential conflicts of interests that analyst face.

14 This "Investor Alert" thus also calls into question the exclusive reliance on analysts'
15 forecasts, as proposed by Mr. McKenzie.

16
17 **Q. What is the next issue you have identified with Mr. McKenzie's CAPM analyses?**

18 A. Mr. McKenzie claims that recent and current levels of U.S. Treasury bonds are not
19 reflective of "representative" market yields.⁴⁹ If this is the case, use of such non-
20 representative market yields should not be used to estimate the market risk premium in a
21 CAPM context. Such a methodology results in a higher risk premium, since the "below
22 normal" interest rates subtracted from the market return produces a higher risk premium.
23 It is illogical and improper to claim that current interest rate levels are not reflective of
24 "market" forces and then use these same interest rate levels to derive a risk premium. If,
25 as Mr. McKenzie claims, current and recent interest rate levels are not reflective of actual

⁴⁸ United States Securities and Exchange Commission "Investor Alert: Analyzing Analysts Recommendations", 2010.

⁴⁹ McKenzie, Exh. AMM-1T at 20:8-9.

1 capital market conditions, their use in a risk premium derivation would not reflect a
2 realistic going-forward risk premium under more “representative” capital market
3 conditions.

4 In addition, one of Mr. McKenzie’s risk-free rates is a projected interest rate.

5
6 **Q. Why is it not proper to use projected interest rates as the risk-free rate in a CAPM?**

7 A. It is improper to use prospective interest rates, because they are not measurable and not
8 achievable. For example, if the current yield on 20-year U.S. Treasury Bonds is about
9 2.5 percent, this reflects the rate that investors can actually receive on their investment.
10 Investors cannot receive a prospective yield on their investments since such a yield is not
11 actual but rather speculative. It is instead proper to use the current yield as the risk-free
12 rate in a CAPM context. This is the case since the current yield is known and measurable
13 and reflects investors’ collective assessment of all capital market conditions.

14 Use of the current risk-free rate in a CAPM context is similar to using the current
15 yield in a DCF context. Analysts do not use prospective stock prices as the basis for the
16 dividend yield in a DCF analysis, as use of prospective stock prices is speculative. Use
17 of current stock prices is appropriate, as are used by Mr. McKenzie. Likewise, current
18 levels of interest rates reflect all current information (i.e., the efficient market hypothesis)
19 and should be used as the risk-free rate in the CAPM.

20
21 **Q. Please turn to the third problem with Mr. McKenzie’s CAPM methodology.**

22 A. Mr. McKenzie adds a “size” premium to his CAPM results for each of his Electric Group
23 companies. Mr. McKenzie maintains that there is justification for making a small-firm

1 risk adjustment that results in a higher cost of capital for small firms. His proposed size
2 adjustment varies among the proxy companies with individual values up to 1.72
3 percent.⁵⁰ Such an adjustment is improper and results in an overstatement of the ROE for
4 the proxy electric utilities.

5 There are compelling reasons why a small size adjustment is not proper for
6 regulated utilities. Mr. McKenzie's proposed size adjustment is based upon his reference
7 to the previously-cited Duff & Phelps (formerly Morningstar/Ibbotson) studies.

8 However, the small size adjustment in the Duff & Phelps studies is based on the analysis
9 of all stocks, the majority of which are unregulated and include industries that are much
10 more risky than utilities. While it may or may not be true that on an overall market basis,
11 smaller publicly-traded firms exhibit more risk than larger firms, these smaller companies
12 tend to be engaged in riskier businesses as a whole than do larger businesses. Such is not
13 the case for regulated utilities.

14 Indeed, an academic study conducted by Professor Annie Wong found that:

15 [U]tility and industrial stocks do not share the same characteristics. First,
16 given firm size, utility stocks are consistently less risky than industrial
17 stocks. Second, industrial betas tend to decrease with firm size but utility
18 betas do not. These findings may be attributed to the fact that all public
19 utilities operate in an environment with regional monopolistic power than
20 regulated financial structure. As a result, the business and financial risks
21 are very similar among the utilities regardless of their sizes. Therefore,
22 utility betas would not necessarily be expected to be related to firm size.

23 . . .

24
25
26 This implies that although the price phenomenon has been strongly
27 documented for the industrials, the findings suggest that there is no need
28 to adjust for the firm size in utility rate regulation.⁵¹

⁵⁰ McKenzie, Exh. AMM-8 and Exh. AMM-9.

⁵¹ Wong, Annie, "Utility Stocks And The Size Effect: An Empirical Analysis", Journal of the Midwest Finance Association, 1993, pp. 95-101.

1 **Q. Can you provide any evidence that “size” or “business risk” adjustments are not**
2 **generally recognized as risk factors in regulatory proceedings such as this one?**

3 A. Yes, I can. The following table reflects the average size (as measured by net plant) and
4 currently authorized returns on equity or various types of regulated utilities:

<u>Industry</u>	<u>Average Net Plant (000)</u>	<u>Average Authorized ROE⁵²</u>
Electric Combination	\$20,235	10.33%
Electric-Gas	\$20,564	10.24%
Natural Gas	\$2,918	9.49%
Water	\$2,760	9.65%

Source: AUS Utility Reports, September 2016.

5
6 As shown here the smallest utilities have the lowest authorized ROEs (i.e., smallest types
7 of utilities, as measured by Net Plant, have lowest authorized ROEs).

8
9 **Q. Can you provide any direct comparisons of electric utilities that demonstrates that**
10 **smaller utilities are not more risky than larger ones?**

11 A. Yes. Implicit in Mr. McKenzie’s proposal is an assumption that any perceived small size
12 risk adjustment for unregulated companies (*i.e.*, source of information cited in the Duff &
13 Phelps source Mr. McKenzie relies on for his small size adjustment) applies to regulated
14 public utilities. Exh. DCP-16 demonstrates objectively that this is not the case. As this
15 exhibit shows, there is no significant difference and there is no discernible pattern of
16 increase among the risk indicators of publicly-traded electric utilities of different sizes.
17 The table below summarizes the information contained in this exhibit.

⁵² Authorized ROEs reflect currently-authorized levels, which may not be recently determined.

Cap Size	Safety	Beta	Financial Strength	S&P Rank	S&P Rating	Moody's Rating
Under \$3 B	2.3	.73	B++	A-/B+	BBB+/BBB	A3/Baa1
\$3-\$5 B	2.0	.76	A	A-/B+	BBB	Baa1
\$5-\$10 B	2.0	.74	A/B++	A-/B++	BBB+	Baa1/Baa2
\$10-\$15 B	2.7	.70	B++/B+	B	B++	Baa1/Baa2
\$15-\$25 B	1.3	.61	A	A-	A-	Baa1
\$25 B Plus	2.1	.68	B++	B+	B++	Baa1/Baa2

1 The safety rank, beta values, financial strength, S&P stock rankings and
2 Moody's/S&P bond ratings are about the same for all sizes of electric utilities. These risk
3 indicators do not reflect any risk differential as the size of the electric utilities decrease
4 from large to small. To the contrary, this data indicates that regulated monopoly utility
5 providers have approximately the same risk regardless of size. As a result, the logic Mr.
6 McKenzie uses to justify his proposed small size adjustment is not justified.

7

8 **Q. Why is it improper to use an ECAPM for a utility such as Avista?**

9 A. The ECAPM is improper to use for Avista because it “adjusts” each proxy company’s
10 actual beta by assigning only 75 percent weight to the actual beta and “assumes” a beta of
11 1.0 with the remaining 25 percent weight. As a result, the ECAPM does not use the
12 actual betas of the proxy companies, but rather calculates hypothetical betas that are
13 upward biased due to the fact that electric utility betas are below 1.0. In contrast, the
14 traditional CAPM directly recognizes and quantifies the risk of individual companies
15 through the use of the beta coefficient. As such, each proxy company’s risk and beta is
16 identified and used in the calculation of its CAPM ROE.

17

1 **Q. Please summarize Mr. McKenzie’s electric utility risk premium approach.**

2 A. Mr. McKenzie’s risk premium approach compares authorized ROEs for electric utilities
3 (between 1974 and 2016) with yields on public utility bonds. He then performs a
4 regression analysis to account for his perception of the inverse relationship between
5 interest rates and risk premiums.⁵³ He concludes that the current risk premium is 5.46
6 percent, which he adds to the current yield on Baa utility bonds (4.60 percent) to get a
7 10.06 percent risk premium. He also combines the projected utility bond yield (6.12
8 percent) with a 4.81 percent risk premium to get his prospective risk premium
9 conclusions to 10.93 percent.⁵⁴

10

11 **Q. What are your primary disagreements with this approach and Mr. McKenzie’s**
12 **conclusions?**

13 A. There are several problems with Mr. McKenzie’s risk premium analyses, all of which
14 have the effect of overstating the ROE for the proxy companies and Avista. First, the
15 highest risk premium values over this period occurred in 2011-2016.⁵⁵ This corresponds
16 to the period which Mr. McKenzie describes bond yields as “not representative.”⁵⁶ Thus,
17 Mr. McKenzie’s recent above-average risk premiums are driven by “not representative”
18 interest rates. He cannot have it both ways – if recent interest rates are not representative,
19 they cannot be used as a standard for establishing Avista’s ROE.

20 Second, it is not proper to compare utility authorized ROEs in the 1970’s and
21 1980’s with the current time. Current ROE’s reflect a suite of favorable regulatory

⁵³ McKenzie, Exh. AMM-10, page 4.

⁵⁴ McKenzie, Exh. AMM-10, pages 1 and 2.

⁵⁵ McKenzie, Exh. AMM-10, page 3.

⁵⁶ McKenzie, Exh. AMM-1T at 20:8-9.

1 mechanisms that greatly enhance utilities' ability to recover costs, which is risk-reducing
2 and thus warrants low ROEs.⁵⁷

3
4 **Q. Please now turn to Mr. McKenzie's Expected Earnings Approach. Please**
5 **summarize his use of this methodology and his conclusions.**

6 A. Mr. McKenzie's Expected Earnings Approach is a form of the comparable earnings
7 methodology. Mr. McKenzie has tabulated Value Line's "expected" return on equity for
8 his proxy group of companies, which he "adjusts" for a return on average equity (as
9 opposed to Value Line's reporting on year-end equity).

10 Mr. McKenzie's tabulation shows an "Adjusted Return on Common Equity" of
11 5.5 percent to 19.6 percent (10.3 percent average and 11.1 percent mid-point).⁵⁸ He
12 concludes that 10.3 percent to 11.1 percent is the Expected Earnings Approach findings.⁵⁹

13
14 **Q. Do you have any criticisms of Mr. McKenzie's Expected Earnings Approach and**
15 **related conclusions?**

16 A. It is inappropriate to focus only on expected ROE without any reference to how such
17 returns are accepted by investors. A more appropriate analysis of expected returns on
18 equity is done in conjunction with M/Bs. I reviewed Mr. McKenzie's Expected
19 Earnings Approach by evaluating the investor acceptance of these cited ROEs by
20 reference to the corresponding M/Bs. In this manner, it is possible to assess the degree to
21 which a given level of ROE equates to the cost of capital. Book value is a relevant

⁵⁷ See, for example, Moody's Investors Service, Sector Comments, "US Utility Sector Upgrades Driven by Stable and Transparent Regulatory Frameworks", February 3, 2014.

⁵⁸ McKenzie, Exh. AMM-11.

⁵⁹ McKenzie, Exh. AMM-1T at 36:1-3.

1 concept for regulated utilities due to the use of rate base – rate of return regulation, which
2 employs book value for both rate base and capital structure. Investors know that utility
3 rates are established based, in part, on book values. Exh. DCP-12 shows the 2016 M/Bs
4 of the proxy companies. These are above 170 percent, which indicates that the ROEs are
5 expected to exceed the cost of capital.

6 Third, it is evident that the expected ROEs for the proxy companies which are
7 mostly holding companies are substantially higher than the authorized ROEs for electric
8 utilities (cited elsewhere in my testimony).

9 Mr. McKenzie’s “Expected Earnings Approach” is thus shown to also overstate
10 the ROE for electric utilities. Mr. McKenzie’s use of expected ROEs for the proxy
11 companies, without reference or corroboration with either M/Bs or the levels of
12 authorized ROEs, does not provide useful information concerning the ROE for Avista.

13
14 **Q. Mr. McKenzie also performs DCF analyses unregulated firms. Is this proper?**

15 A. No. I disagree with his use of unregulated firms as a proxy group for Avista. It is not
16 proper to use non-regulated firms in the manner Mr. McKenzie proposes. This is the case
17 since unregulated enterprises face different risk and operational characteristics than do
18 utilities.

19
20 **Q. Does this conclude your testimony?**

21 A. Yes, it does.