

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-15_____

DOCKET NO. UG-15_____

EXHIBIT NO._____(AMM-3)

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I. DESCRIPTION OF QUANTITATIVE ANALYSES

1 **Q. What is the purpose of this exhibit?**

2 A. Exhibit No.__(AMM-3) presents capital market estimates of the cost of
3 equity. First, I examine the concept of the cost of equity, along with the risk-return
4 tradeoff principle fundamental to capital markets. Next, I describe DCF, ECAPM, and
5 risk premium analyses conducted to estimate the cost of equity for reference groups of
6 comparable risk firms. This exhibit also presents alternative tests to confirm that the
7 end-results of my primary analyses are reasonable and do not exceed a fair ROE.

A. Overview

8 **Q. What fundamental economic principle underlies any evaluation of**
9 **investors' required return on equity?**

10 A. The fundamental economic principle underlying the cost of equity
11 concept is the notion that investors are risk averse. In capital markets where relatively
12 risk-free assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to
13 hold riskier assets only if they are offered a premium, or additional return, above the
14 rate of return on a risk-free asset. Since all assets compete with each other for investor
15 funds, riskier assets must yield a higher expected rate of return than safer assets to
16 induce investors to hold them.

17 Given this risk-return tradeoff, the required rate of return (k) from an asset (i)
18 can be generally expressed as:

1 $k_i = R_f + RP_i$

2 where: R_f = Risk-free rate of return, and
3 RP_i = Risk premium required to hold riskier asset i.

4 Thus, the required rate of return for a particular asset at any point in time is a function
5 of: 1) the yield on risk-free assets, and 2) its relative risk, with investors demanding
6 correspondingly larger risk premiums for assets bearing greater risk.

7 **Q. Is there evidence that the risk-return tradeoff principle actually**
8 **operates in the capital markets?**

9 A. Yes. The risk-return tradeoff can be readily documented in segments of
10 the capital markets where required rates of return can be directly inferred from market
11 data and where generally accepted measures of risk exist. Bond yields, for example,
12 reflect investors' expected rates of return, and bond ratings measure the risk of
13 individual bond issues. Comparing the observed yields on government securities,
14 which are considered free of default risk, to the yields on bonds of various rating
15 categories demonstrates that the risk-return tradeoff does, in fact, exist.

16 **Q. Does the risk-return tradeoff observed with fixed income securities**
17 **extend to common stocks and other assets?**

18 A. It is widely accepted that the risk-return tradeoff evidenced with long-
19 term debt extends to all assets. Documenting the risk-return tradeoff for assets other
20 than fixed income securities, however, is complicated by two factors. First, there is no
21 standard measure of risk applicable to all assets. Second, for most assets – including
22 common stock – required rates of return cannot be directly observed. Yet there is every

1 reason to believe that investors exhibit risk aversion in deciding whether or not to hold
2 common stocks and other assets, just as when choosing among fixed-income securities.

3 **Q. Is this risk-return tradeoff limited to differences between firms?**

4 A. No. The risk-return tradeoff principle applies not only to investments in
5 different firms, but also to different securities issued by the same firm. The securities
6 issued by a utility vary considerably in risk because they have different characteristics
7 and priorities. As noted earlier, long-term debt is senior among all capital in its claim
8 on a utility's net revenues and is, therefore, the least risky. The last investors in line are
9 common shareholders. They receive only the net revenues, if any, remaining after all
10 other claimants have been paid. As a result, the rate of return that investors require
11 from a utility's common stock, the most junior and riskiest of its securities, must be
12 considerably higher than the yield offered by the utility's senior, long-term debt.

13 **Q. What does the above discussion imply with respect to estimating the**
14 **cost of common equity for a utility?**

15 A. Although the cost of common equity cannot be observed directly, it is a
16 function of the returns available from other investment alternatives and the risks to
17 which the equity capital is exposed. Because it is unobservable, the cost of equity for a
18 particular utility must be estimated by analyzing information about capital market
19 conditions generally, assessing the relative risks of the company specifically, and
20 employing various quantitative methods that focus on investors' current required rates
21 of return. These various quantitative methods typically attempt to infer investors'
22 required rates of return from stock prices, interest rates, or other capital market data.

B. Comparable Risk Proxy Group

1 **Q. How did you implement quantitative methods to estimate the cost of**
2 **common equity for Avista?**

3 A. Application of quantitative methods to estimate the cost of equity
4 requires observable capital market data, such as stock prices. Moreover, even for a firm
5 with publicly traded stock, the cost of equity can only be estimated. As a result,
6 applying quantitative models using observable market data only produces an estimate
7 that inherently includes some degree of observation error. Thus, the accepted approach
8 to increase confidence in the results is to apply the quantitative methods such as the
9 DCF and ECAPM to a proxy group of publicly traded companies that investors regard
10 as risk-comparable.

11 **Q. What specific proxy group of utilities did you rely on for your**
12 **analysis?**

13 A. In order to reflect the risks and prospects associated with Avista's
14 jurisdictional utility operations, my DCF analyses focused on a reference group of other
15 utilities composed of those companies included by The Value Line Investment Survey
16 ("Value Line") in its Electric Utilities Industry groups with:

- 17 1. S&P corporate credit ratings of BBB-, BBB, or BBB+;
- 18 2. Moody's issuer ratings of Baa2, Baa1, or A3,
- 19 3. Value Line Safety Rank of "2" or "3";
- 20 4. No involvement in a major merger or acquisition; and,
- 21 5. Currently paying common dividends with no recent dividend cuts.

1 These criteria resulted in a proxy group composed of 21 companies, which I refer to as
2 the “Utility Group.”

3 **Q. How did you evaluate the risks of the Utility Group relative to**
4 **Avista?**

5 A. My evaluation of relative risk considered four objective, published
6 benchmarks that are widely relied on in the investment community. Credit ratings are
7 assigned by independent rating agencies for the purpose of providing investors with a
8 broad assessment of the creditworthiness of a firm. Ratings generally extend from
9 triple-A (the highest) to D (in default). Other symbols (*e.g.*, "BBB+") are used to show
10 relative standing within a category. Because the rating agencies' evaluation includes
11 virtually all of the factors normally considered important in assessing a firm's relative
12 credit standing, corporate credit ratings provide a broad, objective measure of overall
13 investment risk that is readily available to investors. Although the credit rating agencies
14 are not immune to criticism, their rankings and analyses are widely cited in the
15 investment community and referenced by investors. Investment restrictions tied to
16 credit ratings continue to influence capital flows, and credit ratings are also frequently
17 used as a primary risk indicator in establishing proxy groups to estimate the cost of
18 common equity.

19 While credit ratings provide the most widely referenced benchmark for
20 investment risks, other quality rankings published by investment advisory services also
21 provide relative assessments of risks that are considered by investors in forming their
22 expectations for common stocks. Value Line's primary risk indicator is its Safety Rank,

1 which ranges from “1” (Safest) to “5” (Riskiest). This overall risk measure is intended
2 to capture the total risk of a stock, and incorporates elements of stock price stability and
3 financial strength. Given that Value Line is perhaps the most widely available source of
4 investment advisory information, its Safety Rank provides useful guidance regarding
5 the risk perceptions of investors.

6 The Financial Strength Rating is designed as a guide to overall financial strength
7 and creditworthiness, with the key inputs including financial leverage, business
8 volatility measures, and company size. Value Line’s Financial Strength Ratings range
9 from “A++” (strongest) down to “C” (weakest) in nine steps. Finally, Value Line’s beta
10 measures a utility’s stock price volatility relative to the market as a whole. A stock that
11 tends to respond less to market movements has a beta less than 1.00, while stocks that
12 tend to move more than the market have betas greater than 1.00. Beta is the only
13 relevant measure of investment risk under modern capital market theory, and is widely
14 cited in academics and in the investment industry as a guide to investors’ risk
15 perceptions. Moreover, in my experience Value Line is the most widely referenced
16 source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

17 Value Line is the largest and most widely circulated independent
18 investment advisory service, and influences the expectations of a large
19 number of institutional and individual investors. ... Value Line betas are
20 computed on a theoretically sound basis using a broadly based market
21 index, and they are adjusted for the regression tendency of betas to
22 converge to 1.00.¹

¹ Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports* at 71 (2006).

1 **Q. How do the overall risks of your proxy group compare with Avista?**

2 A. Table 1 compares the Utility Group with Avista across five key indicators

3 of investment risk:

4 **TABLE 1**
5 **COMPARISON OF RISK INDICATORS**

| <u>Proxy Group</u> | <u>S&P</u> | <u>Moody's</u> | <u>Value Line</u> | | |
|--------------------|----------------|----------------|--------------------|---------------------------|-------------|
| | | | <u>Safety Rank</u> | <u>Financial Strength</u> | <u>Beta</u> |
| Utility Group | BBB | Baa1 | 2 | B++ | 0.76 |
| Avista | BBB | Baa1 | 2 | A | 0.80 |

6 **Q. What does this comparison indicate regarding investors' assessment**
7 **of the relative risk associated with your Utility Group?**

8 A. As shown above, the BBB and Baa1 credit ratings corresponding to
9 Avista are identical to the average credit ratings for the Utility Group. Similarly, the
10 average Value Line Safety Rank for the Utility Group is the same as that assigned to the
11 Company. With respect to Value Line's Financial Strength, the average value for the
12 Utility Group indicates slightly more risk than for Avista, while Avista's higher beta
13 measure suggests greater risk than for the proxy group. Considered together, this
14 comparison of objective measures, which consider a broad spectrum of risks, including
15 financial and business position, and exposure to firm-specific factors, indicates that
16 investors would likely conclude that the overall investment risks for Avista are generally
17 comparable to those of the firms in the Utility Group.

C. Discounted Cash Flow Analyses

1 **Q. How are DCF models used to estimate the cost of equity?**

2 A. DCF models attempt to replicate the market valuation process that sets
3 the price investors are willing to pay for a share of a company's stock. The model rests
4 on the assumption that investors evaluate the risks and expected rates of return from all
5 securities in the capital markets. Given these expectations, the price of each stock is
6 adjusted by the market until investors are adequately compensated for the risks they
7 bear. Therefore, we can look to the market to determine what investors believe a share
8 of common stock is worth. By estimating the cash flows investors expect to receive
9 from the stock in the way of future dividends and capital gains, we can calculate their
10 required rate of return. That is, the cost of equity is the discount rate that equates the
11 current price of a share of stock with the present value of all expected cash flows from
12 the stock. The formula for the general form of the DCF model is as follows:

$$13 \quad P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \dots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

14 where: P0 = Current price per share;
15 Pt = Expected future price per share in period t;
16 Dt = Expected dividend per share in period t;
17 ke = Cost of common equity.

1 **Q. What form of the DCF model is customarily used to estimate the cost**
2 **of equity in rate cases?**

3 A. Rather than developing annual estimates of cash flows into perpetuity,
4 the DCF model can be simplified to a “constant growth” form:²

$$5 \qquad P_0 = \frac{D_1}{k_e - g}$$

6 where: P₀ = Current price per share;
7 D₁ = Expected dividend per share in the coming year;
8 k_e = Cost of equity;
9 g = Investors’ long-term growth expectations.

10 The cost of equity (K_e) can be isolated by rearranging terms:

$$11 \qquad k_e = \frac{D_1}{P_0} + g$$

12 This constant growth form of the DCF model recognizes that the rate of return to
13 stockholders consists of two parts: 1) dividend yield (D₁/P₀), and 2) growth (g). In
14 other words, investors expect to receive a portion of their total return in the form of
15 current dividends and the remainder through price appreciation.

16 **Q. What steps are required to apply the DCF model?**

17 A. The first step in implementing the constant growth DCF model is to
18 determine the expected dividend yield (D₁/P₀) for the firm in question. This is usually
19 calculated based on an estimate of dividends to be paid in the coming year divided by
20 the current price of the stock. The second step is to estimate investors' long-term

² The constant growth DCF model is dependent on a number of assumptions, which in practice are never strictly met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

1 growth expectations (g) for the firm. The final step is to sum the firm's dividend yield
2 and estimated growth rate to arrive at an estimate of its cost of equity.

3 **Q. How was the dividend yield for the Utility Group determined?**

4 A. Estimates of dividends to be paid by each of these utilities over the next
5 twelve months, obtained from Value Line, served as D_1 . This annual dividend was then
6 divided by a 30-day average stock price for each utility to arrive at the expected
7 dividend yield. The expected dividends, stock prices, and resulting dividend yields for
8 the firms in the Utility Group are presented on page 1 of Exhibit No.__(AMM-6).

9 **Q. What is the next step in applying the constant growth DCF model?**

10 A. The next step is to evaluate long-term growth expectations, or “ g ”, for
11 the firm in question. In constant growth DCF theory, earnings, dividends, book value,
12 and market price are all assumed to grow in lockstep, and the growth horizon of the
13 DCF model is infinite. But implementation of the DCF model is more than just a
14 theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive
15 at observable stock prices. A wide variety of techniques can be used to derive growth
16 rates, but the only “ g ” that matters in applying the DCF model is the value that investors
17 expect.

18 **Q. What are investors most likely to consider in developing their long-**
19 **term growth expectations?**

20 A. Given that DCF model is solely concerned with replicating the forward-
21 looking evaluation of real-world investors, in the case of utilities, dividend growth rates
22 are not likely to provide a meaningful guide to investors' current growth expectations.

1 This is because utilities have significantly altered their dividend policies in response to
2 more accentuated business risks in the industry, with the payout ratios falling
3 significantly. As a result of this trend towards a more conservative payout ratio,
4 dividend growth in the utility industry has lagged growth in earnings as utilities
5 conserve financial resources to provide a hedge against heightened uncertainties.

6 A measure that plays a pivotal role in determining investors' long-term growth
7 expectations are future trends in earnings per share ("EPS"), which provide the source
8 for future dividends and ultimately support share prices. The importance of earnings in
9 evaluating investors' expectations and requirements is well accepted in the investment
10 community, and surveys of analytical techniques relied on by professional analysts
11 indicate that growth in earnings is far more influential than trends in dividends per share
12 ("DPS").

13 The availability of projected EPS growth rates also is key to investors relying on
14 this measure as compared to future trends in DPS. Apart from Value Line, investment
15 advisory services do not generally publish comprehensive DPS growth projections, and
16 this scarcity of dividend growth rates relative to the abundance of earnings forecasts
17 attests to their relative influence. The fact that securities analysts focus on EPS growth,
18 and that DPS growth rates are not routinely published, indicates that projected EPS
19 growth rates are likely to provide a superior indicator of the future long-term growth
20 expected by investors.

1 **Q. Do the growth rate projections of security analysts consider**
2 **historical trends?**

3 A. Yes. Professional security analysts study historical trends extensively in
4 developing their projections of future earnings. Hence, to the extent there is any useful
5 information in historical patterns, that information is incorporated into analysts' growth
6 forecasts.

7 **Q. Did Professor Myron J. Gordon, who originated the DCF approach,**
8 **recognize the pivotal role that earnings play in forming investors' expectations?**

9 A. Yes. Dr. Gordon specifically recognized that "it is the growth that
10 investors expect that should be used" in applying the DCF model and he concluded:

11 A number of considerations suggest that investors may, in fact, use
12 earnings growth as a measure of expected future growth."³

13 **Q. Are analysts' assessments of growth rates appropriate for estimating**
14 **investors' required return using the DCF model?**

15 A. Yes. In applying the DCF model to estimate the cost of common equity,
16 the only relevant growth rate is the forward-looking expectations of investors that are
17 captured in current stock prices. Investors, just like securities analysts and others in the
18 investment community, do not know how the future will actually turn out. They can
19 only make investment decisions based on their best estimate of what the future holds in
20 the way of long-term growth for a particular stock, and securities prices are constantly
21 adjusting to reflect their assessment of available information.

22 Any claims that analysts' estimates are not relied upon by investors are illogical
23 given the reality of a competitive market for investment advice. The market for

³ Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).

1 investment advice is intensely competitive, and securities analysts are personally and
2 professionally motivated to provide the most accurate assessment possible of future
3 growth trends. If financial analysts' forecasts do not add value to investors' decision
4 making, then it is irrational for investors to pay for these estimates. Those financial
5 analysts who fail to provide reliable forecasts will lose out in competitive markets
6 relative to those analysts whose forecasts investors find more credible. The reality that
7 analyst estimates are routinely referenced in the financial media and in investment
8 advisory publications (*e.g.*, Value Line) implies that investors use them as a basis for
9 their expectations.

10 While the projections of securities analysts may be proven optimistic or
11 pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors
12 have incorporated into current stock prices, and any bias in analysts' forecasts – whether
13 pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings
14 growth projections of security analysts provide the most frequently referenced guide to
15 investors' views and are widely accepted in applying the DCF model. As explained in
16 *New Regulatory Finance*:

17 Because of the dominance of institutional investors and their influence
18 on individual investors, analysts' forecasts of long-run growth rates
19 provide a sound basis for estimating required returns. Financial analysts
20 exert a strong influence on the expectations of many investors who do
21 not possess the resources to make their own forecasts, that is, they are a
22 cause of g [growth]. The accuracy of these forecasts in the sense of
23 whether they turn out to be correct is not an issue here, as long as they
24 reflect widely held expectations.⁴

⁴ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).

1 **Q. What are security analysts currently projecting in the way of growth**
2 **for the firms in the Utility Proxy Group?**

3 A. The projected EPS growth rates for each of the firms in the Utility Group
4 reported by Value Line, IBES, and Zacks Investment Research (“Zacks”) are displayed
5 on page 2 of Exhibit No.__(AMM-6).⁵

6 **Q. How else are investors’ expectations of future long-term growth**
7 **prospects often estimated for use in the constant growth DCF model?**

8 A. In constant growth theory, growth in book equity will be equal to the
9 product of the earnings retention ratio (one minus the dividend payout ratio) and the
10 earned rate of return on book equity. Furthermore, if the earned rate of return and the
11 payout ratio are constant over time, growth in earnings and dividends will be equal to
12 growth in book value. Despite the fact that these conditions are seldom, if ever, met in
13 practice, this “sustainable growth” approach may provide a rough guide for evaluating a
14 firm’s growth prospects and is frequently proposed in regulatory proceedings.

15 The sustainable growth rate is calculated by the formula, $g = br+sv$, where “b” is
16 the expected retention ratio, “r” is the expected earned return on equity, “s” is the
17 percent of common equity expected to be issued annually as new common stock, and
18 “v” is the equity accretion rate. Under DCF theory, the “sv” factor is a component of
19 the growth rate designed to capture the impact of issuing new common stock at a price
20 above, or below, book value. The sustainable, “br+sv” growth rates for each firm in the

⁵ Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

1 Utility Group are summarized on page 2 of Exhibit No.__(AMM-6), with the
2 underlying details being presented on Exhibit No.__(AMM-7).⁶

3 **Q. Are there significant shortcomings associated with the “br+sv”**
4 **growth rate?**

5 A. Yes. First, in order to calculate the sustainable growth rate, it is
6 necessary to develop estimates of investors’ expectations for four separate variables;
7 namely, “b”, “r”, “s”, and “v.” Given the inherent difficulty in forecasting each
8 parameter and the difficulty of estimating the expectations of investors, the potential for
9 measurement error is significantly increased when using four variables, as opposed to
10 referencing a direct projection for EPS growth. Second, empirical research in the
11 finance literature indicates that sustainable growth rates are not as significantly
12 correlated to measures of value, such as share prices, as are analysts’ EPS growth
13 forecasts.⁷

14 The “sustainable growth” approach was included for completeness, but evidence
15 indicates that analysts’ forecasts provide a superior and more direct guide to investors’
16 growth expectations. Accordingly, I give less weight to cost of equity estimates based
17 on br+sv growth rates in evaluating the results of the DCF model.

⁶ Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, which is consistent with the theory underlying this approach.

⁷ Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports, Inc.*, at 307 (2006).

1 **Q. What cost of equity estimates were implied for the Utility Group**
2 **using the DCF model?**

3 A. After combining the dividend yields and respective growth projections
4 for each utility, the resulting cost of equity estimates are shown on page 3 of
5 Exhibit No.__(AMM-6).

6 **Q. In evaluating the results of the constant growth DCF model, is it**
7 **appropriate to eliminate estimates that are extreme outliers?**

8 A. Yes. In applying quantitative methods to estimate the cost of equity, it is
9 essential that the resulting values pass fundamental tests of reasonableness and
10 economic logic. Accordingly, DCF estimates that are implausibly low or high should be
11 eliminated when evaluating the results of this method.

12 **Q. How did you evaluate DCF estimates at the low end of the range?**

13 A. I based my evaluation of DCF estimates at the low end of the range on
14 the fundamental risk-return tradeoff, which holds that investors will only take on more
15 risk if they expect to earn a return to compensate them for the greater uncertainty.
16 Because common stocks lack the protections associated with an investment in long-term
17 bonds, a utility's common stock imposes far greater risks on investors. As a result, the
18 rate of return that investors require from a utility's common stock is considerably higher
19 than the yield offered by senior, long-term debt. Consistent with this principle, DCF
20 results that are not sufficiently higher than the yields available on less risky utility
21 bonds must be eliminated.

1 **Q. Have similar tests been applied by regulators?**

2 A. Yes. FERC has noted that adjustments are justified where applications of
3 the DCF approach produce illogical results. FERC evaluates DCF results against
4 observable yields on long-term public utility debt and has recognized that it is
5 appropriate to eliminate estimates that do not sufficiently exceed this threshold.⁸ FERC
6 recently affirmed that:

7 The purpose of the low-end outlier test is to exclude from the proxy
8 group those companies whose ROE estimates are below the average
9 bond yield or are above the average bond yield but are sufficiently low
10 that an investor would consider the stock to yield essentially the same
11 return as debt. In public utility ROE cases, the Commission has used
12 100 basis points above the cost of debt as an approximation of this
13 threshold, but has also considered the distribution of proxy group
14 companies to inform its decision on which companies are outliers. As
15 the Presiding Judge explained, this is a flexible test.⁹

16 **Q. What interest rate benchmark did you consider in evaluating the**
17 **DCF results for Avista?**

18 As noted earlier, the S&P and Moody's ratings for Avista are BBB and Baa1,
19 respectively, which fall in the triple-B rating category. Accordingly, I referenced
20 average yields on triple-B utility bonds as my benchmark in evaluating low-end results.
21 Monthly yields on triple-B bonds reported by Moody's averaged approximately 4.7%
22 over the six months ending December 2014¹⁰

⁸ See, e.g., Southern California Edison Co., 131 FERC ¶ 61,020 at P 55 (2010) ("SoCal Edison").

⁹ Martha Coakley et al., v. Bangor Hydro-Electric Company, et al., Opinion No. 531, 147 FERC ¶ 61,234 at P 122 (2014).

Moody's Investors Service, <http://credittrends.moody's.com/chartroom.asp?c=3>.

1 The increase in debt yields anticipated by IHS Global Insight and EIA is also
2 supported by the widely-referenced Blue Chip Financial Forecasts, which projects that
3 yields on corporate bonds will climb on the order of 200 basis points through 2019.¹¹

4 **Q. What does this test of logic imply with respect to the DCF estimates**
5 **for the Utility Group?**

6 A. Adding FERC's 100 basis-point premium to the historical and projected
7 average utility bond yields implies a low-end threshold on the order of 5.7% to 7.8%.
8 As highlighted on page 3 of Exhibit No.__(AMM-6), after considering this test and the
9 distribution of individual estimates, I eliminated low-end DCF estimates ranging from
10 4.5% to 6.9%. Based on my professional experience and the risk-return tradeoff
11 principle that is fundamental to finance, it is inconceivable that investors are not
12 requiring a substantially higher rate of return for holding common stock. As a result,
13 consistent with the threshold established by historical and projected utility bond yields,
14 these values provide little guidance as to the returns investors require from utility
15 common stocks and should be excluded.

16 **Q. Do you also recommend excluding estimates at the high end of the**
17 **range of DCF results?**

18 A. Yes. The upper end of the cost of common equity range produced by the
19 DCF analysis presented on page 3 of Exhibit No.__(AMM-6) was set by a cost of
20 equity estimate of 19.6 percent. When compared with the balance of the remaining
21 estimates, this value is clearly implausible and should be excluded in evaluating the
22 results of the DCF model for the Utility Group. This is also consistent with the

¹¹ *Blue Chip Financial Forecasts*, Vol. 33, No. 6 (Jun. 1, 2014).

1 precedent adopted by FERC, which has established that illogical high-end estimates
2 should be disregarded in interpreting the results of the DCF model.¹²

3 **Q. What cost of equity is implied by your DCF results for the Utility**
4 **Group?**

5 A. As shown on page 3 of Exhibit No.____(AMM-6) and summarized in
6 Table 3, below, after eliminating illogical low- and high-end values, application of the
7 constant growth DCF model resulted in the following cost of equity estimates:

8 **TABLE 3**
9 **DCF RESULTS – UTILITY GROUP**

| | <u>Cost of Equity</u> | |
|--------------------|-----------------------|-----------------|
| <u>Growth Rate</u> | <u>Average</u> | <u>Midpoint</u> |
| Value Line | 9.2% | 10.1% |
| IBES | 9.9% | 9.9% |
| Zacks | 9.7% | 9.6% |
| Reuters | 10.0% | 9.9% |
| br + sv | 8.3% | 9.3% |

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D. **Empirical Capital Asset Pricing Model**

19 **Q. Please describe the ECAPM.**

20 A. The ECAPM is a variant of the traditional CAPM, which is a theory of
21 market equilibrium that measures risk using the beta coefficient. Assuming investors
22 are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its
23 volatility relative to the market as a whole, with beta reflecting the tendency of a stock's
24 price to follow changes in the market. A stock that tends to respond less to market

¹² See, *e.g.*, *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004).

1 movements has a beta less than 1.00, while stocks that tend to move more than the
2 market have betas greater than 1.00. The CAPM is mathematically expressed as:

3
$$R_j = R_f + \beta_j(R_m - R_f)$$

4 where: R_j = required rate of return for stock j;
5 R_f = risk-free rate;
6 R_m = expected return on the market portfolio; and,
7 β_j = beta, or systematic risk, for stock j.

8 Like the DCF model, the ECAPM is an *ex-ante*, or forward-looking model based on
9 expectations of the future. As a result, in order to produce a meaningful estimate of
10 investors' required rate of return, the ECAPM must be applied using estimates that
11 reflect the expectations of actual investors in the market, not with backward-looking,
12 historical data.

13 **Q. Why is the ECAPM approach an appropriate component of**
14 **evaluating the cost of equity for Avista?**

15 A. The CAPM approach, which forms the foundation of the ECAPM,
16 generally is considered to be the most widely referenced method for estimating the cost
17 of equity among academicians and professional practitioners, with the pioneering
18 researchers of this method receiving the Nobel Prize in 1990. Because this is the
19 dominant model for estimating the cost of equity outside the regulatory sphere, the
20 ECAPM provides important insight into investors' required rate of return for utility
21 stocks, including Avista.

1 **Q. How does the ECAPM approach differ from traditional applications**
2 **of the CAPM?**

3 A. Empirical tests of the CAPM have shown that low-beta securities earn
4 returns somewhat higher than the CAPM would predict, and high-beta securities earn
5 less than predicted. In other words, the CAPM tends to overstate the actual
6 sensitivity of the cost of capital to beta, with low-beta stocks tending to have higher
7 returns and high-beta stocks tending to have lower risk returns than predicted by the
8 CAPM. This empirical finding is widely reported in the finance literature, as
9 summarized in *New Regulatory Finance*:

10 As discussed in the previous section, several finance scholars have
11 developed refined and expanded versions of the standard CAPM by
12 relaxing the constraints imposed on the CAPM, such as dividend yield,
13 size, and skewness effects. These enhanced CAPMs typically produce a
14 risk-return relationship that is flatter than the CAPM prediction in
15 keeping with the actual observed risk-return relationship. The ECAPM
16 makes use of these empirical relationships.¹³

17 As discussed in *New Regulatory Finance*, based on a review of the empirical evidence,
18 the expected return on a security is related to its risk by the ECAPM, which is
19 represented by the following formula:

$$20 \qquad R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

21 This ECAPM equation, and the associated weighting factors, recognize the observed
22 relationship between standard CAPM estimates and the cost of capital documented in
23 the financial research, and correct for the understated returns that would otherwise be
24 produced for low beta stocks.

¹³ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 189 (2006).

1 **Q. How did you apply the ECAPM to estimate the cost of common**
2 **equity?**

3 A. Application of the ECAPM to the Utility Group based on a forward-
4 looking estimate for investors' required rate of return from common stocks is presented
5 on Exhibit No.__(AMM-8). In order to capture the expectations of today's investors
6 in current capital markets, the expected market rate of return was estimated by
7 conducting a DCF analysis on the dividend paying firms in the S&P 500.

8 The dividend yield for each firm was obtained from Value Line, and the growth
9 rate was equal to the average of the earnings growth projections for each firm published
10 by IBES and Value Line, with each firm's dividend yield and growth rate being
11 weighted by its proportionate share of total market value. Based on the weighted
12 average of the projections for the individual firms, current estimates imply an average
13 growth rate over the next five years of 9.7%. Combining this average growth rate with
14 a year-ahead dividend yield of 2.3% results in a current cost of common equity estimate
15 for the market as a whole (R_m) of approximately 12.0%. Subtracting a 3.1% risk-free
16 rate based on the average yield on 30-year Treasury bonds for the six months ending
17 December 2014 produced a market equity risk premium of 8.9%.

18 **Q. What was the source of the beta values you used to apply the**
19 **CAPM?**

20 A. I relied on the beta values reported by Value Line, which in my
21 experience is the most widely referenced source for beta in regulatory proceedings. As
22 noted in *New Regulatory Finance*:

1 Value Line is the largest and most widely circulated independent
2 investment advisory service, and influences the expectations of a large
3 number of institutional and individual investors. ... Value Line betas are
4 computed on a theoretically sound basis using a broadly based market
5 index, and they are adjusted for the regression tendency of betas to
6 converge to 1.00.¹⁴

7 **Q. What else should be considered in applying the ECAPM?**

8 A. As explained by *Morningstar*:

9 One of the most remarkable discoveries of modern finance is that of a
10 relationship between firm size and return. The relationship cuts across
11 the entire size spectrum but is most evident among smaller companies,
12 which have higher returns on average than larger ones.¹⁵

13 Because empirical research indicates that the ECAPM does not fully account for
14 observed differences in rates of return attributable to firm size, a modification is
15 required to account for this size effect.

16 According to the ECAPM, the expected return on a security should consist of
17 the riskless rate, plus a premium to compensate for the systematic risk of the particular
18 security. The degree of systematic risk is represented by the beta coefficient. The need
19 for the size adjustment arises because differences in investors' required rates of return
20 that are related to firm size are not fully captured by beta. To account for this,
21 Morningstar has developed size premiums that need to be added to the theoretical
22 ECAPM cost of equity estimates to account for the level of a firm's market
23 capitalization in determining the ECAPM cost of equity. These premiums correspond to
24 the size deciles of publicly traded common stocks, and range from a premium of 6.0%
25 for a company in the first decile (market capitalization less than \$339.5 million), to a

¹⁴ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).

¹⁵ *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85 (footnote omitted).

1 reduction of 33 basis points for firms in the tenth decile (market capitalization greater
2 than \$21.8 billion).¹⁶ Accordingly, my CAPM analyses incorporated an adjustment to
3 recognize the impact of size distinctions, as measured by the average market
4 capitalization for the respective proxy groups.

5 **Q. What cost of equity is indicated for the Utility Group using the**
6 **ECAPM approach?**

7 A. As shown on page 1 of Exhibit No.__(AMM-8), a forward-looking
8 application of the ECAPM approach resulted in an average unadjusted ROE estimate of
9 10.4 percent.¹⁷ After adjusting for the impact of firm size, the ECAPM approach
10 implied an average cost of equity of 11.5 percent for the Utility Group, with a midpoint
11 cost of equity estimate of 11.1 percent.

12 **Q. Did you also apply the ECAPM using forecasted bond yields?**

13 A. Yes. As discussed earlier, there is widespread consensus that interest
14 rates will increase materially as the economy continues to strengthen. Accordingly, in
15 addition to the use of current bond yields, I also applied the ECAPM based on the
16 forecasted long-term Treasury bond yields developed based on projections published by
17 Value Line, IHS Global Insight and Blue Chip. As shown on page 2 of Exhibit
18 No.__(AMM-8), incorporating a forecasted Treasury bond yield for 2015-2019
19 implied a cost of equity of approximately 10.7% for the Utility Group, or 11.8% after
20 adjusting for the impact of relative size. The midpoints of the unadjusted and size
21 adjusted cost of equity ranges were 10.6% and 11.3%, respectively.

¹⁶ *Morningstar*, “2014 Ibbotson S&P 500 Market Report,” at Table 10 (2014).

¹⁷ The midpoint of the unadjusted ECAPM range was 10.3%.

E. Risk Premium Approach

1 **Q. Please briefly describe the risk premium method.**

2 A. The risk premium method of estimating investors' required rate of return
3 extends to common stocks the risk-return tradeoff observed with bonds. The cost of
4 equity is estimated by first determining the additional return investors require to forgo
5 the relative safety of bonds and to bear the greater risks associated with common stock,
6 and by then adding this equity risk premium to the current yield on bonds. Like the
7 DCF model, the risk premium method is capital market oriented. However, unlike DCF
8 models, which indirectly impute the cost of equity, risk premium methods directly
9 estimate investors' required rate of return by adding an equity risk premium to
10 observable bond yields.

11 **Q. Is the risk premium approach a widely accepted method for**
12 **estimating the cost of equity?**

13 A. Yes. The risk premium approach is based on the fundamental risk-return
14 principle that is central to finance, which holds that investors will require a premium in
15 the form of a higher return in order to assume additional risk. This method is routinely
16 referenced by the investment community and in academia and regulatory proceedings,
17 and provides an important tool in estimating a fair ROE for Avista.

18 **Q. How did you implement the risk premium method?**

19 A. I based my estimates of equity risk premiums for electric utilities on
20 surveys of previously authorized ROEs. Authorized ROEs presumably reflect
21 regulatory commissions' best estimates of the cost of equity, however determined, at the
22 time they issued their final order. Moreover, allowed ROEs are an important

1 consideration for investors and have the potential to influence other observable
2 investment parameters, including credit ratings and borrowing costs. Thus, this data
3 provides a logical and frequently referenced basis for estimating equity risk premiums
4 for regulated utilities.

5 **Q. Is it circular to consider risk premiums based on authorized returns**
6 **in assessing a fair ROE for Avista?**

7 A. No. In establishing authorized ROEs, regulators typically consider the
8 results of alternative market-based approaches, including the DCF model. Because
9 allowed risk premiums consider objective market data (*e.g.*, stock prices, dividends,
10 beta, and interest rates), and are not based strictly on past actions of other regulators,
11 this mitigates concerns over any potential for circularity.

12 **Q. How did you implement the risk premium approach using surveys of**
13 **allowed rates of return?**

14 A. The ROEs authorized for electric utilities by regulatory commissions
15 across the U.S. are compiled by Regulatory Research Associates and published in its
16 Regulatory Focus report. On page 3 of Exhibit No.__(AMM-9), the average yield on
17 public utility bonds is subtracted from the average allowed rate of return on common
18 equity for electric utilities to calculate equity risk premiums for each year between 1974
19 and 2014. Over this 40-year period, these equity risk premiums for electric utilities
20 averaged 3.57 percent, and the yield on public utility bonds averaged 8.58 percent.

1 **Q. Is there any capital market relationship that must be considered**
2 **when implementing the risk premium method?**

3 A. Yes. There is considerable evidence that the magnitude of equity risk
4 premiums is not constant and that equity risk premiums tend to move inversely with
5 interest rates. In other words, when interest rate levels are relatively high, equity risk
6 premiums narrow, and when interest rates are relatively low, equity risk premiums
7 widen. The implication of this inverse relationship is that the cost of equity does not
8 move as much as, or in lockstep with, interest rates. Accordingly, for a 1 percent
9 increase or decrease in interest rates, the cost of equity may only rise or fall, say, 50
10 basis points. Therefore, when implementing the risk premium method, adjustments may
11 be required to incorporate this inverse relationship if current interest rate levels diverge
12 from the average interest rate level represented in the data set.

13 **Q. Has this inverse relationship been documented in the financial**
14 **research?**

15 A. Yes. This inverse relationship between equity risk premiums and interest
16 rates has been widely reported in the financial literature.¹⁸ For example, New
17 Regulatory Finance documented this inverse relationship:

18 Published studies by Brigham, Shome, and Vinson (1985), Harris (1986),
19 Harris and Marston (1992, 1993), Carelton, Chambers, and Lakonishok
20 (1983), Morin (2005), and McShane (2005), and others demonstrate that,
21 beginning in 1980, risk premiums varied inversely with the level of
22 interest rates – rising when rates fell and declining when rates rose.¹⁹

¹⁸ See, e.g., Brigham, E.F., Shome, D.K., and Vinson, S.R., “The Risk Premium Approach to Measuring a Utility’s Cost of Equity,” *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., “Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts,” *Financial Management* (Summer 1992).

¹⁹ Morin, Roger A., “New Regulatory Finance,” Public Utilities Reports, at 128 (2006).

1 Other regulators have also recognized that the cost of equity does not move in tandem
2 with interest rates.²⁰

3 **Q. What are the implications of this relationship under current capital**
4 **market conditions?**

5 A. As noted earlier, bond yields are at unprecedented lows. Given that
6 equity risk premiums move inversely with interest rates, these uncharacteristically low
7 bond yields also imply a sharp increase in the equity risk premium that investors require
8 to accept the higher uncertainties associated with an investment in utility common
9 stocks versus bonds. In other words, higher required equity risk premiums offset the
10 impact of declining interest rates on the ROE.

11 **Q. What cost of equity is implied by the risk premium method using**
12 **surveys of allowed ROEs?**

13 A. Because risk premiums move inversely with interest rates and current
14 bond yields are significantly lower than the average over the study period, it is
15 necessary to adjust the average equity risk premium over the study period to reflect the
16 impact of changes in bond yields. Based on the regression output between the interest
17 rates and equity risk premiums displayed on page 4 of Exhibit No.____(AMM-9), the
18 equity risk premium for electric utilities increased approximately 43 basis points for
19 each percentage point drop in the yield on average public utility bonds. As illustrated
20 on page 1 of Exhibit No.____(AMM-9), with the yield on average public utility bonds

²⁰ See, e.g., California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-5, http://www.entergy-mississippi.com/content/price/tariffs/emi_frp.pdf; *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

1 for the six months ending December 2014 being 4.29 percent, this implied a current
2 equity risk premium of 5.40 percent for electric utilities. Adding this equity risk
3 premium to the yield on triple-B utility bonds of 4.70 percent produces a current cost of
4 equity of approximately 10.1 percent.

5 **Q. What cost of equity was produced by the risk premium approach**
6 **after incorporating forecasted bond yields?**

7 A. As shown on page 2 of Exhibit No.__(AMM-9), incorporating a
8 forecasted yield for 2015-2019 and adjusting for changes in interest rates since the
9 study period implied an equity risk premium of 4.48 percent for electric utilities.
10 Adding this equity risk premium to the average implied yield on triple-B public utility
11 bonds for 2015-2019 of 6.85 percent resulted in an implied cost of equity of
12 approximately 11.3 percent.

II. OTHER ROE BENCHMARKS

13 **Q. What is the purpose of this section?**

14 A. This section presents alternative tests to demonstrate that the end-results
15 of the ROE analyses discussed earlier are reasonable and do not exceed a fair ROE.
16 The first test is based on applications of the traditional CAPM analysis using current
17 and projected interest rates. The second test is based on expected earned returns for
18 electric utilities. Finally, I present a DCF analysis for a low risk group of non-utility
19 firms, with which Avista must compete for investors' money.

A. Capital Asset Pricing Model

1 **Q. What cost of equity estimates were indicated by the traditional**
2 **CAPM?**

3 A. My applications of the traditional CAPM were based on the same
4 forward-looking market rate of return, risk-free rates, and beta values discussed earlier
5 in connections with the ECAPM. As shown on page 1 of Exhibit No.__(AMM-10),
6 applying the forward-looking CAPM approach to the firms in the Utility Group results
7 in an average theoretical cost of equity estimate of 9.9 percent, or 11.0 percent after
8 incorporating the size adjustment corresponding to the market capitalization of the
9 individual utilities.

10 As shown on page 2 of Exhibit No.__(AMM-10), incorporating a forecasted
11 Treasury bond yield for 2015-2019 implied a cost of equity of approximately 10.2
12 percent for the Utility Group, or 11.3 percent after adjusting for the impact of relative
13 size.

B. Expected Earnings Approach

14 **Q. What other analyses did you conduct to estimate the cost of common**
15 **equity?**

16 A. As noted earlier, I also evaluated the cost of common equity using the
17 expected earnings method. Reference to rates of return available from alternative
18 investments of comparable risk can provide an important benchmark in assessing the
19 return necessary to assure confidence in the financial integrity of a firm and its ability to
20 attract capital. This expected earnings approach is consistent with the economic
21 underpinnings for a fair rate of return established by the U.S. Supreme Court in

1 *Bluefield and Hope*. Moreover, it avoids the complexities and limitations of capital
2 market methods and instead focuses on the returns earned on book equity, which are
3 readily available to investors.

4 **Q. What economic premise underlies the expected earnings approach?**

5 A. The simple, but powerful concept underlying the expected earnings
6 approach is that investors compare each investment alternative with the next best
7 opportunity. If the utility is unable to offer a return similar to that available from other
8 opportunities of comparable risk, investors will become unwilling to supply the capital
9 on reasonable terms. For existing investors, denying the utility an opportunity to earn
10 what is available from other similar risk alternatives prevents them from earning their
11 opportunity cost of capital. In this situation the government is effectively taking the
12 value of investors' capital without adequate compensation. The expected earnings
13 approach is consistent with the economic rationale underpinning established regulatory
14 standards, which specifies a methodology to determine an ROE benchmark based on
15 earned rates of return for a peer group of other utilities.

16 **Q. How is the expected earnings approach typically implemented?**

17 A. The traditional comparable earnings test identifies a group of companies
18 that are believed to be comparable in risk to the utility. The actual earnings of those
19 companies on the book value of their investment are then compared to the allowed
20 return of the utility. While the traditional comparable earnings test is implemented
21 using historical data taken from the accounting records, it is also common to use
22 projections of returns on book investment, such as those published by recognized

1 investment advisory publications (*e.g.*, Value Line). Because these returns on book
2 value equity are analogous to the allowed return on a utility's rate base, this measure of
3 opportunity costs results in a direct, "apples to apples" comparison.

4 Moreover, regulators do not set the returns that investors earn in the capital
5 markets, which are a function of dividend payments and fluctuations in common stock
6 prices- both of which are outside their control. Regulators can only establish the
7 allowed ROE, which is applied to the book value of a utility's investment in rate base,
8 as determined from its accounting records. This is directly analogous to the expected
9 earnings approach, which measures the return that investors expect the utility to earn on
10 book value. As a result, the expected earnings approach provides a meaningful guide to
11 ensure that the allowed ROE is similar to what other utilities of comparable risk will
12 earn on invested capital. This expected earnings test does not require theoretical models
13 to indirectly infer investors' perceptions from stock prices or other market data. As long
14 as the proxy companies are similar in risk, their expected earned returns on invested
15 capital provide a direct benchmark for investors' opportunity costs that is independent
16 of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the
17 limitations inherent in any theoretical model of investor behavior.

18 **Q. What rates of return on equity are indicated for utilities based on the**
19 **expected earnings approach?**

20 A. Value Line's projections imply an average rate of return on common
21 equity for the electric utility industry of 10.6 percent over its 2017-2019 forecast

1 horizon.²¹ Meanwhile, for the firms in the Utility Group specifically, the year-end
2 returns on common equity projected by Value Line over its forecast horizon are shown
3 on Exhibit No.__(AMM-11). Consistent with the rationale underlying the
4 development of the br+sv growth rates, these year-end values were converted to average
5 returns using the same adjustment factor discussed earlier and developed on Exhibit
6 No.__(AMM-7). As shown on Exhibit No.__(AMM-11), Value Line's projections for
7 the Utility Group suggest an average ROE of approximately 10.0 percent, with a
8 midpoint value of 10.8 percent.

C. Low Risk Non-Utility DCF

9 **Q. What other proxy group did you consider in evaluating a fair ROE**
10 **for Avista?**

11 A. Consistent with underlying economic and regulatory standards, I also
12 applied the DCF model to a reference group of low-risk companies in the non-utility
13 sectors of the economy. I refer to this group as the "Non-Utility Group".

14 **Q. Do utilities have to compete with non-regulated firms for capital?**

15 A. Yes. The cost of capital is an opportunity cost based on the returns that
16 investors could realize by putting their money in other alternatives. Clearly, the total
17 capital invested in utility stocks is only the tip of the iceberg of total common stock
18 investment, and there are a plethora of other enterprises available to investors beyond
19 those in the utility industry. Utilities must compete for capital, not just against firms in
20 their own industry, but with other investment opportunities of comparable risk. Indeed,

²¹ The Value Line Investment Survey (Oct.31, Nov. 21 & Dec. 19, 2014). Recall that Value Line reports return on year-end equity so the equivalent return on average equity would be higher.

1 modern portfolio theory is built on the assumption that rational investors will hold a
2 diverse portfolio of stocks, not just companies in a single industry.

3 **Q. Does consideration of the results for the Non-Utility Group make the**
4 **estimation of the cost of equity using the DCF model more reliable?**

5 A. Yes. The estimates of growth from the DCF model depend on analysts'
6 forecasts. It is possible for utility growth rates to be distorted by short-term trends in
7 the industry, or by the industry falling into favor or disfavor by analysts. The result of
8 such distortions would be to bias the DCF estimates for utilities. Because the Non-
9 Utility Group includes low risk companies from many industries, it diversifies away any
10 distortion that may be caused by the ebb and flow of enthusiasm for a particular sector.

11 **Q. What criteria did you apply to develop the Non-Utility Group?**

12 A. The comparable risk proxy group was composed of those U.S.
13 companies followed by Value Line that:

- 14 1) pay common dividends;
- 15 2) have a Safety Rank of "1";
- 16 3) have a Financial Strength Rating of "B++" or greater;
- 17 4) have a beta of 0.70 or less; and
- 18 5) have investment grade credit ratings from S&P.

19 **Q. How do the overall risks of this Non-Utility Group compare with the**
20 **Utility Group and Avista?**

21 A. As illustrated in Table 5 to Exhibit No.__(AMM-1), the average credit
22 ratings, Safety Rank, Financial Strength Rating, and beta for the Non-Utility Group
23 suggest less risk than for Avista and the proxy group of utilities. When considered
24 together, a comparison of these objective measures, which consider a broad spectrum of

1 risks, including financial and business position, relative size, and exposure to company-
2 specific factors, indicates that investors would likely conclude that the overall
3 investment risks for the Utility Group and Avista are greater than those of the firms in
4 the Non-Utility Group.

5 The fifteen companies that make up the Non-Utility Group are representative of
6 the pinnacle of corporate America. These firms, which include household names such
7 as Colgate-Palmolive, McDonalds, and Wal-Mart, have long corporate histories, well-
8 established track records, and exceedingly conservative risk profiles. Many of these
9 companies pay dividends on a par with utilities, with the average dividend yield for the
10 group approaching 3 percent. Moreover, because of their significance and name
11 recognition, these companies receive intense scrutiny by the investment community,
12 which increases confidence that published growth estimates are representative of the
13 consensus expectations reflected in common stock prices.

14 **Q. What were the results of your DCF analysis for the Non-Utility**
15 **Group?**

16 A. I applied the DCF model to the Non-Utility Group using the same
17 analysts EPS growth projections described earlier for the Utility Group, with the results
18 being presented in Exhibit No.__(AMM-12). As summarized in Table 4, below,
19 application of the constant growth DCF model resulted in the following cost of equity
20 estimates:

TABLE 4
DCF RESULTS – NON-UTILITY GROUP

| | | <u>Cost of Equity</u> | |
|---|--------------------|-----------------------|-----------------|
| | <u>Growth Rate</u> | <u>Average</u> | <u>Midpoint</u> |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | Value Line | 10.9% | 10.8% |
| 5 | IBES | 10.2% | 10.4% |
| 6 | Zacks | 10.3% | 11.0% |
| 7 | Reuters | 10.3% | 11.6% |
| 8 | | | |

9 As discussed earlier, reference to the Non-Utility Group is consistent with established
10 regulatory principles. Required returns for utilities should be in line with those of
11 non-utility firms of comparable risk operating under the constraints of free competition.

12 **Q. How can you reconcile these DCF results for the Non-Utility Group**
13 **against the lower estimates produced for your group of utilities?**

14 A. First, it is important to be clear that the higher DCF results for the Non-
15 Utility Group cannot be attributed to risk differences. As documented earlier, the risks
16 that investors associate with the group of non-utility firms - as measured by S&P's
17 credit ratings, Value Line's Safety Rank, Financial Strength, and beta – are lower than
18 the risks investors associate with the Utility Group and Avista. The objective evidence
19 provided by these observable risk measures rules out a conclusion that the higher non-
20 utility DCF estimates are associated with higher investment risk.

21 Rather, the divergence between the DCF results for these groups of utility and
22 non-utility firms can be attributed to the fact that DCF estimates invariably depart from
23 the returns that investors actually require because their expectations may not be
24 captured by the inputs to the model, particularly the assumed growth rate. Because the

1 actual cost of equity is unobservable, and DCF results inherently incorporate a degree of
2 error, the cost of equity estimates for the Non-Utility Group provide an important
3 benchmark in evaluating a fair ROE for Avista. There is no basis to conclude that DCF
4 results for a group of utilities would be inherently more reliable than those for firms in
5 the competitive sector, and the divergence between the DCF estimates for the group of
6 utilities and the Non-Utility Group suggests that both should be considered to ensure a
7 balanced end-result. The DCF results for the Non-Utility Group suggests that the 9.9
8 percent requested ROE for Avista's utility operations is a conservative estimate of a fair
9 return.

10 **Q. Please summarize the results of your alternative ROE benchmarks.**

11 A. The cost of common equity estimates produced by the various tests of
12 reasonableness discussed above are shown on page 2 of Exhibit No.__(AMM-4), and
13 summarized in Table 5, below:

14

TABLE 5
SUMMARY OF ALTERNATIVE ROE BENCHMARKS

| | <u>Average</u> | <u>Midpoint</u> |
|--|----------------|-----------------|
| <u>CAPM - Historical Bond Yield</u> | | |
| Unadjusted | 9.9% | 9.8% |
| Size Adjusted | 11.0% | 10.5% |
| <u>CAPM - Projected Bond Yield</u> | | |
| Unadjusted | 10.2% | 10.1% |
| Size Adjusted | 11.3% | 10.9% |
| <u>Expected Earnings</u> | | |
| Industry | 10.6% | |
| Proxy Group | 10.0% | 10.8% |
| <u>Non-Utility DCF</u> | | |
| Value Line | 10.9% | 10.8% |
| IBES | 10.2% | 10.4% |
| Zacks | 10.3% | 11.0% |
| Reuters | 10.3% | 11.6% |