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2004 JUL 12 AM 10: 37

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PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION)
OF AVISTA CORPORATION FOR THE)
AUTHORITY TO INCREASE ITS RATES)
AND CHARGES FOR ELECTRIC AND)
NATURAL GAS SERVICE TO ELECTRIC AND)
NATURAL GAS CUSTOMERS IN THE STATE)
OF IDAHO)
_____)

) CASE NO. AVU-E-04-01
) CASE NO. AVU-G-04-01

) REBUTTAL TESTIMONY
) OF
) WILLIAM E. AVERA

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

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I. INTRODUCTION

Q. Please state your name and business address.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. Are you the same William E. Avera that previously submitted direct testimony in this case?

A. Yes, I am.

Q. What is the purpose of your rebuttal?

A. The purpose of my testimony is to respond to the direct testimony of Ms. Terri Carlock, submitted on behalf of the staff of the Idaho Public Utilities Commission ("IPUC"). In addition, I will also rebut the recommendations contained in the direct testimony of Dr. Dennis E. Peseau and Mr. John S. Thornton, Jr., on behalf of Potlatch Corporation, concerning the cost of equity for the jurisdictional utility operations of Avista Corporation. ("Avista").

Q. Please summarize the conclusions of your testimony.

A. With respect to the testimony of Ms. Carlock, I concluded that her recommendations were biased downward because of her failure to consider the results of other accepted methods of estimating the cost of equity. Additionally, Ms. Carlock's assessment of relative risks focused exclusively on Avista's relatively low rates, while ignoring the substantial uncertainties and higher investment risks that investors must bear to provide the benefits of lower electricity costs to Avista's customers. Finally, her flotation cost adjustment understates the costs necessary to raise the equity capital invested in Avista's jurisdictional utility operations in Idaho. At a minimum, considering the results of risk premium approaches, investors' risk perceptions, and correcting Ms. Carlock's flotation

1 adjustment would support a rate of return at the very top of the range of her results, or 11.3
2 percent.

3 Meanwhile, Dr. Peseau did not conduct any independent analyses of the cost of equity
4 to Avista. Instead, his recommendations were based entirely on flawed “updates” and
5 “revisions” to my analyses, which should be rejected in their entirety. Similarly, Mr.
6 Thornton’s recommended 8.5 percent cost of equity is woefully inadequate and, by any
7 reasonable benchmark, falls well short of investors’ required rate of return from an electric
8 utility, especially considering Avista’s unique risks and weakened credit standing. Mr.
9 Thornton’s recommendations do not pass the financial end-result test fundamental to
10 regulation and would preclude Avista from restoring its financial integrity and attracting
11 capital on reasonable terms.

12 **Q. Would you please summarize the principal shortcomings in the testimony**
13 **of Ms. Carlock, Dr. Peseau, and Mr. Thornton that you address in rebuttal?**

14 A. Yes. The major issues addressed in my rebuttal testimony are as follows:

15 **Ms. Carlock**

- 16 • While the risks premium approach is widely recognized as a meaningful approach
17 to estimate the cost of equity, Ms. Carlock did not use this method;
- 18 • No methodology provides a foolproof guide to investors’ required rate of return,
19 and it is important to consider alternative approaches and evaluate the results of
20 accepted methods;
- 21 • The results of risk premium analyses are consistent with a rate of return at the top
22 of Ms. Carlock’s discounted cash flow (“DCF”) and comparable earnings ranges;
- 23 • Ms. Carlock’s recommendation does not fully reflect the investment risks
24 associated with Avista’s weakened credit profile and exposure to market
25 uncertainties;
- 26 • The pre-tax coverage ratio implied by Ms. Carlock’s recommendation is only
27 marginally above the minimum benchmark for a triple-B bond rating;
- 28 • Ms. Carlock’s flotation cost adjustment is biased downward and she failed to
29 adjust the results of her comparable earnings approach to incorporate issuance

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costs.

Dr. Peseau

- Dr. Peseau performed no independent analyses of the cost of equity;
- His decision to “update” my DCF analysis by ignoring historical growth trends is unsupported and contradicts the advice and conclusions of his own sources;
- In contrast to Dr. Peseau’s allegations, there are no inconsistencies in my risk premium analyses and his use of single-A bond yields as a benchmark for Avista’s investment risks understates investors’ required return;
- Dr. Peseau did not update my application of the capital asset pricing model (“CAPM”); instead, he substituted a market risk premium that does not reflect expectations in today’s capital markets; and,
- Dr. Peseau ignored Avista’s greater investment risks and the need to adjust the cost of equity to account for flotation costs.

Mr. Thornton

- The extreme downward bias of Mr. Thornton’s recommended cost of equity is illustrated when compared against the returns on equity authorized by regulators, including the IPUC;
- Mr. Thornton’s recommendations are divorced from the requirements of real-world capital markets and the inputs to his analyses do not reflect the expectations of investors;
- Mr. Thornton’s criticisms of my analyses lack any reasonable basis, as does his rejection of arithmetic mean returns and long-term bond yields in applying the CAPM;
- Like Dr. Peseau, Mr. Thornton ignored Avista’s greater investment risks and the need to adjust the cost of equity to account for flotation costs; and,
- Correcting Mr. Thornton’s flawed calculations results in a coverage ratio that falls below the minimum guidelines for an investment grade rating and demonstrate that his recommendations would not allow Avista the opportunity to maintain its financial integrity.

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II. TERRI CARLOCK

Q. First, does the capital structure proposed by Ms. Carlock provide a reasonable basis on which to calculate an overall rate of return for Avista?

A. Yes. Ms. Carlock recommended a capital structure composed of 50.08 percent long-term debt, 5.57 percent trust preferred securities, 1.76 percent preferred stock, and 42.59 percent common equity based on Avista's actual capitalization at December 31, 2003. As discussed in my direct testimony, the average capitalization for the firms in my comparable group was composed of 44.7 percent common equity. Meanwhile, revised financial guideline ratios published by Standard & Poor's Corporation ("S&P") imply a total equity ratio in the range of 42 to 52 percent for Avista to qualify for a triple-B rating.¹ Accordingly, I concluded that the capital structure used by Ms. Carlock is in-line with industry standards.

Q. How did Ms. Carlock arrive at her 10.4 percent cost of equity recommendation for Avista?

A. Ms. Carlock estimated the cost of equity by applying the constant growth DCF model directly to Avista. She concluded that the results of this single DCF application indicated a cost of equity in the 8.8 to 11.3 percent range. Ms. Carlock also conducted a comparable earnings analysis, which resulted in an indicated cost of equity in the 10.0 to 11.0 percent range. Based on these two analyses, Ms. Carlock concluded that the cost of equity was in the 9.5 to 10.9 percent range, selecting 10.4 percent as her point estimate and recommendation for Avista.

¹ Standard & Poor's Corporation, "New Business Profile Scores Assigned for U.S. Utility and Power Companies; Financial Guidelines Revised," *RatingsDirect* (Jun. 2, 2004) at Table 1. For a utility with Avista's *business profile* ranking of "6", S&P reported a guideline total debt ratio ranging from 58 to 48 percent for a triple-B rating, which equates to a total equity ratio of 42 to 52 percent.

1 **Q. Did Ms. Carlock apply the risk premium approach to estimate the cost of**
2 **equity for Avista?**

3 A. No. While Ms. Carlock stated that “much of the theoretical approach” that
4 she used was consistent with my testimony, Ms. Carlock did not use the risk premium
5 method to estimate the cost of equity. The risk premium method is widely recognized as a
6 meaningful approach to estimate investors’ required rate of return. Unlike the comparable
7 earnings method, which depends on earned returns derived from accounting information, the
8 risk premium approach is based on capital market data indicative of investors’ current
9 expectations. The IPUC has noted the importance of “evaluating all the methods” and “using
10 each as a check on the other when setting the allowed rate of return.”² This is especially the
11 case in light of the fact that Ms. Carlock’s DCF range was based on the results of a single
12 company and her comparable earnings approach is not capital market oriented.

13 **Q. Why is the use of multiple methods so important when estimating the cost**
14 **of equity?**

15 A. Investors’ expectations are unobservable, and there is no methodology that
16 provides a foolproof guide to their required rate of return. Each method provides another
17 facet of examining investor behavior, with different assumptions and premises. Investors do
18 not necessarily subscribe to any one method, and no model can conclusively determine or
19 estimate the required return for an individual firm. If the cost of equity estimation is
20 restricted to certain methodologies, while the results of other approaches are ignored, it may
21 significantly bias the outcome. Rather, all relevant evidence should be weighed and
22 evaluated in order to minimize the potential for error. The importance of considering the

² Idaho Public Utilities Commission, Order No. 29505 (May 25, 2004) at 38.

1 results of multiple methods has been widely noted in the financial literature, as evidenced in
2 this quote from two noted financial scholars:

3 In practical work, it is often best to use all three methods – CAPM, bond yield
4 plus risk premium, and DCF – and then apply judgement when the methods
5 produce different results. People experienced in estimating capital costs
6 recognize that both careful analysis and some very fine judgements are
7 required. It would be nice to pretend that these judgements are unnecessary
8 and to specify an easy, precise way of determining the exact cost of equity
9 capital. Unfortunately, this is not possible.³

10 **Q. Has the IPUC expressed reluctance to consider the results of the Capital**
11 **Asset Pricing Model (“CAPM”) approach?**

12 A. Yes. I am aware that the IPUC has continuing concerns over the measurement
13 and proper use of the beta value necessary to apply the CAPM and has not routinely focused
14 on the results of this method.⁴ Nevertheless, the CAPM is a rigorous conceptual framework
15 at the heart of modern financial theory and it is widely used and referenced in the investment
16 community. Of course, the CAPM is based on restrictive assumptions and does not describe
17 security returns perfectly and there are controversies surrounding the measurement of key
18 variables, such as beta. But then exactly the same could be said for the constant growth DCF
19 model, which assumes a single, static growth rate into perpetuity that has no observable
20 proxy in the capital markets.

21 **Q. What cost of equity is implied if the risk premium method is used to**
22 **check the results of Ms. Carlock’s analyses?**

23 A. Application of alternative risk premium approaches based on 1) surveys of
24 previously authorized rates of return on common equity for electric utilities, 2) realized rates

³ Brigham, E.F. and Gapenski, L.C., *Financial Management: Theory and Practice*, 6th ed., Dryden Press (1991) at 256, as referenced in “Regulatory Finance: Utilities’ Cost of Capital” at 239-240.

1 of return on electric utility common stocks, and 3) forward-looking applications of the
2 Capital Asset Pricing Model (“CAPM”) were discussed in detail in my direct testimony (pp.
3 45-52). The results of these analyses, which are not adjusted to incorporate flotation costs,
4 are summarized in the following table:

<u>Risk Premium Method</u>	<u>Cost of Equity Estimate</u>
Authorized Returns	11.2%
Realized Rates of Return	10.5%
CAPM	11.7%

5 Taken together, applications of the risk premium approach to estimate the cost of equity for
6 an electric utility are consistent with a rate of return from the top of Ms. Carlock’s DCF and
7 comparable earnings ranges.

8 **Q. What other risk premium evidence confirms that Ms. Carlock’s**
9 **recommendation is well below investors’ required rate of return for Avista?**

10 A. While the IPUC has expressed concern regarding the assumptions and inputs
11 necessary to apply certain forms of the risk premium approach (i.e., beta) it need look no
12 farther than its recent decision in Case No. IPC-E-03-13 involving Idaho Power Company
13 (“Idaho Power”). In that case, the IPUC approved a cost of equity of 10.25 percent and a
14 component cost of long-term debt of 5.769 percent.⁵ Thus, the IPUC’s findings imply an
15 equity risk premium for single-A rated Idaho Power of approximately 4.48 percent. Adding
16 this equity risk premium to Ms. Carlock’s recommended long-term cost of debt of 8.68
17 percent suggests a cost of equity to Avista of 13.16 percent. Alternatively, combining the
18 4.48 percent risk premium from the IPUC’s May 2004 decision with the average yield on

⁴ See, e.g., Order No. 29505 at 38.

⁵ Idaho Public Utilities Commission, Order No. 29505 (May 25, 2004) at 43.

1 triple-B public utility bonds for May 2004 of 6.75 percent⁶ results in an implied cost of equity
2 for a utility with the lowest investment grade credit rating of 11.23 percent. This evidence
3 confirms the reasonableness of selecting a rate of return from the very top of Ms. Carlock's
4 DCF and comparable earnings ranges.

5 **Q. What other evidence indicates that a return from the top end of Ms.**
6 **Carlock's range of results is warranted?**

7 A. While Ms. Carlock did not provide the analyses underlying her 10.0 to 11.0
8 percent comparable earnings range, this method is typically implemented based on a review
9 of historical earned rates of return on book equity for the companies or industry in question.
10 But earned rates of return based on historical information are not necessarily indicative of
11 investors' long-run perceptions of risk and expectations for return going forward.
12 Alternatively, reference to earned rates of return expected from firms of comparable risk can
13 also provide a useful guide that may better reflect the ongoing returns necessary to assure
14 financial integrity and attract capital. The most recent projections from the Value Line
15 Investment Survey (Value Line), which is the largest and most widely circulated independent
16 investment advisory service, indicate that its analysts expect average earned rates of return on
17 book equity for the electric and natural gas utility industries over the next three to five years
18 of 11.0 percent.⁷ Based on Value Line's estimates, investors would anticipate a return on
19 equity from the average electric and gas utility at the top of Ms. Carlock's comparable
20 earnings range.

⁶ Moody's Investors Service, *Credit Perspectives* (Jun. 14, 2004) at 49.

⁷ The Value Line Investment Survey, Jun. 4, 2004 at 154, Jun. 18, 2004 at 458.

1 **Q. Do you and Ms. Carlock agree on the benchmark for a fair rate of**
2 **return?**

3 A. Yes. We agree that the authorized rate of return should be competitive with
4 returns available to investors from investments of corresponding risk, as directed by
5 landmark Supreme Court decisions. Ms. Carlock also correctly noted that the opportunity to
6 earn a return at least equal to those expected in the capital markets for comparable
7 investments is required if a utility is to be able to attract capital. As stated by Ms. Carlock:

8 ...if the return earned by a firm is not equal to the return being earned on other
9 investment of similar risk, the flow of funds will be toward those investments
10 earning the higher returns. Therefore, for a utility to be competitive in the
11 financial markets, it should be allowed to earn a return on equity equal to the
12 average return earned by other firms *of similar risk*.⁸

13 Ms. Carlock also noted the importance of testing any cost of equity estimate against
14 applicable standards:

15 ...three standards have evolved for determining a fair and reasonable rate of
16 return: (1) the Financial Integrity or Credit Maintenance Standard; (2) the
17 Capital Attraction Standard; and (3) the Comparable Earnings Standard.⁹

18 This is absolutely correct. If Avista's return on equity does not fully reflect the level of
19 investment risks that investors perceive, it will violate the risk-return tradeoff, breach
20 applicable standards, and impair Avista's ability to attract necessary capital.

21 **Q. Did Ms. Carlock recognize that the investment risks associated with**
22 **electric utilities have increased?**

23 A. Yes. Ms. Carlock noted that a plethora of changes have impacted investors
24 risk perceptions, observing that:

⁸ Carlock Direct at 6 (emphasis added).

⁹ *Id.* at 5.

1 The competitive risks for electric utilities have changed with increasing non-
2 utility generation, deregulation in some states, open transmission access, and
3 changes in electricity markets.¹⁰

4 Ms. Carlock concluded that, because of these greater uncertainties, the difference in the risk
5 between industrial firms operating in the competitive market and electric utilities “is not as
6 great as it used to be.”¹¹

7 **Q. Did Ms. Carlock consider this increase in risk in her analysis of the cost**
8 **of equity for Avista’s jurisdictional utility operations?**

9 A. No. Ms. Carlock ignored the implications of this trend in investment risks for
10 utilities, asserting instead that Avista’s “competitive risks” are lower because of its “low-cost
11 source of power and the low retail rates.”¹² Ms. Carlock also asserted that the Power Cost
12 Adjustment Mechanism (“PCA”) reduces Avista’s risks relative to other electric utilities.¹³

13 **Q. Does this represent an accurate assessment of the investment risks**
14 **investors’ associate with Avista?**

15 A. No. While I agree with Ms. Carlock that relatively low rates provide benefits
16 to customers and may improve Avista’s competitive position, this narrow view ignores the
17 substantial uncertainties that Avista’s investors assume to realize these benefits. As explained
18 in detail in my direct testimony, because a high proportion of Avista’s energy needs is
19 provided by hydroelectric facilities, Avista is exposed to a level of uncertainty not faced by
20 other utilities, which are less dependent on hydro generation.

21 Reduced hydroelectric generation due to below-average water conditions forces
22 Avista to rely on less efficient thermal generating capacity and purchased power to meet its

¹⁰ *Id.* at 8.

¹¹ *Id.*

¹² *Id.* at 8-9.

1 resource needs. As the IPUC has noted, “there are no guarantees about future stream flows or
2 market prices,”¹⁴ and in light of the recent past, this dependence on wholesale markets entails
3 significant risk in the minds of investors, especially for a utility located in the west. Investors
4 recognize that volatile markets, unpredictable stream flows, and Avista’s dependence on
5 wholesale purchases to meet the needs of its customers expose Avista to the risk of reduced
6 cash flows, increased need for financing, and unrecovered power supply costs.

7 Apart from exposure to market uncertainties, Avista also confronts the complexities
8 associated with maintaining the necessary licenses to operate its hydroelectric stations. The
9 process of relicensing is prolonged and involved and often includes the implementation of
10 various studies and measures to address environmental and stakeholder concerns. For
11 example, a federal court recently ordered the Federal Energy Regulatory Commission
12 (“FERC”) to respond to a request for a formal review of Idaho Power Company’s (“Idaho
13 Power”) Hells Canyon hydroelectric complex under the Endangered Species Act.¹⁵ These
14 measures can impose significant additional costs and/or lead to reduced generating capacity
15 and flexibility.

16 **Q. Does the fact that Avista has a PCA absolve investors from risk of**
17 **volatility in wholesale power markets, as Ms. Carlock seems to imply?**

18 A. No. The fact that Avista had been granted a PCA does not translate into lower
19 risk *vis-à-vis* other electric utilities. First, adjustment mechanisms to account for changes in
20 power supply costs are the rule, rather than the exception, so that Avista’s PCA merely moves

¹³ *Id.* at 9.

¹⁴ *Idaho Power Granted \$256 million deferral, but bond plan denied*, Idaho Public Utilities Commission (May 13, 2002).

1 its risks closer to those of other utilities. Second, the PCA does not prevent the lag between
2 the time that Avista actually incurs power supply expenses and when it is actually recovered
3 from ratepayers. Investors are well aware that the significant reduction in cash flows
4 associated with mounting deferrals can have a debilitating impact on a utility's financial
5 position.

6 Moreover, investors are aware that the PCA does not apply to 100 percent of the
7 difference between the actual cost of purchased power and the amount collected through
8 rates, with Avista's shareholders remaining at risk for 10 percent of any discrepancy. Indeed,
9 Avista and its investors have already experienced the impact that chaotic market conditions
10 can have when the utility is forced to rely on wholesale purchases to meet the gap in its
11 resource needs created by reduced hydro generation. Investors cannot afford to discount the
12 continuing prospect of further turmoil in western power markets, with S&P recently
13 emphasizing the record high wholesale prices for both peak and off-peak power:

14 For 2003, record-high wholesale power prices were the defining feature of the
15 U.S. merchant power markets. ... Power prices in the western regions were
16 also the highest on record outside of the 2000-2001 California energy crisis.
17 ... Off-peak prices also rose about 50% across the U.S. and set record highs
18 along the way in most regions.¹⁶

19 **Q. Is Ms. Carlock's recommended cost of equity compatible with the level of**
20 **investment risks associated with Avista?**

21 A. No. Avista's weakened financial position, as evidenced by its below-
22 investment grade corporate credit ratings, place it on an altogether different risk plateau. The

¹⁵ "Court orders FERC to answer seven-year-old request for study of Idaho dams' fish impact," *Electric Utility Week* (Jun. 28, 2004) at 14.

¹⁶ Standard & Poor's Corporation, "Energy Commodity Report: U.S. Power Prices Record High in 2003," *RatingsDirect* (Jan. 15, 2004).

1 speculative grade credit rating assigned to Avista confirms that investors perceive its
2 investment risks to be higher than for the average utility. Investors rely greatly on bond
3 ratings as a source of information regarding investment risk and bond ratings and the risk of
4 common stock investment are closely related. Indeed, the higher risk associated with Avista
5 is mirrored in its Value Line beta of 0.80. As Mr. Thornton recognized:

6 ...the average risk security has a capital asset pricing model beta of 1.0, while
7 the average electric utility from my sample has a *Value Line* beta of .72, which
8 is 28 percent less risky than the average-risk security.¹⁷

9 The corollary of Mr. Thornton's conclusion is that Avista's risk is higher than the average
10 utility and that its expected returns need to be correspondingly greater to attract investment.

11 **Q. Does Ms. Carlock's recommended cost of equity adequately compensate**
12 **investors for Avista's greater risks?**

13 A. No. While Ms. Carlock asserted that her recommendation considered the
14 "risk characteristics for Avista,"¹⁸ she failed to look directly at other capital markets data to
15 assess the level of return investors require to compensate them for Avista's greater investment
16 uncertainties. Considering the IPUC's recent decision in Case No. IPC-E-03-13 to authorize
17 single-A rated Idaho Power a return on equity of 10.25 percent,¹⁹ Ms. Carlock's proposed
18 10.4 percent cost of equity in this case implies an adjustment of 15 basis points to account for
19 Avista's below-investment grade credit rating. But as discussed in my direct testimony, the
20 dramatically greater investment risk imposed by a weakened credit standing implies a
21 significant premium for Avista above the return required for an investment grade utility.
22 Indeed, reference to bond yield spreads suggests that the capital markets would require a

¹⁷ Thornton Direct at 11.

¹⁸ Carlock Direct at 14.

1 minimum of 2.8 percent in additional return to compensate for the greater risk associated
2 with a speculative credit rating.

3 **Q. What are the implications of disregarding Avista's investment risks in**
4 **setting the allowed rate of return on equity?**

5 A. If the greater risks associated with Avista's speculative grade credit standing
6 are not incorporated in the allowed rate of return on equity, the results will fail to meet the
7 comparable earnings standard that Ms. Carlock agrees is fundamental in determining the cost
8 of capital. From a more practical perspective, failing to provide investors with the
9 opportunity to earn a rate of return commensurate with Avista's risks will only serve to
10 perpetuate its impaired financial integrity, while hampering Avista's ability to attract the
11 capital needed to meet the economic and reliability needs of its service area.

12 **Q. How is a utility's financial integrity typically evaluated?**

13 A. Bond ratings provide the most objective guide to a utility's financial integrity
14 and prospects for capital attraction. Bond ratings are assigned by independent agencies, such
15 as S&P and Moody's Investors Service ("Moody's"), for the purpose of providing investors
16 with an overall assessment of the creditworthiness of a firm. As discussed in my direct
17 testimony, an investment grade bond rating (*i.e.* triple-B or above) indicates that a utility has
18 some measure of financial integrity. A below-investment grade rating, such as the double-B
19 corporate ratings S&P has assigned to Avista, generally evidences a relative lack of
20 creditworthiness and an inability to attract capital except on more speculative terms.

¹⁹ Idaho Public Utilities Commission, Order No. 29505 (May 25, 2004).

1 **Q. How do the rating agencies decide what ratings to assign to a utility such**
2 **as Avista?**

3 A. The ratings assigned to a utility by the rating agencies are based typically on
4 an evaluation of the utility's business and financial risks. One of the most important of the
5 qualitative factors in determining a utility's bond ratings is its pre-tax interest coverage ratio,
6 which is a measure of the protection available to pay interest expense from operational cash
7 flow. The financial ratio guidelines published by S&P specify a range for a utility's pre-tax
8 coverage ratio that corresponds to each specific bond rating. Widely cited in the investment
9 community, applicable ratios are determined by aligning the bond rating with the utility's
10 *business profile* ranking, which ranges from 1 (strong) to 10 (weak) depending on a utility's
11 relative business risks. Thus, S&P's guideline financial ratios for a given rating category
12 (*e.g.*, triple-B) vary with the business or operating risk of the utility. A firm with a *business*
13 *profile* of "2" (*i.e.*, relatively lower business risk) could presumably maintain lower coverage
14 ratios than a utility with a *business profile* assessment of "9" while maintaining the same
15 credit rating. S&P has currently assigned a business profile ranking of "6" to Avista.²⁰

16 **Q. What pre-tax coverage ratio would Avista require to qualify for the lowest**
17 **investment grade bond rating?**

18 A. Consistent with Avista's *business profile* ranking of "6" and S&P's available
19 published guidelines, Avista would be required to achieve and maintain a pre-tax interest
20 coverage ratio in the range of 2.6 to 4.0 times to qualify for a triple-B bond rating.

²⁰ Standard & Poor's Corporation, "New Business Profile Scores Assigned for U.S. Utility and Power Companies; Financial Guidelines Revised," *RatingsDirect* (Jun. 2, 2004).

1 **Q. Is it clear that the coverage ratio implied by Ms. Carlocks’s**
 2 **recommendations would grant Avista the financial strength necessary to achieve an**
 3 **investment grade bond rating?**

4 A. No. As shown below, the pre-tax interest coverage implied by Ms. Carlock’s
 5 recommendations is 2.71 times:

<u>Component</u>	<u>Percent</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>	<u>Pre-tax Cost</u>	<u>Coverage</u>
Debt	50.08%	8.68%	4.35%	4.35%	4.35%
Trust Preferred	5.57%	6.15%	0.34%	0.34%	
Preferred Stock	1.76%	7.35%	0.13%	0.20%	
Equity	<u>42.59%</u>	10.40%	<u>4.43%</u>	<u>6.89%</u>	
	100.00%		9.25%	11.78%	<u>11.78%</u>
Pre-tax Interest Coverage					2.71 X

6 This 2.71 times coverage is only marginally above the very bottom end of the 2.6 to 4.0 times
 7 specified by S&P’s financial benchmarks for a triple-B bond rating for a utility with Avista’s
 8 business risks. To restore a company’s rating to a previous, higher level, rating agencies
 9 generally require a company to maintain financial indicators above the minimum levels
 10 required for the higher rating over a period of time. Considering Avista’s already weakened
 11 credit standing, it is unlikely that Ms. Carlock’s proposed rate of return would be adequate to
 12 allow Avista the opportunity, under efficient and economical management, to restore basic
 13 financial integrity and implies a continuation of its current junk bond ratings.

1 **Q. What other evidence indicates the importance of reasonable regulatory**
2 **decisions on Avista's ability to maintain its financial integrity?**

3 A. Following the IPUC's decision in Case No. IPC-E-03-13, S&P placed the
4 utility' credit ratings on CreditWatch, indicating the potential for a future downgrades.²¹ In
5 explaining this action, S&P noted:

6 Standard & Poor's Ratings Services today placed the corporate credit rating
7 and all long-term ratings on IDACORP Inc. ('A-/A-2') and subsidiary Idaho
8 Power Co. ('A-/A2') on CreditWatch with negative implications following the
9 May 25, 2004, Idaho Public Utilities Commission (IPUC) ruling authorizing
10 only a \$25.3 million (5.2%) permanent electric base rate increase for the
11 utility, which had requested an \$85.6 million (17.7%) increase. ... Following
12 the IPUC staff's 3.1% rate increase recommendation in February 2004,
13 Standard & Poor's said that "a final decision by the commission that adopted a
14 rate increase akin to that proposed by the staff could have an adverse effect on
15 bondholder protection measures." The final IPUC ruling is indeed
16 substantially closer to the staff's position than the company's, and will weaken
17 credit protection measures.²²

18 Considering the vastly greater investment risks implied by Avista's already weakened credit
19 profile, the perception of lack of regulatory support would undoubtedly place downward
20 pressure on current ratings, as is occurring for Idaho Power. Such an outcome would be
21 inconsistent with the IPUC's stated desire to maintain credit ratings "at or above the current
22 level"²³ and lends further support for a return on equity at the very top of the range of Ms.
23 Carlock's results.

²¹ Standard & Poor's Corporation, "IDACORP Ratings Placed on CreditWatch With Negative Implications Following IPUC Ruling," *RatingsDirect* (Jun. 15, 2004).

²² *Id.*

²³ Idaho Public Utilities Commission, Order No. 29505 (May 25, 2004) at 43.

1 **Q. Is there evidence regarding the importance of regulatory support in**
2 **determining a utility’s financial integrity?**

3 A. Yes. Investment publications and the trade press are replete with examples
4 that highlight the critical role that a constructive regulatory environment plays in investors’
5 assessment of a utility’s credit quality. In discussing the criteria used to establish a
6 company’s bond rating, S&P noted that:

7 The regulatory relationship can be a benign one – or it can be adversarial. It
8 affects virtually all corporates to one extent or another, and is obviously
9 critical in the case of utilities – where it is a factor in all assessments of
10 business risk.²⁴

11 In light of challenges in the industry, investors have refocused attention on regulatory
12 policy. An article reporting on investment analysts’ comments concerning the prolonged
13 financial slump in the electric utility industry noted the importance of “evenhanded
14 regulation,” with one analyst concluding “uncertainty is the main obstacle to bolstering
15 energy utilities’ capital.”²⁵ Indeed, S&P noted that “one of the major challenges facing the
16 industry is the daunting task of restoring investor confidence” and recognized the importance
17 of regulatory support in its assessment of credit quality.²⁶ Accordingly, it is critical to assure
18 investors’ confidence in a balanced approach if reasonable access to capital is to be
19 maintained.

20 **Q. Did Ms. Carlock consider flotation costs in her DCF analysis?**

21 A. Yes. Ms. Carlock incorporated flotation costs by increasing the dividend yield
22 component of her DCF analysis. While Ms. Carlock concluded that direct flotation costs

²⁴ Standard & Poor’s Corporation, *Corporate Ratings Criteria* (Nov. 13, 2003) at 42.

²⁵ Walsh, Campion, “Wall Street Seeks FERC’s Help for Power Sector Slump”, *Dow Jones Newswire* (January 16, 2003).

²⁶ Standard & Poor’s Corporation, “Regulation and Credit Quality in the U.S. Utility Sector”.

1 would warrant an adjustment equal to 4 percent of the dividend yield component, she reduced
2 this factor to 2 percent for Avista's jurisdictional utility operations, based on her belief that
3 "all subsidiaries of Avista Corp should be responsible for some of actual flotation costs."²⁷

4 **Q. Is there any merit to Ms. Carlock's logic?**

5 A. No. While I do not disagree with Ms. Carlock that all of Avista's operations
6 should share the burden of flotation costs incurred to raise equity capital, no adjustment to the
7 cost factor is required to accomplish this objective. This is because the allowed return on
8 common equity, including the full 4 percent adjustment for direct flotation costs, is only
9 applied to the equity used to finance jurisdictional utility operations. Thus, the only flotation
10 costs that will be considered are those related specifically to the equity required to provide
11 utility service in Idaho. By adjusting the flotation cost factor downward to 2 percent, Ms.
12 Carlock is essentially assuming that the costs associated with raising equity invested in Idaho
13 jurisdictional utility operations are one-half as much as those incurred to finance Avista's
14 other operations. This is clearly not the case and results in a downward bias to Ms. Carlock's
15 recommendation.

16 In addition, Ms. Carlock apparently did not adjust the results of her comparable
17 earnings approach to incorporate flotation costs. Based on Ms. Carlock's representative
18 dividend yield of 3.4 percent and her 4 percent allowance for flotation costs, this would imply
19 an upward adjustment of approximately 10 basis points, or a comparable earnings range of
20 10.1 to 11.1 percent.

²⁷ Carlock Direct at 11.

1 **Q. What “updates” and modifications did Dr. Peseau make to your cost of**
2 **equity analyses?**

3 A Apart from conducting no analyses of his own, Dr. Peseau did not simply
4 update my analyses. Rather, he ignored historical trends in earnings growth in applying the
5 DCF model, used alternative bond yields to apply my risk premium approaches, and
6 substituted a lower market return in the CAPM. Finally, Dr. Peseau completely ignored the
7 flotation cost adjustment supported in my direct testimony.

8 **Q. What was the basis for Dr. Peseau’s “revision” to exclude historical**
9 **growth rates from his “update” of your DCF analyses?**

10 A. In Idaho Power’s recent general rate case, Dr. Peseau testified that historical
11 growth rates should be discarded because he did not approve of the composition of my proxy
12 group.²⁹ Now, Dr. Peseau argues that historical growth rates should be ignored because
13 investment analysts “have already taken that information into account.”³⁰ While I agree with
14 Dr. Peseau that investment analysts may consider historical growth rates in arriving at their
15 near-term projections, this fact does not support his argument that such growth measures
16 should be ignored in applying the DCF model. Rather, the fact that professional analysts
17 consider historical growth rates in their analyses is strong evidence that such growth rates are
18 also of relevance to investors in assessing their expectations and required rate of return.
19 Indeed, Value Line and other investment advisory services routinely report historical growth
20 rates, along with near-term projections. If historical rates of growth were not of interest or
21 relevance to investors, there would be no need to compile such information and present it on

²⁸ Carlock Direct at 14.

²⁹ Direct Testimony of Dennis E. Peseau, Idaho Public Utilities Commission, Case No. IPC-E-03-13, at 16.

³⁰ Peseau Direct at 51.

1 an equivalent basis with near-term forecasts. Regulatory Finance: Utilities' Cost of Capital, a
2 source referenced by Dr. Peseau, concluded that:

3 Historical growth rates ... are often used as proxies for investor expectations
4 in DCF analysis. Investors are certainly influenced to some extent by
5 historical growth rates in formulating their future growth expectations. In
6 addition, these historical growth indicators are widely used by analysts,
7 investors, and expert witnesses. ...

8 Obviously, historical growth rates as well as analysts forecasts provide
9 relevant information to help the investor with regard to growth expectations.³¹

10 But instead of heeding the advice of his own source, Dr. Peseau advocates ignoring historical
11 information altogether and thereby introduces a downward bias to the DCF results.

12 **Q. Is there anything "inexplicable" about your recommended 6.0 percent**
13 **growth rate, as Dr. Peseau contends?**³²

14 A. Not at all. The rationale underlying my use of a 6.0 percent growth rate in the
15 DCF model was fully explained in my testimony (pp. 42-45). As I noted there, based on
16 analysts' projections and historical growth rates, but giving little weight to Value Line's
17 projections, which deviated from consensus forecasts, I concluded that investors expect
18 growth in the 5.0 to 7.0 percent range for my proxy group. The 6.0 percent growth rate is the
19 midpoint of this range. As shown below, my 6.0 percent recommended growth rate is also
20 equal to the average of the remaining values after excluding Value Line's pessimistic earnings
21 growth projections:

<u>Source</u>	<u>Growth Rate</u>
IBES	5.1%
Value Line	2.4%
First Call	5.2%
Multex	5.4%

³¹ Morin, Roger A., "Regulatory Finance: Utilities Cost of Capital," Public Utility Reports (1994) at 140.

³² Peseau Direct at 51.

Historical 10 Yr.	7.3%
Historical 5 Yr.	8.1%
Value Line "bxr"	<u>4.6%</u>
Average	6.0%

1 Thus, the growth rate developed in my testimony is consistent with the recommendation of
2 Dr. Peseau's reference source, which notes that "equal weight should be accorded to DCF
3 results based on history and those based on analysts' forecasts."³³

4 **Q. What about Mr. Peseau's contention that your recommendation would**
5 **have been lower if you had applied a multi-stage DCF model (p. 53)?**

6 A. Mr. Peseau's speculation is apparently based on his observation that dividend
7 growth in the electric utility industry is lagging behind earnings growth. As discussed in my
8 direct testimony, this observation only serves to illustrate the fact that near-term trends in
9 dividends are not representative of investors' long-term expectations. In any event, I
10 explained why there is presently no compelling arguments in favor of a multi-stage DCF
11 model and Mr. Peseau presented no evidence to support his remarks and candidly admitted
12 that "I have not presented such an analysis."³⁴

13 **Q. Is there any merit to Dr. Peseau's suggestion that there are inconsistencies**
14 **in your risk premium approaches that lead to an upward bias in your results (pp. 54-**
15 **56)?**

16 A. No. The bond yields used in my applications of the risk premium method
17 were consistent with the underlying data sources used to compute equity risk premiums. In
18 developing risk premiums based on authorized rates of return on equity in Schedule WEA-5,
19 I matched allowed rates of return in each year with the average yield on public utility bonds

³³ Morin, Roger A., "Regulatory Finance: Utilities Cost of Capital," Public Utility Reports (1994) at 157.

³⁴ Peseau Direct at 53.

1 reported by Moody's Investors Service ("Moody's"). This composite interest rate reflects the
2 risk profile of the electric utility generally over the 29 years covered by my analysis and there
3 is simply no basis for Dr. Peseau's insinuation that this somehow results in an upward bias.
4 Similarly, my analysis of realized rates of return reported on Schedule WEA-6 was based on a
5 consistent set of data, as reported by S&P. Because S&P does not publish an average public
6 utility bond yield, my analyses relied on the yield on single-A rated issues as a proxy for the
7 average risk profile of the industry over the study period.

8 **Q. Was it "incorrect" to add the equity risk premium determined in your**
9 **studies to the yield on triple-B bonds, as Mr. Peseau claims (p. 54-55)?**

10 A. No. The exercise at hand is to estimate investors' required rate of return from
11 Avista's jurisdictional utility operations, not for the average utility. Adding the risk premium
12 to a triple-B bond yield, as I did, reflects the investment risks of a utility with the lowest
13 investment grade credit rating.³⁵ Meanwhile, Mr. Peseau derives two of his "updated" risk
14 premium estimates by adding his revised equity risk premium to the yield on single-A bonds.
15 As a result, Mr. Peseau's "update" necessarily produces cost of equity estimate that falls
16 below investors' required rate of return for Avista, which has higher investment risks. As
17 shown in the table below, even accepting Mr. Peseau's flawed "updates," correcting his
18 calculation to incorporate the May 2004 average yield on triple-B bonds results in the
19 following cost of equity estimates:

³⁵ In fact, this approach is likely to understate the return on equity because investors in common stock, the most junior and riskiest of a utility's securities, undoubtedly demand a greater premium to bear the higher risk of a triple-B bond rating than debtholders.

<u>Method</u>	<u>Peseau "Updated" Risk Premium</u>	<u>Triple-B Yield³⁶</u>	<u>Implied Cost of Equity</u>
Allowed Returns – A Rated	4.72%	6.75%	11.5%
Allowed Returns – BBB Rated	4.35%	6.75%	11.1%
Realized Returns - Arithmetic	4.01%	6.75%	10.8%

1 This restatement clearly confirms the downward bias to the 9.2 to 10.8 percent cost of equity
2 estimates he recommends based on the same approach:

3 **Q. Is your application of the realized rate of return approach based on the**
4 **assumption that “investors typically have holding periods of only one year,” as Dr.**
5 **Peseau asserts (p. 56)?**

6 A. No. My application of the risk premium method based on realized rates of
7 return makes no assumption regarding the holding period of the average investors, and Dr.
8 Peseau’s assertion that the equity risk premium is a function of investors’ holding period is
9 wrong. In estimating the cost of equity, the goal is to replicate what investors expect going
10 forward, not to measure the average performance of an investment over an assumed holding
11 period. Under the realized rate of return approach, investors consider the equity risk
12 premiums in each year independently, with the arithmetic average of these annual results
13 providing the best estimate of what investors might expect in future periods. Dr. Roger
14 Morin, who Dr. Peseau referenced in his testimony (p. 51), had this to say:

15 One major issue relating to the use of realized returns is whether to use the
16 ordinary average (arithmetic mean) or the geometric mean return. *Only*
17 *arithmetic means are correct for forecasting purposes and for estimating the*
18 *cost of capital.* When using historical risk premiums as a surrogate for the
19 expected market risk premium, the relevant measure of the historical risk

³⁶ Moody’s Investors Service, *Credit Perspectives* (Jun. 14, 2004) at 49.

1 premium is the arithmetic average of annual risk premiums over a long period
2 of time.³⁷

3 Accordingly, Mr. Peseau's risk premium calculations using geometric means are properly
4 ignored and I have excluded them from the table above.

5 **Q. How did Dr. Peseau "update" your application of the CAPM approach (p.**
6 **57)?**

7 A. Dr. Peseau did not update or otherwise address my CAPM approach. Rather,
8 he ignored it entirely and instead substituted a market risk premium into my analysis that was
9 based on an entirely different method. As explained in my direct testimony, I applied the
10 CAPM based on a forward-looking estimate of the market risk premium that relied on
11 investors' current expectations in the capital markets. Meanwhile, Dr. Peseau simply asserted
12 that "[a]t this time, the indicated 'current market risk premium and the long-term average
13 market risk premium are both 7.2%."³⁸ But this 7.2 percent risk premium is based on
14 historical returns back to 1926, not on the forward-looking expectations that drive investors'
15 required rate of return in today's capital markets. The end result of Mr. Peseau's calculations
16 is not an "update" of my approach, but instead a CAPM cost of equity estimate that fails to
17 reflect investors' current required rate of return.

18 **Q. Did Dr. Peseau address the need to adjust the cost of equity to reflect the**
19 **greater investment risks associated with Avista?**

20 A. No. Dr. Peseau made no mention of Avista's below-investment grade credit
21 standing or the additional return investors require to compensate for this greater risk. Rather,
22 he simply observed that investors do not expect to be compensated for "non-market" or

³⁷ Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," Public Utility Reports (1994) at 275 (emphasis added).

1 “company-specific” risks.³⁹ While Dr. Peseau’s comment may apply under the narrow
2 strictures of modern portfolio theory, it does not alter a fundamental premise of finance that
3 investors require higher returns to bear higher risks. The strong link between bond ratings
4 and equity risk premiums has been well documented, and there is no ambiguity that investors
5 require substantially higher rates of return to compensate them for the risks of speculative
6 securities, versus those with investment grade ratings. Moreover, the overall assumption that
7 investors care only about systemic risk and not company-specific risk is a substantial
8 simplification of reality. In fact, no investor is perfectly diversified and bondholders,
9 management, and other stakeholders have an intense interest in the fortunes of individual
10 companies. In the real world both macroeconomic risks (like the general economy) and
11 specific risks (like purchased power) absolutely factor into investors’ risk perceptions.

12 **Q. What about Dr. Peseau’s allegation that such risks are “taken account by**
13 **investors” (p. 48)?**

14 **A.** I agree wholeheartedly with Dr. Peseau that investors fully consider the
15 uncertainties and characteristics of Avista and that the observable share prices in the capital
16 markets reflect their consensus view of these risks and prospects. But stock prices are only
17 one component used to estimate investors’ required rate of return through quantitative
18 analyses. To the extent that other assumptions embodied in the analysis (*e.g.*, market returns,
19 beta values, or growth rates) do not reflect the expectations that investors incorporated into
20 observed stock prices, the resulting cost of equity estimates will be flawed. For example, Dr.
21 Peseau’s “update” of the CAPM is predicated solely on an historical study of equity risk

³⁸ Peseau Direct at 58

³⁹ Peseau Direct at 48-49.

1 premiums, which does not contain *any* current market data. As I noted earlier, there is every
2 indication that the “updates” proposed by Dr. Peseau do not capture real-world expectations
3 or investors’ requirements for Avista. These flawed approaches and logic do not absolve Dr.
4 Peseau of the need to consider qualitative indicators of investment risks, including the
5 business and regulatory uncertainties specific to Avista and the industry in which it operates.

6 **Q. Did Dr. Peseau consider the need to account for past flotation costs?**

7 A. No. Dr. Peseau did not take issue with my testimony that an adjustment for
8 flotation costs is reasonable in establishing a fair rate of return for Avista. However, Dr.
9 Peseau entirely ignored the issue of flotation costs in conducting his “updates” to my
10 analyses. As discussed in my direct testimony, flotation costs are legitimate and necessary,
11 and unless an adjustment is made to the cost of equity, investors will not have the opportunity
12 to earn their fair rate of return.

13 **IV. JOHN S. THORNTON, JR.**

14 **Q. Does Mr. Thornton recommend a “fair and reasonable” return on equity,**
15 **as his subtitle on page 4 would suggest?**

16 A. No. His 8.50 percent recommendation fails all tests of reasonableness. Mr.
17 Thornton’s claim that his return is adequate to maintain Avista’s financial integrity is also
18 wrong because of mistakes in his coverage calculation presented on Exhibit JST-1 and his
19 reference to the wrong benchmarks to gauge how bond rating agencies evaluate adequacy.
20 Finally, Mr. Thornton’s criticisms of my testimony miss the mark and are simply not credible.

1 **Q. Do recently authorized returns for electric and gas utilities conclusively**
2 **demonstrate the extreme downward bias of Mr. Thornton's 8.5 percent cost of equity**
3 **recommendation?**

4 A. Yes. This recommendation falls far short of the IPUC's recent finding of a
5 10.25 percent cost of equity for Idaho Power. Further, in contrast to the single-digit cost of
6 equity estimate proffered by Mr. Thornton, Regulatory Research Associates reported that
7 authorized rates of return on equity for electric and natural gas utilities averaged 11.0 percent
8 and 11.1 percent, respectively, for the first quarter of 2004.⁴⁰

9 **Q. What causes Mr. Thornton's analysis to fall so far from a fair and**
10 **reasonable result?**

11 A. In rebutting Mr. Thornton, I will show that his views are contrary to empirical
12 evidence and common sense and at odds with recent reasoning by the IPUC and the opinions
13 of investors. The most fatal flaw in Mr. Thornton's approach is that he forgets that the
14 bottom line test of any rate of return recommendation is whether it is consistent with the
15 requirements of real world investors. Mr. Thornton's personal views and insights on risk and
16 return are simply irrelevant if investors don't agree.

17 **Q. Is Mr. Thornton correct on page 31 when he claims that his 8.49 percent**
18 **recommended overall rate of return would maintain Avista's financial integrity?**

19 A. Not at all. First, Mr. Thornton miscalculates the coverage ratio by ignoring the
20 fact that payments to holders of trust preferred securities are tax deductible. Second, he
21 compared Avista's projected financial parameters to other utilities' *actual* performance during
22 2000-2002, a period of unprecedented turmoil in the electric utility industry. Mr. Thornton

1 did not compare the projected coverage to the current criteria that the rating agencies apply in
 2 their assessment of credit standing. Indeed, Mr. Thornton criticizes me for not recognizing
 3 the improvements in the industry over the last year (pp. 33-34), yet he measures Avista's
 4 prospective performance against those dark days for the industry.

5 **Q. How does impact of Mr. Thornton's recommendations on Avista's**
 6 **financial integrity compare with that implied by Ms. Carlock's proposals?**

7 A. It is far worse. As shown on below, after properly accounting for the tax
 8 deductibility of Avista's trust preferred securities, his recommendation really translates into a
 9 coverage ratio of 2.52 times:

<u>Component</u>	<u>Percent</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>	<u>Pre-tax Cost</u>	<u>Coverage</u>
Debt	48.19%	8.70%	4.19%	4.19%	4.19%
Trust Preferred	5.79%	7.01%	0.41%	0.41%	
Preferred Stock	1.726%	7.34%	0.13%	0.20%	
Equity	<u>44.30%</u>	8.50%	<u>3.77%</u>	<u>5.86%</u>	
	100.00%		8.49%	10.65%	<u>10.65%</u>
Pre-tax Interest Coverage					2.54 X

10 This is well below the 2.6-times *minimum* threshold specified by S&P for an investment

11 grade credit rating. A coverage ratio below the minimum guideline specified for a triple-B

12 bond rating is far below the level required to allow Avista to start down the road to rebuild its

13 creditworthiness. The continuation of junk bond ratings, as will result if Mr. Thornton's

14 recommendations are adopted, would fail to allow Avista an opportunity to maintain its

15 financial integrity or the ability to attract capital on reasonable terms on a prospective basis.

16 As a result, Mr. Thornton's proposals are clearly inconsistent with the financial integrity

⁴⁰ Regulatory Research Associates, "Major Rate Case Decisions – January-March 2004", *Regulatory Focus*

1 “end-result” test and should be rejected. A speculative grade corporate credit rating does not
2 permit Avista to maintain its financial integrity or ability to attract capital on other than
3 speculative terms.

4 **Q. Should it be relevant to this Commission that Mr. Thornton does not**
5 **share your “rather gloomy outlook” for electric utilities (p. 33) and has less pessimism**
6 **in his own views?**

7 A. Neither my views nor those of Mr. Thornton are as relevant as the perceptions
8 of investors and their willingness to provide capital to Avista on reasonable terms. The
9 headline of the Fitch report included in Exhibit JST-1, pp. 20-21 indicates that at the end of
10 2003 there were finally prospects for stabilization in the industry. Stable is better than
11 deterioration, to be sure. This Fitch report, which Mr. Thornton referenced on page 34 of his
12 testimony, confirms that the industry is coming out of a bleak period that left many
13 participants weakened. Avista, with its double-B corporate rating is a prime example of a
14 company striving to stabilize its financial circumstances. Were this Commission to send a
15 disturbing signal, such as adopting an unreasonable return like that recommended by Mr.
16 Thornton, Avista and its customers would be denied the benefits of stabilization and the
17 opportunity to regain an investment grade credit rating.

18 **Q. Is Mr. Thornton correct when he claims on page 8 that the arithmetic**
19 **mean is “spurious” so that the geometric mean should be the sole measure of average**
20 **rate of return?**

(Apr. 5, 2004).

1 A. No, absolutely not. Both the arithmetic and geometric means are legitimate
2 measures of average return; they just provide different information. Each may be used
3 correctly or misused depending upon the inferences being drawn from the numbers. I am
4 particularly sensitive to Mr. Thornton's cavalier attitude toward these measures since my
5 Ph.D. dissertation dealt with the proper use of the geometric mean by investors.

6 The geometric mean of a series of returns measures the constant rate of return that
7 would yield the same change in the value of an investment over time. The arithmetic mean
8 measures what the expected return would have to be each period to achieve the realized
9 change in value over time. The observation on page 10 of Mr. Thornton's Exhibit JST-1
10 recognizes the legitimate role of the arithmetic mean:

11 Investors can be expected to realize geometric returns only over long
12 periods of time. The average geometric return is always less than the
13 arithmetic return except when all yearly returns are exactly equal. This
14 difference is related to the volatility of yearly returns.
15

16 As noted earlier in my rebuttal of Mr. Peseau, the arithmetic mean is the preferred
17 measure when using historical data for rate of return analyses. Yet, Mr. Thornton uses the
18 geometric mean exclusively and criticizes me for use of the arithmetic mean. One does not
19 have to get deep into finance theory to see why the arithmetic mean is more consistent with
20 the facts of this case. The IPUC is not setting a constant return that Avista is guaranteed to
21 earn over a long period. Rather, the exercise is to set an expected return based on test year
22 data. In the real world, Avista's yearly return will be volatile, depending on many economic
23 and weather factors, and investors do not expect to earn the same return each year.

24 **Q. Did Mr. Thornton apply the conventional DCF model used by you, Ms.**
25 **Carlock, and Dr. Peseau?**

1 A. No. Mr. Thornton used a multi-stage DCF model of his own design.
2 Although Mr. Thornton discusses his thoughts on why this model makes sense to him, he
3 presents no evidence that this model replicates the reasoning of real world investors. Mr.
4 Thornton's discussions of the record of stock market returns going back two centuries and
5 examination of a number of economic forecasts may be an intellectual exercise of sorts, but it
6 doesn't inform us of what real world investors expect when they invest in utilities like Avista.
7 Indeed, it is particularly telling that Mr. Thornton refers to "my growth estimates" on page 18
8 of his testimony. What matters are investors' estimates. Mr. Thornton gives us no credible
9 evidence that any investors share his expectations.

10 **Q. Do you agree with Mr. Thornton that dividend growth rates are likely to**
11 **provide a superior guide to investors' growth expectations?**

12 A. No. Dividend policies in the electric utility industry have become increasingly
13 conservative as business risks in the industry have become more accentuated. Thus, while
14 earnings may be expected to grow significantly, dividends have remained largely stagnant as
15 companies conserve financial resources to provide a hedge against heightened uncertainties.
16 In this regard, the near-term dividend growth projections understate long-term expectations
17 for an industry in the midst of turmoil. S&P observed that, while over the past few years
18 "many utilities have frozen dividends or significantly lowered their growth rates" in order to
19 finance operations and pay down debt, "financially stronger companies may reconsider their
20 dividend policies."⁴¹

21 But in contrast to the assumptions Mr. Thornton builds into his DCF model, investors'
22 focus logically shifts from dividends to earnings as a measure of long-term growth as payout

1 ratios trend downward. As a result, growth in earnings, which ultimately supports future
2 dividends and the share price gains anticipated by investors, is likely to provide a more
3 meaningful guide to investors' long-term growth expectations. The fact that investment
4 advisory services, such as IBES and First Call focus on growth in earnings indicates that the
5 investment community regards this as superior to dividends as an indicator of future long-
6 term growth. Indeed, Financial Analysts Journal reported the results of a survey conducted to
7 determine what analytical techniques investment analysts actually use.⁴² Respondents were
8 asked to rank the relative importance of earnings, dividends, cash flow, and book value in
9 analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while
10 276 ranked it last. The article concluded:

11 Earnings and cash flow are considered far more important than book value and
12 dividends.⁴³

13 **Q. Did you err in not using a larger sample of utilities as claimed by Mr.**
14 **Thornton at page 34?**

15 A. No. Mr. Thornton's claim that a larger sample results in "a more efficient
16 estimator" is contrary to common sense. My selection of these companies was guided by
17 Value Line's classification of utilities for investors. I chose a sample of western utilities
18 because there was evidence that investors believe that these utilities share risks that are
19 unique to the region. Throwing in more utilities from other parts of the country does not
20 improve information if these companies are not comparable in investors' eyes.

⁴¹ Standard & Poor's Corporation, *Industry Surveys: Electric Utilities* (Aug. 7, 2003) at 8.

⁴² Block, Stanley B., "A Study of Financial Analysts: Practice and Theory," *Financial Analysts Journal* (July/August 1999).

⁴³ *Id.* at 88.

1 **Q. Is there any validity to Mr. Thornton's claim at page 35 that your**
2 **dividend yield calculation mismatches price and dividends?**

3 A. No. The price is observed at the same time as the dividend expectations.
4 There is no reason to believe that the publication of the Value Line each week causes prices
5 to move systematically because the information in Value Line's *Summary & Index* causes
6 investors' to alter their expectations, as suggested by Mr. Thornton. If this were the case, then
7 investors would certainly seek more timely and uniform distribution of Value Line, rather
8 than relying on weekly deliveries by U.S. mail.

9 **Q. Mr. Thornton argues at page 36 that you unreasonably assume that**
10 **companies will "suddenly and forever increase dividends by 6 percent per year" which**
11 **is "tremendously optimistic to the point of incredible." Do you make any incredible**
12 **assumptions?**

13 A. No. I am attempting to replicate investor expectations, as reflected in IBES
14 and First Call and other publications. First, as explained earlier and in detail in my direct
15 testimony, investors focus on earnings, not dividends in projecting future growth. This view
16 is confirmed in the writings of Professor Siegal referenced by Mr. Thornton:

17 It does not matter how much is paid as dividends and how much is reinvested
18 *as long as* the firm earns the same return on its retained earnings that
19 shareholders demand on its stock. The reason for this is that dividends not
20 paid today are reinvested by the firm and paid as even larger dividends in the
21 future.⁴⁴

22 Second, investors do not have an infinite horizon. Their projections of growth go out to the
23 foreseeable future. Few, if any, real world investors concern themselves with infinitely long

⁴⁴ Exhibit JST-1, p. 11 (emphasis original).

1 horizons. As a practical matter, not only is it impossible to predict the distant future, it simply
2 doesn't matter. In terms of the DCF model, the present value of cash flows in far distant years
3 – beyond the foreseeable future – is so small as to have little effect on investment decisions
4 today.

5 **Q. Is Mr. Thornton correct to argue (p. 36) that “one cannot conclude that**
6 **investors reasonably expect a 6 percent dividend growth in the near future (through**
7 **2009) much less infinity”?**

8 A. No. Investors expect what they expect. If publications like IBES and Value
9 Line reflect what investors expect, and there is every indication they do, then it is reasonable
10 to conclude that what you see is what they expect. Mr. Thornton seems to think there is some
11 absolute benchmark for investor expectations other than what we see revealed in the
12 marketplace. This view is contrary to that found in Professor Siegal’s words on page 10 of
13 Mr. Thornton’s Exhibit JST-1:

14 However, the risk and return on stocks and bonds are not physical constants,
15 like the speed of light or gravitational force, waiting to be discovered in the
16 natural world. Historical values must be tempered with an appreciation of
17 how investors, attempting to take advantage of the returns from the past, can
18 alter those very returns in the future.

19 **Q. Please respond to Mr. Thornton’s contention that the analysts’ growth**
20 **projections you used to apply the DCF model are “overly optimistic” (p. 36).**

21 A. First, in contrast to Mr. Thornton’s allegations, a study reported in "Analyst
22 Forecasting Errors: Additional Evidence" found no optimistic bias in earnings projections for
23 large firms (market capitalization of \$500-\$3,000 million), with data for the largest firms

1 (market capitalization > \$3,000 million) demonstrating a *pessimistic* bias.⁴⁵ More
2 importantly, however, any bias in analysts' forecasts – whether pessimistic or optimistic – is
3 irrelevant if investors share analysts' views. The continued success of investment services
4 such as IBES, and the fact that projected growth rates from such sources are widely
5 referenced, provides strong evidence that investors give considerable weight to analysts'
6 earnings projections in forming their expectations for future growth. While the projections of
7 securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in
8 assessing the expected growth that investors have incorporated into current stock prices. As
9 an article in Journal of Applied Finance noted:

10 There is very little research on the properties of five-year growth forecasts, as
11 opposed to short-term predictions.

12 ...Analysts' optimism, if any, is not necessarily a problem for the analysis in
13 this paper. If investors share analysts' views, our procedures will still yield
14 unbiased estimates of required returns and risk premia.⁴⁶

15 Given the importance that investors place on estimates of earnings growth, there is no basis
16 to support Mr. Thornton's contention that securities analysts' earnings growth projections
17 should not be used in the DCF model.

18 **Q. Does Mr. Thornton use conventional inputs to apply the CAPM?**

19 **A.** No. Mr. Thornton rejects the use of Value Line betas and creates his own
20 (lower) adjusted betas. Similarly, he follows his own views about the appropriate risk-free
21 rate and market risk premiums. Again, Mr. Thornton tells us why he has convinced himself

⁴⁵ Brown, Lawrence D., "Analyst Forecasting Errors: Additional Evidence", *Financial Analysts Journal* (November/December 1997).

⁴⁶ Harris, Robert S. and Marston, Felicia C., "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (2001) at 8.

1 of the rightness of these inputs, but does not offer any evidence that real world investors
2 would apply the model his way.

3 **Q. Is there reason for the IPUC to be concerned about Mr. Thornton's low**
4 **betas?**

5 A. Yes. His downward adjustment of the Value Line betas is a major driver of his
6 low CAPM estimates. In its recent decision in the Idaho Power case the IPUC noted the
7 concerns about the measurement and proper use of beta.⁴⁷ Mr. Thornton puts great emphasis
8 on beta not only in his CAPM analysis but as a basis for arguing that utilities have much less
9 risk than the average stock. To the extent that investors use betas in assessing risk, they are
10 more likely to reference the published betas in a widely circulated and authoritative source
11 like Value Line, rather than Mr. Thornton's self-developed adaptations to Value Line. Most
12 surprising, however, is that buried in Mr. Thornton's discourse on betas is evidence that
13 validates the IPUC's healthy skepticism.⁴⁸ The graph of betas presented by Mr. Thornton on
14 page 26 of his testimony reveals a sharp drop in "OLS betas" in the late 1970s and early
15 1980s. This was a period of turmoil in the electric utility industry as the second oil embargo
16 hit along with the Three Mile Island incident. To investors this was a time of great concern
17 about utilities with resulting dramatic drops in the prices of utility common stocks and
18 downgrades of utility bond ratings at a time when interest rates and inflation had been soaring
19 to new highs. As utilities were reeling in the aftermath of these changes, the stock market
20 generally was strong as inflation and interest rates began to fall and the economy shook off its

⁴⁷ Idaho Public Utilities Commission, Order No. 29505 (May 25, 2004) at 38.

⁴⁸ While using the CAPM as his sole risk premium method in the face of the IPUC's reservations about this method, Mr. Thornton disparages the comparable earnings method favored by this Commission on page 37 calling it "an inferior approach to estimate a cost of equity."

1 malaise during the early years of President Reagan's administration. While investors almost
2 certainly regarded electric utilities to be increasing in relative risk, the unadjusted betas were
3 dropping because utility stock prices were going down while the market was rising. This
4 period was a statistical artifact that led most observers to understand that historical betas
5 should be interpreted with a prudent grain of salt.

6 **Q. Are Mr. Thornton's criticisms of your allowed ROE risk premium**
7 **approach correct?**

8 A. No, Mr. Thornton's criticisms of the allowed rates of return used in this
9 approach are without merit. First, he is incorrect to allege that the information regarding
10 average allowed rates of return in each year is unreliable simply because every item of
11 possible interest in each rate case is not also presented in my schedule. The allowed rates of
12 returns are taken from a recognized and widely-used publication from a firm with a long
13 history of accumulating and reporting the results of state regulatory commission decisions.
14 Mr. Thornton questions the potential for "upward bias," depending on the form of the DCF
15 model considered by regulators or whether they considered results of an "inferior approach,"
16 such as the comparable earnings method proposed by Ms. Carlock. But such criticisms miss
17 the point. Under this approach, it is not necessary to examine the actual tools and techniques
18 relied on by regulators to set allowed rates of return. Rather, what matters is that, after
19 reasoned consideration of the evidence presented by all participants to a rate proceeding,
20 regulators make an informed determination of investors' required rate of return at the time
21 they issue their decision. This determination is embodied in the authorized rates of return on
22 equity that I used to apply the risk premium approach.

1 With respect to his theoretical arguments, Mr. Thornton is wrong about the risk
2 premium in the regression not being an independent variable.⁴⁹ While the interest rate is
3 subtracted from the average allowed return each year, bond yields do not appear as an
4 independent variable in the analysis. Thus, if the risk premium had no association with the
5 level of interest rates, the regression equation would not show a statistically significant
6 relationship. In fact, the association found is highly significant using standard statistical
7 inference. Mr. Thornton also asserts that this study of authorized ROE's does not correct for
8 changes in industry risk. First, as explained in detail in my direct testimony, there is little
9 support for Mr. Thornton's contention that the risks associated with the electric power
10 industry have decreased over the period covered by my study. But irrespective of whether
11 risk was increasing or decreasing, this would be considered by regulators and captured in the
12 market data used to establish allowed rates of return. Mr. Thornton is also incorrect to claim
13 that declines in interest rates would lead to bias in the risk premiums. In fact, the average
14 interest rates used to apply this approach match the time period used to determine the average
15 allowed returns. Moreover, interest rates fluctuated considerable over the 29 years covered
16 by my study, which encompassed periods when interest rates were rising precipitously, as
17 well as times of moderating rates. And contrary to Mr. Thornton's allegation that my study is
18 "out of step" by "mismatching" allowed ROEs and interest rates, my study specifically
19 adjusted for the impact of changes in bond yields on the equity risk premium.⁵⁰ Mr.
20 Thornton's suppositions are simply lacking in factual basis.

⁴⁹ Thornton Direct at fn. 19.

⁵⁰ Thornton Direct at 38.

1 **Q. Is there any meaningful basis to Mr. Thornton’s allegation that your risk**
2 **premium analysis based on realized rates of return is biased because it rewards**
3 **“unsystematic risk” (pp. 39-40)?**

4 A. No. First, as I noted earlier in response to Dr. Peseau, the overall assumption
5 that investors care only about systemic risk and not company-specific risk is a substantial
6 simplification of reality. No investor is perfectly diversified and in the real world – as
7 distinct from Mr. Thornton’s constructions – both macroeconomic risks and specific risks
8 affect investors’ risk perceptions and return requirements.

9 Second, the assumption underlying the realized rate of return method is that historical
10 returns, measured over a sufficiently long time period, provide a surrogate for the forward-
11 looking rates of return required in the capital markets. This method does not depend on the
12 strict assumptions of the CAPM and avoids the controversy surrounding beta by looking
13 directly at returns for electric utilities. Nevertheless, these realized rates of return are a
14 function of actual prices in the capital markets, which are determined by real-world investors
15 that have the opportunity to “diversify into other industries.”⁵¹ Thus, following Mr.
16 Thornton’s logic, to the extent that these investors can eliminate risk through diversification,
17 it would not be “priced in the market” or reflected in the values used to compute the realized
18 rates of return underlying my analysis. In other words, contrary to Mr. Thornton’s assertions,
19 the only compensation priced into realized returns would be for systematic risks.⁵²

⁵¹ Thornton Direct at 39.

⁵² This can be demonstrated by way of example. Subtracting my 5.2% risk-free rate from my 10.6% cost of equity based on realized returns results in a risk premium for electric utilities of 5.4%. Dividing this premium by the average beta of 0.77 for the firms in my proxy group results in a market risk premium of 7.01%, which falls squarely within the 6.1 to 7.8 percent range advocated by Mr. Thornton (p. 27).

1 Third, Mr. Thornton again implies that declining risks may lead to an overstatement
2 of the cost of equity. Apart from the fact that his position is diametrically opposed to the
3 views of the investment community, as demonstrated in my direct testimony, it is also at odds
4 with the statistics he cites one paragraph previously, where he notes that the volatility of the
5 returns to electric utilities exceeded that for the S&P 500 over the 1994 to 2002 period.⁵³

6 Under Mr. Thornton's theoretical paradigm, higher volatility of returns relative to the market
7 is indicative of higher, not lower, investment risks.

8 Fourth, as I noted earlier in response to Dr. Peseau, there is no "mismatch" (p. 40) in
9 using triple-B bond yields to develop a cost of equity estimate for Avista. Adding the risk
10 premium to a triple-B bond yield, as I did, reflects the investment risks of a utility with the
11 lowest investment grade credit rating and is more likely to understate, rather than overstate,
12 the returns required by equity investors.

13 Finally, the single academic study referenced by Mr. Thornton provides no meaningful
14 information to evaluate the realized rate of return approach or aid the IPUC in its
15 deliberations. As Mr. Thornton summarized, the final conclusion of this research was that
16 risk premiums for utilities "should be close to zero."⁵⁴ Of course, no reasonable analyst
17 would contend that the current risk premium for electric utilities should approach zero and
18 such a nonsensical result is even inconsistent with the meager returns recommended by Mr.
19 Thornton himself.

⁵³ Thornton Direct at 39.

⁵⁴ Thornton Direct at 42.

1 **Q. Is there any reason to believe that the market risk premiums and**
2 **expected returns are declining, as Mr. Thornton (p. 40) and Dr. Peseau (p. 58) assert?**

3 A. No. Contrary to the assertions of these witnesses, a study reported in the
4 January/February 2003 edition of *Financial Analysts Journal* noted that the real risk premium
5 for U.S. stocks averaged 6.9 percent over the period 1889 through 2000 and concluded that:

6 Over the long term, the equity risk premium is likely to be similar to what it
7 has been in the past and returns to investment in equity will continue to
8 substantially dominate returns to investments in T-bills for investors with a
9 long planning horizon.⁵⁵

10 Combining this real risk premium with an inflation rate of 3 percent suggests a market equity
11 risk premium well above the 8.5 percent used in my CAPM analysis that Mr. Thornton
12 characterized as “unrealistically high.”⁵⁶

13 **Q. Please respond to Mr. Thornton’s criticism of the long-term debt cost you**
14 **used to apply the CAPM (p. 43-45).**

15 A. I agree with Mr. Thornton that:

16 The use of a long-term U.S. Treasury bond for the risk-free asset implies a
17 long-term holding period.⁵⁷

18 Common equity is a perpetuity and as a result, the return that investors require is predicated
19 on their expectations for the firm’s long-term risks and prospects. This does not mean that
20 every investor will buy and hold a particular common stock into perpetuity, but even an
21 investor with a relatively short holding period will consider the long-term because of its
22 influence on the price that he or she ultimately receives from the stock when it is sold.

23 Similarly, Mr. Thornton recognized that in applying the DCF model, the analyst must

⁵⁵ Mehra, Ranjish, “The Equity Premium: Why Is It a Puzzle?,” *Financial Analysts Journal* (January/February 2003).

⁵⁶ Thornton Direct at 46.

⁵⁷ Thornton Direct at 43.

1 consider “the present value of all future dividends expected to be received by a share of
2 stock,”⁵⁸ not just the dividends to be paid during some shorter (*e.g.*, two-year), intermediate-
3 term holding period. Indeed, as Mr. Thornton observed in his Appendix, under the DCF
4 model “we assume that dividends are paid infinitely ($n \rightarrow \infty$).”⁵⁹

5 In fact, credible sources unambiguously recognize that long-term Treasury bond yields
6 provide the preferred basis to compute a long-term cost of capital. Indeed, Roger Ibbotson,
7 whose firm Ibbotson Associates provided data relied on in Mr. Thornton’s CAPM
8 application, made the same conclusion over a decade ago, explaining that while the CAPM
9 can be applied using short-term bill rates, the appropriate basis for a long-term cost of equity,
10 especially in the context of rate setting, is the yield on long-term Treasury bonds:

11 Q. Should the CAPM be used to estimate the short-term or the long-term cost
12 of capital?

13 A. The CAPM was originally formulated to measure the short-term cost of
14 capital, but it may be adapted to measure the long-term cost of capital by using
15 the expected return on a long-term government bond, instead of the risk risk-
16 free rate of return, as the riskless rate. ...

17 Q. When is it appropriate to use the long-term cost of capital?

18 A. It is necessary to use a long-term cost of capital when discounting cash
19 flows projected over a long period. Also, regulated ratesetting processes often
20 specify or suggest that the rate of return should allow the firm to attract and
21 retain debt and equity capital over the long term. Thus, the long-term cost of
22 capital is typically the appropriate cost of capital to use in regulated
23 ratesetting.⁶⁰

⁵⁸ Thornton Direct at 13 (emphasis added).

⁵⁹ Thornton Direct at 53.

⁶⁰ Ibbotson, Roger G. and Sinquefeld, Rex A., “Stocks, Bonds, Bills, and Inflation: Historical Returns (126-1987),” Research Foundation of The Institute of Chartered Financial Analysts (1989) at 122-25.

1 More recently, Ibbotson Associates again emphasized the importance of using long-term bond
2 yields when applying the CAPM to estimate returns for long-term assets, such as common
3 stock:

4 The horizon of the chosen Treasury security should match the horizon of
5 whatever is being valued. . . . Note that the horizon is a function of the
6 investment, not the investor. If an investor plans to hold a stock in a company
7 for only five years, the yield on a five-year Treasury note would not be
8 appropriate since the company will continue to exist beyond those five years.⁶¹

9 In applying the CAPM, Ibbotson Associates recognized that the cost of equity is a long-term
10 cost of capital and the appropriate interest rate to use is a long-term bond yield. Mr.
11 Thornton's criticism of the long-term bond yields that I used is simply without basis and his
12 use of a shorter, intermediate term bond yield is similarly unfounded.

13 **Q. Did Mr. Thornton recognize that flotation costs are a necessary expense**
14 **that a utility must incur if it is to raise equity capital?**

15 A. Yes. Mr. Thornton granted (p. 48) that "[f]lotation costs are a necessary cost
16 of business." Rather than recommend an upward adjustment to account for these costs,
17 however, Mr. Thornton recommended that Avista be allowed to recover flotation costs "as an
18 expense item" through an accounting treatment.⁶²

19 **Q. Do you have any objection to the IPUC adopting an accounting treatment**
20 **for the recovery of flotation costs?**

21 A. No. Allowing recovery of flotation costs as an expense item is certainly one
22 acceptable way to address this issue going forward. On the other hand, such a treatment
23 would ignore the costs already incurred in connection with past stock issuances. The only
24 practicable means available to ensure that Avista has the opportunity to earn investors' cost of

1 capital is to include an allowance for past flotation costs in arriving at the fair rate of return,
2 as Ms. Carlock and I have recognized. Choosing to ignore a “necessary cost of business” is
3 yet another reason explaining the extreme downward bias of Mr. Thornton’s recommended
4 cost of equity.

5 **Q. Does financial theory preclude higher returns for higher risk, as Mr.**
6 **Thornton implies (p. 49-50)?**

7 A. Of course not. Bond ratings are a widely recognized proxy for investment
8 risk. Mr. Thornton apparently is under the impression that investors would not necessarily
9 require a higher cost of equity from a “D” rated company whose debt is in default because
10 “investors can avoid risk by diversifying.”⁶³ This shows just how far Mr. Thornton’s analysis
11 departs from common sense in order to justify a below-market return on equity. Lower bond
12 ratings, such as Avista’s double-B corporate credit rating, evidence investors’ understanding
13 that there is greater uncertainties surrounding the firm’s ability to successfully meet its
14 financial obligations, especially during adverse market conditions. In fact, this potential for
15 greater variability translates into Mr. Thornton’s CAPM paradigm, with Avista’s beta
16 exceeding those of the utilities in the proxy groups referenced by Mr. Thornton and me by a
17 significant margin. Further, while I agree with Mr. Thornton that the interest of bondholders
18 and stockholders may not always be aligned, the risks of investing in common stocks clearly
19 exceed those associated with bonds. Thus, reference to yield spreads between bonds of
20 various ratings is far more likely to *understate* the risk differential perceived by common
21 stockholders.

⁶¹ Ibbotson Associates, *2003 Yearbook* (Valuation Edition) at 53.

⁶² Thornton Direct at 48.

1 **Q. Does this conclude your rebuttal testimony?**

2 **A. Yes, it does.**

⁶³ Thornton Direct at 49.