BEFORE THE

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-991606

DOCKET NO. UG-991607

REBUTTAL TESTIMONY OF WILLIAM E. AVERA

REPRESENTING THE AVISTA CORPORATION

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REPRESENTING THE AVISTA CORPORATION

I.INTRODUCTION

1   Q.   Please state your name and business address.

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

3   Q.   Are you the same William E. Avera who previously filed direct testimony

4   in this case?

5   A.   Yes, I am.

6   Q.   What is the purpose of your rebuttal testimony in this case?

7   A.   My purpose here is to respond to the testimonies of Dr. Richard J. Lurito,

8   on behalf of the Washington Utilities and Transportation Commission (WUTC) Staff, and

9   Mr. Stephen G. Hill, on behalf of the Washington Attorney General Public Counsel,

10   concerning the cost of capital for Avista Corporation's (Avista) jurisdictional electric and

11   gas utility operations.

II.OVERVIEW

1   Q.   What are the major areas of agreement and disagreement among your

2   direct testimony and that of Dr. Lurito and Mr. Hill?

3   A.   We agree on a number of fundamental issues:

4   •   We all use Avista's embedded cost of debt and preferred stock;

5   •   We all estimate the cost of equity based on groups of comparable
6   utilities rather than looking directly at Avista; and,

7   •   We all apply the discounted cash flow (DCF) model to estimate the
8   cost of equity for the comparable groups of utilities and agree that this
9   method is an attempt to replicate investors' expectations when they
10   pay the current market price for utility common stocks.

11   Our fundamental disagreements are:

1 • Dr. Lurito and Mr. Hill hope that the simple, constant growth DCF
2 model can capture investors' current expectations for the utility
3 industry. In my opinion, because of the complexities of competition
4 and deregulation, capturing investors expectations for utilities requires
5 a more sophisticated application of the DCF model;

6 • Because of the difficulties associated with applying the DCF model,
7 both Mr. Hill and I look to alternative methods to check our DCF
8 results, whereas Dr. Lurito places sole reliance on a constant growth
9 DCF application. My checks are independent applications of the risk
10 premium approach while Mr. Hill's are narrowly focused replications
11 of his DCF results and a single risk premium approach incorrectly
12 applied;

13 • Dr. Lurito and I agree that a 25 basis-point upward adjustment to the
14 cost of equity is necessary to recognize flotation costs while Mr. Hill
15 would have the WUTC ignore these legitimate costs of raising capital;
16 and,

17 • The capital structures that Dr. Lurito and Mr. Hill use to weight the
18 component capital costs are not equal to Avista's actual capital
19 structure or the capital structures maintained by their comparable
20 groups. My testimony recognizes that the capital structure weightings
21 should be consistent with those for comparable utilities, particularly
22 since the cost of equity is estimated by reference to other utilities rather
23 than to Avista directly.

24 Q. Why are Dr. Lurito and Mr. Hill wrong to apply the DCF model using a

25 single constant growth rate based on historical results or near-term projections?

26 A. There is incontrovertible evidence that the utility industry is in the midst of

27 dramatic structural change, including the introduction of retail competition, transmission

28 unbundling, and deregulation of the generating segment of electric utilities operations;

29 therefore:

30 • Investors do not view past growth or near-term growth projections as
31 indicative of the long-term growth rate of this newly dynamic industry;

32 • A suitable proxy for the infinite growth rate of DCF theory must
33 recognize investors' expectations of higher growth rates after utilities
34 weather the transition to a restructured and more competitive

1   environment;

2   •   Just as those in the regulatory arena are having to adjust to new
3   realities by learning new acronyms (e.g., RTO, ISO), and wrestling
4   with new concepts (e.g., stranded costs and nonbypassable charges) to
5   accommodate industry restructuring, new ways to apply the DCF
6   model are also necessary if it is to capture investor expectations during
7   the industry's transition;

8   •   Dr. Lurito recognizes the danger of applying the constant growth DCF
9   model when it does not fit the realities of the industry. While he
10   attempts to identify utilities with "stable pasts and futures", his proxy
11   group of companies is not sheltered from the dramatic changes
12   sweeping the industry;

13   •   In contrast, Mr. Hill seems to regard consistency in the face of clearly
14   changing circumstances as a virtue. By clinging to an overly
15   simplified method, Mr. Hill ignores the fact that investors'
16   expectations are clearly evolving with the utility industry;

17   •   The non-constant DCF model that I apply was based on those
18   developed by the staff of the Public Utility Commission of Texas,
19   which has joined regulators and consumer counsel witnesses in
20   recognizing that a single, constant growth rate does not currently fit
21   investors' view of utilities in this period of transition. Indeed, in
22   Avista's recent case in Idaho Staff witness Terry Carlock also relied on
23   a multi-stage DCF model to estimate the cost of equity; and,

24   •   The only cost of equity estimate presented in this case that reflects the
25   reality of investors' expectations during this dynamic period for
26   utilities is my DCF result, which is butressed by reference to nine
27   independent risk premium estimates.

28   Q.   Why are the capital structure recommendations of Dr. Lurito and Mr. Hill

29   in error?

30   A.   As shown in the table below,the capital structures recommended by Dr.

31   Lurito and Mr. Hill are inconsistent with those maintained by the groups of utilities that

32   they used to estimate the cost of equity, as well as those authorized by other state

33   regulatory agencies:

		Common Equity Ratio
Dr. Lurito		
	Proxy Group	43.4 %
	Proxy Group (ex. Short-term debt)	45.4 %
	Recommendation	42.0 %
Mr. Hill		
	Proxy Group	45.0 %
	Proxy Group (ex. Short-term debt)	49.0 %
	Recommendation	38.97%
Regulatory Research Assoc. Authorized		
	Electric (1994-98)	46.15%
	Gas (1994-98)	48.61%
Avera		
	Proxy Group	47.0%
	Recommendation	47.0%

- Dr. Lurito reported an average equity ratio for his proxy group of 44.4 percent (later revised to 43.4 percent). Nevertheless, he recommended a capital structure that incorporated only 42 percent equity even while arguing that his comparable group is sheltered from the uncertainties buffeting Avista and other utilities;

- Mr. Hill's comparable group maintained an equity ratio in the 45 to 49 percent range, depending on the treatment of short-term debt, yet his recommended capital structure included only 38.97 percent equity;

- Both Dr. Lurito and Mr. Hill included temporary short-term debt as a component of their capital structures, even though this debt is not a permanent source of capital used to finance long-term assets; and,

- Both witnesses chose capital structures befitting a utility with less business risk than their comparable groups even though Avista faces the unique risk of high dependence on hydro power without the buffer of a cost adjustment mechanism.

Q.   Are there other problems with Dr. Lurito's and Mr. Hill's testimony?

A.   Yes. There are a plethora of other disagreements that are detailed in the

sections below addressing the testimony of Dr. Lurito and Mr. Hill. These sections are

necessarily long to present evidence of their errors, flawed assumptions, and misplaced

1   criticisms of my testimony.

2   Q.   What is the end result of the differences between your cost of capital

3   recommendation of 9.92 percent and the 8.82 percent that both Dr. Lurito and Mr. Hill

4   recommend?

5   A.   My recommendation is consistent with current capital market conditions

6   and would allow Avista to attract capital on reasonable terms. Meanwhile, as discussed

7   in Mr. Eliasson's rebuttal testimony, the recommendations of Dr. Lurito and Mr. Hill

8   would put pressure on Avista's credit rating.   Mr. Eliasson also illustrates the extreme

9   nature of their recommendations, which is supported by Standard & Poor's Corporation's

10   (S&P) recent warning that an adverse ruling in line with that proposed by Staff would

11   hamper Avista's financial performance, "possibly leading to lower ratings".

12   There is more at issue here than the professional pride of three rate of return

13   witnesses -- Dr. Lurito, Mr. Hill, and myself. The signal sent by the WUTC in this

14   important case will color investor perceptions of Avista far into the future and impact the

15   company's ability to attract capital in the dynamic environment ahead. No one knows

16   what challenges or opportunities may ultimately face Avista and its customers; but it is

17   clear that customers and the economy of Washington may be harmed if the provider of

18   crucial energy infrastructure is financially impaired.

III. RICHARD J. LURITO

1   Q.   Briefly summarize how Dr. Lurito arrived at his recommended rate of

2   return for Avista.

1   A.   Dr. Lurito's 8.82 percent recommended overall rate of return was the

2   result of combining the component costs and capital structure shown below:

	Component Cost	Capital Structure	Weighted Cost
Component			
Long-term Debt	7.97%	40.0%	3.19%
Short-term Debt	5.74%	8.5%	0.49%
Preferred Stock	8.11%	9.5%	0.77%
Common Equity	10.40%	42.0%	4.37%
Total			8.82%

1 The component costs of long-term debt, short-term debt, and preferred stock used by Dr.

2 Lurito were identical to those presented in Schedule WEA-2 of my direct testimony.

3   Meanwhile, Dr. Lurito's 10.40 percent recommended rate of return on equity was

4 based solely on the results of the constant growth DCF model applied to a group of 5

5 other utilities. Based on monthly dividends per share and closing stock prices for the six-

6 month period October 1999 through March 2000, he calculated an average historical

7 dividend yield (D_1/P_0) for the utilities in his group of 7.43 percent. Mr. Lurito then

8 reviewed 5- and 10-year historical growth rates in earnings per share (EPS), dividends per

9 share (DPS) and book value per share (BVPS), along with the "sustainable" growth rate

10 from DCF theory, calculated as the product of the retention ratio (b) and the rate of return

11 on book equity (r). Finally, Dr. Lurito also examined securities analysts' near-term

12 projected growth rates published by The Value Line Investment Survey (Value Line),

13 Standard & Poor's Corporation (S&P), Zack's Investment Research (Zack's) and I/B/E/S

14 International, Inc. (I/B/E/S). Based on this review, Dr. Lurito concluded that "the future

15 growth rate rational investors can expect is 2.5% to 2.7%" (p. 21). After increasing his

16 historical dividend yield to reflect one-half year's growth, Dr. Lurito concluded that the

17 cost of equity for his group of 5 utilities fell in the 10.02 to 10.23 percent range, and

1   selected 10.15 percent as his recommended cost of equity for Avista. To this, Dr. Lurito

2   added a 25 basis point allowance for equity flotation costs, producing his recommended

3   fair rate of return on equity of 10.4 percent.

A. Cost of Equity

1   Q.   What is fundamentally wrong with Dr. Lurito's cost of equity analysis?

2   A.   Dr. Lurito's analysis of the cost of equity is entirely predicated on his

3   mistaken belief that the criteria used to select his group of 5 utilities results in

4   companies that have stable operations and are not exposed to the same major changes

5   sweeping the electric power industry.

6   Q.   Does Dr. Lurito agree with you that the utility industry is in the midst

7   of significant structural change?

8   A.   Yes. Dr. Lurito recognized that the electric power industry is being

9   dramatically restructured and that utilities and their investors continue to face a host

10   of fundamental changes. As he observed on page 8 of his testimony:

11   …as is well known, the electric/gas industry has undergone and will
12   likely continue to undergo major changes, such as merger/acquisition
13   activities, diversification into non-regulated businesses, and retail
14   consumer choice of service provider.

15   Q.   Did Dr. Lurito grant that such changes hamper the ability of the

16   constant growth DCF model to accurately measure investors' required rate of return?

17   A.   Yes. As discussed in my direct testimony, conventional applications

18   of the constant growth DCF model do not capture investors' long-term expectations

19   associated with increasing competition, diversification, and consolidation within the

1   utility industry. Dr. Lurito stated on pages 8 of his testimony that, because of these

2   changes:

3   …it becomes a difficult task for the analyst to assess investor
4   expectations…especially for those utilities that have recently
5   experienced, or are currently experiencing, many of the changes
6   already enumerated.

7   He went on to note that these trends compromised the reliability of the traditional

8   constant growth DCF model that he used to estimate the cost of equity, leading to

9   increased reliance on alternative methods, such as the multi-stage DCF approach

10   presented in my direct testimony:

11   As mentioned, the ability to accurately assess…investor expectations is
12   necessary in order to generate reliable estimates of the cost of equity
13   capital using the traditional DCF approach outlined above. (pp. 8-9)

14   The advent of the problems many utilities faced with nuclear
15   generating plants and, especially, the advent of industry restructuring
16   merger/acquisition activity and the introduction of competition at both
17   the wholesale and retail level of the electric/gas industry, created
18   serious problems concerning how investor expectations as to future
19   dividend growth could be measured. Multi-stage DCF models were
20   introduced in an attempt to recognize that many utilities' future
21   dividend growth experience would likely diverge from past experience.
22   (pp. 17-18)

23   Q.   What did Dr. Lurito propose to overcome the pitfalls associated with

24   applying the constant growth DCF model?

25   A.   According to Dr. Lurito, these pitfalls can be avoided

26   …by selecting electric and electric/gas utilities that have sufficiently
27   stable pasts and futures so as to permit the analyst within the context of
28   a single-stage DCF approach to make reliable cost of equity estimates.
29   (p. 18)

30   Dr. Lurito then proceeded to apply the six selection criteria presented on page 9 of his

1   testimony to "cull out" his group of 5 companies. Based on his contention that these

2   firms have experienced, and will continue to experience, relative stability, and are not

3   significantly exposed to the structural changes in the electric industry, Dr. Lurito

4   concluded that "analysis of the group of utilities selected can then proceed along

5   traditional lines" (p. 9).

6   Q.   Did application of Dr. Lurito's 6 criteria result in a group of utilities

7   that meet the assumptions underlying the constant growth DCF model he used to

8   estimate the cost of equity?

9   A.   No. As Dr. Lurito recognized (p. 15) "the rationale is as simple as it is

10   difficult to implement". In fact, the five companies in Mr. Lurito's group are

11   impacted by largely the same fundamental challenges posed for other utilities,

12   including the introduction of wholesale and retail competition, diversification into

13   non-regulated business lines, changing dividend policies, asset divestitures, and the

14   prospects for continued mergers and acquisitions. This notwithstanding, Dr. Lurito

15   simply applies the traditional DCF model mechanically, under the presumption that

16   investors' long-term expectations can be measured based on historical growth rates or

17   near-term projections. His analysis gives no consideration to other factors investors

18   might evaluate in forming their growth expectations (e.g., deregulation and

19   competition), or that the upheaval in the electric power industry might violate the

20   steady-state assumptions underlying the constant growth DCF method.

21   Q.   Can you illustrate how the companies in Dr. Lurito's group have, and

1   continue to be impacted by concerns and opportunities similar to those facing the

2   industry as a whole?

3   A.   Yes. Consider CH Energy Group, Inc. (CH Energy) and RGS Energy

4   Group, Inc. (RGS Energy), two firms that were also included in my multi-stage DCF

5   analysis. Under the terms of industry restructuring in New York, a new market

6   structure will be implemented for electric utilities that includes the establishment of

7   an Independent System Operator (ISO) and the opening of retail markets to

8   competition by June 2001. As part of this process, CH Energy is about to begin the

9   auction of its non-nuclear generating capacity. The March 10, 2000 edition of Value

10   Line noted CH Energy's formation of a holding company structure and observed that:

11   The new corporate structure will enhance the company's financial
12   flexibility and enable it to separate its regulated and nascent
13   nonregulated operations more efficiently. That's important, as CH
14   Energy increases its focus on nonutility activities.

15   Indeed, CH Energy informed investors in its 1999 Form 10-K report (p. 70) that the

16   proceeds from the sale of formerly regulated generating assets will be available for

17   investment in the competitive sector:

18   (T)he consideration received by Central Hudson, after transaction
19   costs, in the sale of its interest in such Plants is available to Central
20   Hudson, up to the net book value of such Plants, for investment in
21   competitive business affiliates or other disposition for the benefit of
22   shareholders without PSC approval.

23   Similarly, RGS Energy observed in its 1999 Form 10-K that:

24   The Competitive Opportunities Settlement allows for a phase-in to
25   open electric markets while lowering customer prices and establishing
26   an opportunity for competitive returns on shareholder investments. (p.

1   44)

2   As of December 31, 1999, eight energy service companies were qualified to provide

3   retail electric service in RGS Energy's territory, including its own unregulated

4   subsidiary. In addition, New York regulators have also issued a gas restructuring

5   policy statement in an effort to foster greater competition in the state's natural gas

6   industry.

7   Turning to Hawaiian Electric Industries, Inc. (HEI), aside from its savings

8   bank operations, which accounted for approximately 27 percent and 70 percent of

9   consolidated revenues and assets, respectively, HEI is also expanding its investment

10   in international independent power operations. In addition to existing investments in

11   China, the Philippines, and Guam, HEI recently announced an agreement to acquire a

12   50 percent interest in East Asia Power Resources Corp., which is primarily engaged in

13   the electric generation business in Manila and Cebu in the Philippines. While S&P

14   affirmed its ratings on HEI's outstanding debt on March 7, 2000, further expansion of

15   unregulated generating operations also prompted S&P to revise its credit outlook for

16   HEI from "stable" to "negative".

17   Q.   Did Dr. Lurito grant that United Illuminating Company (UIL) has been

18   exposed to the same major changes confronting the electric power industry?

19   A.   Yes. Comprehensive restructuring legislation for UIL's Connecticut

20   service area was enacted in April 1998. As a result, the business of generating and

21   selling electricity directly to consumers was opened to competition. As Dr. Lurito

1   noted in his testimony:

2   United Illuminating (United) is no longer involved in the business of
3   retail power generation; it is principally in the business of the
4   purchase, transmission, and distribution of electricity. One of its
5   unregulated subsidiaries is involved in the process of bill payments;
6   another provides specialty electrical, telecommunications, and
7   mechanical contracting and power-related services to building owners.
8   Finally, one of its subsidiaries, United Bridgeport Energy, Inc. is a
9   participant in a merchant wholesale electric generating venture. (pp.
10   13-14)

11   With respect to expectations for the future, UIL placed investors on notice that

12   investments in the competitive sector are likely to expand going forward, and that

13   near-term losses may be the price for long-term gains in growth. As UIL reported in

14   its 1999 Form-10K report:

15   As a result of management's continued confidence in the potential of
16   the non-regulated businesses, the Company is evaluating further
17   investments in this area. However, additional losses could be incurred
18   due to new growth initiatives if the potential for future benefits warrant
19   such losses.

20   Q.   What about WPS Resources Corporation (WPSR), the last of the 5

21   utilities in Dr. Lurito's group?

22   A.   It is also anticipated that WPSR will significantly expand its non-

23   regulated operations, which presently consist of providing retail and wholesale energy

24   services in competitive markets, development and management of electric generating

25   plants, participation in a fiber optic telecommunications network, and the sale of

26   energy management services. As Value Line noted in its October 8, 1999 edition:

27   …(WPSR) will place its transmission holdings into a new,
28   independent company by 2001. In return, the state would remove the

1   asset cap that restricts WPSR's non-regulated investments to 25% of
2   its total utility assets. As a result, **We look for WPSR to build up its**
3   **non-regulated subsidiaries considerably.** (p. 731, emphasis in
4   original)

5   Thus, contrary to Dr. Lurito's contention that his selection criteria results in

6   companies with "stable pasts and futures" (p. 18), these 5 utilities are exposed to the

7   same changes confronting the electric industry in general.

8   Q.   Are investors likely to ignore these changes when forming their growth

9   expectations for the 5 utilities in Dr. Lurito's group, as he asserts?

10   A.   No. Dr. Lurito apparently believes that, if an investment contributes

11   little to current earnings, "rational investors" would have no reason to expect higher

12   growth in the long-run, nor even any basis for making a judgement about future

13   profitability. Of course, one need only look to investors' continued appetite for shares

14   in firms such as Amazon.com to demonstrate that Dr. Lurito is wrong. In fact, there

15   is every indication that historical growth rates and near-term projections are apt to

16   understate the growth investors anticipate for electric utilities as the transition to

17   competition proceeds and unregulated investment expands. For example, Goldman

18   Sachs Investment Research noted in a June 1, 1998 report on HEI that:

19   Hawaiian Electric Industries' utility subsidiaries continue to
20   experience weak electric sales growth in a sluggish local economy.
21   The company's unregulated subsidiaries, HEI Power Corporation
22   (independent power) and American Savings Bank, are expected to
23   drive earnings growth over the long term…<u>The company's banking</u>
24   <u>subsidiary, American Savings Bank (ASB) is expected to be the main</u>
25   <u>driver of long-term earnings growth for Hawaiian Electric</u>. (pp. 18 &
26   20, emphasis in original)

1   Similarly, in a February 25, 2000 report Deutsche Bank Alex Brown recognized the

2   long-term potential of HEI's expanding scope:

3   We continue to maintain our MARKET PERFORM rating on HE
4   shares. In our view, the acquisition of a 46% interest in EAPRC
5   contributes to the company's exposure in the international arena.
6   Moreover, the acquisition is expected to be immediately accretive to
7   earnings. HE has been looking outside of Hawaii for long-term
8   earnings growth for some time. (p. 2)

9   Value Line also recognized the distinction between the near- and long-term

10   expectations for competitive businesses in its December 10, 1999 report for CH

11   Energy:

12   Central Hudson's nonregulated activities are making money, but they
13   are actually a drag on earnings. That's because the nonregulated
14   investments involve a transfer of equity from the utility to the
15   nonutility operations. This lowers the utility's earnings potential (due
16   to the ROE cap), and the nonregulated businesses are earning a lower
17   ROE than the utility. But in the long-run, the nonregulated businesses
18   should improve their ROEs. (p. 162)

19   And in its March 10, 2000 review of CH Energy, Value Line highlighted the problems

20   associated with relying solely on near-term growth projections:

21   Earnings in 2001 will be influenced by the results of the generation
22   sale and the new regulatory agreement, both of which are unknown
23   now, so they could differ from our estimate. (p. 161)

24   Indeed, the potential impact of deregulation on investors' growth expectations is

25   exemplified by Value Line's analysis for WPSR (April 7, 2000):

26   …we're conservatively modeling mid-single-digit earnings growth this
27   year and next. A return to more normal seasonal weather trends,
28   however, could add another $0.10 to our share estimates. Moreover,
29   ESI's opportunities in Ohio beginning in 2001, when its 1.2-million
30   consumer market is fully deregulated, could provide additional upside.
31   (p. 728)

1   Thus, while Dr. Lurito would prefer to "avoid having to guess" (p. 18) about the

2   impact structural changes might have on utilities, investors have already embodied

3   their expectations into current market prices. And as Dr. Lurito recognized, if the

4   inputs to the DCF model do not reflect the same dividend and long-term growth

5   expectations that investors used when valuing the stock, the DCF model will produce

6   unrealistic and unreliable results.

7   Q.   Do Dr. Lurito's selection criteria insulate the companies in his group

8   from the effects of a potential merger or acquisition?

9   A.   No. While I agree with Dr. Lurito that it is generally preferable to

10   exclude firms that are currently involved in a major merger or acquisition, the

11   prospects for continued consolidation in the utility industry distort the pricing

12   mechanism presumed by the DCF model, even for the firms in Dr. Lurito's group.

13   Indeed, Value Line (March 10, 2000) identified both CH Energy and RGS Energy as

14   potential buyout targets:

15   **CH Energy stock has been very weak during the past six months,**
16   having declined some 35%…the possibility of a takeover remains,
17   especially since the share price is depressed… (p. 161)

18   **(RGS Energy) stock has fallen 30% in the past six months…**the
19   depressed share price increases the possibility of a takeover offer. (p.
20   183)

21   But because expectations of price appreciation that might be realized in the event of a

22   merger are not incorporated into the growth estimates Dr. Lurito used, his constant

23   growth DCF cost of equity estimates are biased downward.

1   Q.   Do the cost of equity estimates produced by Dr. Lurito's constant

2   growth DCF analysis pass fundamental tests of logic?

3   A.   No. Dr. Lurito's entire DCF analysis was based on averages of

4   historical and forecasted growth rates, with there being no assessment of the

5   reasonableness or plausibility of the individual growth rates or implied DCF cost of

6   equity estimates. The individual cost of equity estimates implied by Dr. Lurito's DCF

7   analysis for each of the utilities in his proxy group are displayed in Schedule WEA-6.

8   As shown there, all but 8 of the 45 individual cost of equity estimates produced using

9   Dr. Lurito's historical growth rates fell below 10 percent, while approximately one-

10   half of the costs of equity indicated by the near-term growth projections he examined

11   were in the single-digits.

12   With single-A public utility bonds yielding an average of 8.29 percent in April

13   2000 and reaching approximately 8.8 percent in May 2000, it is inconceivable that

14   investors' required rate of return on equity, the most junior and risky of a utilities'

15   securities, would not significantly exceed the single-digit levels. Indeed, even Mr.

16   Hill granted that investors:

17   require something substantially greater than a 9% return on their equity
18   utility investments. (p. 6)

19   But in fact, none of Dr. Lurito's individual estimates for CH Energy or United

20   Illuminating exceeded 10 percent, with his analysis indicating an average cost of

21   equity for these two firms using projected growth rates of 7.99 percent and 8.50

22   percent, respectively. In fact, over one-quarter of Dr. Lurito's cost of equity estimates

1   fall <u>below</u> the 8.8 percent current yield on single-A public utility bonds. Such cost of

2   equity estimates clearly violate the risk-return tradeoff principle fundamental to

3   finance and tell us nothing about investors' required rate of return on equity for

4   utilities.

5   Q.   What cost of equity does Dr. Lurito's DCF analysis imply once illogical

6   estimates are ignored?

7   A.   As explained in my direct testimony (pp. 36-37), growth in earnings, which

8   ultimately support future dividends and share prices, is likely to provide a far more

9   meaningful guide to investors' growth expectations, with S&P, Zack's, and IBES

10   growth rates all reflecting consensus estimates of near-term EPS growth. As shown at

11   the bottom of Schedule WEA-6, excluding the illogical values for CH Energy and

12   United Illuminating resulted in average cost of equity estimates for the remaining

13   firms in Dr. Lurito's group of approximately 11.0 percent. Of course, while

14   considerably more plausible than Dr. Lurito's conclusion, these constant growth DCF

15   cost of equity estimates are biased downward for all the reasons discussed previously.

16   Q.   Is there other evidence that indicates Dr. Lurito's recommended cost of

17   equity falls far below investors' required rate of return on equity?

18   A.   Yes. As noted earlier HEI was one of the 5 utilities included in Dr.

19   Lurito's utility group. In HEI's pending rate case involving one of its electric utility

20   operating companies, Hawaiian Electric Light Company (HELCO), Mr. David C.

21   Parcell, in testimony filed May 8, 2000 on behalf of the Division of Consumer

1   Advocacy, recommended a rate of return on equity for HELCO of 11.0 percent,

2   combined with a capital structure containing almost 49 percent common equity. The

3   fact that the 10.15 percent cost of equity recommended by Dr. Lurito falls a full 85

4   basis points below what his counterpart in Hawaii is currently recommending for a

5   company in Dr. Lurito's comparable group illustrates the unreasonableness of his

6   position. This is further reinforced when one considers the greater financial risk

7   implied by the 42 percent common equity ratio embodied in Mr. Lurito's

8   recommended capital structure.

9   Q.   Does Dr. Lurito's analysis based on the market-to-book ratios of the

10   companies in his group (pp. 21-22) or his mathematical "proofs" presented on pages

11   39-40, page 40, and on his Schedule 7 provide any new information regarding the

12   reasonableness of his recommended cost of equity?

13   A.   No. As Dr. Lurito noted on page 22 of his testimony, this analysis is

14   nothing more than an "alternative formulation of the DCF model". As a result, it

15   should come as little surprise that this mathematical relationship derived from DCF

16   theory produces a result in the middle of his range. Rather than demonstrating the

17   reasonableness of his cost of equity recommendation, Dr. Lurito simply demonstrated

18   the tautology of the DCF model.

19   Q.   What problems are associated with focusing on market-to-book ratios

20   in setting the allowed rate of return on equity?

21   A.   Market-to-book ratios are impacted by other external factors unrelated

1   to utility operations. For example, diversification into non-regulated activities may

2   cause the market price of a utility's stock to deviate significantly from its book value,

3   and price caps or other incentive regulation plans may effectively decouple rates and

4   expected returns from historical cost ratebase. In addition, the argument that

5   regulators should set a required rate of return to produce a market-to-book value of

6   approximately 1.0 is fallacious. As Dr. Roger A. Morin observed in <u>Regulatory</u>

7   <u>Finance: Utilities Cost of Capital</u>:

8   The stock price is set be the market, not by regulators. The M/B ratio
9   is the end result of regulation, and not its starting point. The view that
10   regulation should set an allowed rate of return so as to produce a M/B
11   of 1.0, presumes that investors are masochistic. They commit capital
12   to a utility with a M/B in excess of 1.0, knowing full well that they will
13   be inflicted a capital loss by regulators. This is not a realistic or
14   accurate view of regulation. (p. 265)

15   Indeed, while Dr. Lurito believes that investors' expect the utilities in his group to

16   earn 11.3 percent on common equity, he suggests that regulators should allow them to

17   earn no more than 10.17 percent. With market-to-book ratios above 1.0 times, Dr.

18   Lurito apparently believes that, unless book value grows rapidly, regulators should

19   establish equity returns that will cause share prices to fall.

20   Within the paradigm of DCF theory, a drop in stock prices means negative

21   growth, and if investors expect negative growth then this is the relevant "g" to

22   substitute in the constant growth DCF model. In turn, a negative growth rate implies

23   a DCF cost of equity for utilities less than their dividend yields. This, of course, is

24   truly a nonsensical result, and a manifestation of Dr. Lurito's confusion between DCF

1 theory and practice.

2   Q.   What other methods did Dr. Lurito employ to estimate the cost of

3 equity?

4   A.   None. Dr. Lurito's rate of return on common equity recommendation

5 for Avista was based solely on a theoretical application of the DCF model, and he

6 performed no meaningful checks using alternative methods (e.g., risk premium

7 analyses) to confirm the reasonableness of his results.

8   Q.   What is the end result of Dr. Lurito's failure to properly consider the

9 impact of utilities' transition to competition in his constant growth DCF analysis?

10   A.   Contrary to Dr. Lurito's assertions, the 5 companies in his proxy group

11 are exposed to largely the same changes and uncertainties confronting the utility

12 industry as a whole. Because the historical and near-term growth rates that he

13 employed do not accurately reflect the long-run growth expectations investors are

14 currently incorporating into stock prices, Dr. Lurito's analysis tells us nothing about

15 the rate of return investors require from an investment in the common stock of

16 utilities.

B. Capital Structure

1   Q.   How did Dr. Lurito arrive at his recommended capital structure for

2 Avista's electric and gas utility operations?

3   A.   After noting that Avista's consolidated capital structure at year-end

4 1999 consisted of 38.7 percent long-term debt, 8.6 percent short-term debt, 9.5

1   percent preferred stock, and 43.2 percent common equity capital after adjusting for

2   the subsequent conversion of convertible preferred stock, Dr. Lurito stated:

> 3   In my opinion, Avista Corporation's year-end 1999 capital structure
> 4   with the preferred conversion taken into account has somewhat too
> 5   much common equity capital, given the relatively low risk of Avista's
> 6   electric and gas operations. (p. 26)

7   Based on this observation, Dr. Lurito adjusted his recommended common equity ratio

8   downward to 42 percent, with long-term debt, short-term debt, and preferred stock

9   accounting for 40.0, 8.5, and 9.5 percent of his proposed capital structure,

10   respectively.

11   Q.   Is Dr. Lurito's recommended capital structure consistent with the

12   average for his proxy group of 5 utilities that he used to estimate the cost of equity?

13   A.   No. As shown on page 27 of Dr. Lurito's testimony, the average

14   common equity ratio for the 5 companies that he relied on to estimate the cost of

15   equity was 44.4 percent (Dr. Lurito subsequently revised this equity ratio to 43.4

16   percent in response to Data Request No. 150). But despite his belief that his group of

17   utilities "are of comparable risk to the regulated operations of Avista" (p. 2), Dr.

18   Lurito arbitrarily adjusted his recommended equity ratio downward. And even though

19   the greater financial leverage inherent in Dr. Lurito's recommended capital structure

20   implies greater investment risk, he failed to make a corresponding upward adjustment

21   to the cost of equity.

22   Q.   Was Dr. Lurito justified in his contention that Avista's jurisdictional

23   utility operations have "relatively low risk"?

1 A. No. Avista's jurisdictional operations provide integrated gas and electric

2 service, including power generation. Meanwhile, as noted earlier, two of the five

3 utilities in Dr. Lurito's comparable group (CH Energy and UIL) are selling their

4 regulated generating assets altogether. With respect to the implications of these

5 divestitures on investment risks, S&P noted the lower risk of UIL's utility operations

6 in its June 1999 Credit Report:

7 The business profile reflects the low-risk transmission and distribution
8 business, limited and diverse industrial load (about 20% of retail
9 sales), and historically supportive Connecticut regulation. (p. 1)

10 S&P subsequently predicted in CreditWeek (February 2, 2000) that:

11 Tightly regulated transmission and distribution firms generally face
12 limited business risk and could have much higher ratings – possibly in
13 the 'AA' area. Debt ratings tied to generating assets will be at the low
14 end of the rating scale and will have the widest range – perhaps 'B' to
15 'BBB'.

16 Moody's made similar observations in a November 1998 Special Comment:

17 Utilities that are successful in exiting the generation business will
18 reduce their risk profile, thereby improving their bond ratings. First,
19 these companies will be less capital intensive due to lower capital
20 spending needs for operating and maintaining their systems. Second,
21 transmission and distribution will continue to be regulated. As a
22 result, their cash flow will be predictable and more stable than the
23 generation business. In fact, **these companies can have slightly more**
24 **debt on their balance sheet**… (p. 5, emphasis added)

25 These comments of the major bond rating agencies contradict Dr. Lurito's assessment

26 of Avista's relative risks and indicate that the capital structure for his proxy group is

27 far more likely to understate the equity ratio necessary to accommodate the business

28 risks of integrated utility operations.

1   Q.   What other factors indicate that Dr. Lurito's group fails to fully reflect

2   the investment risks of Avista's integrated utility operations?

3   A.   As discussed in my direct testimony, Avista's lack of a Power Cost

4   Adjustment (PCA) in its Washington jurisdiction also imposes additional

5   uncertainties not faced by most other utilities, especially for those that have exited the

6   power generation business altogether. With the exception of RGS Energy, all of the

7   companies in Dr. Lurito's proxy group have adjustment clauses to reflect changes in

8   the cost of power supply, with RGS Energy noting in its 1999 Form-10K that:

9   Under the Competitive Opportunities Settlement, RG&E's electric
10   rates are capped at specified levels through June 30, 2002. As a result
11   of owned generation and long-term fixed rate supply contracts, RG&E
12   is largely insulated from market price fluctuations for procurement of
13   its electric supply. (p. 51)

14   In stark contrast to Avista's exposure to fluctuating power costs, utilities such as CH

15   Energy will face substantially less uncertainties once their generating facilities are

16   sold, as S&P noted in its June 1999 Credit Report for UIL:

17   …the sale of the company's generation assets will eliminate the
18   utility's fuel risk exposure. (P. 4)".

19   Similarly, S&P recognized the greater uncertainties attributable to the absence of a

20   PCA in a November 1999 Credit Report for Puget Sound Energy Inc. (Puget Sound):

21   The company agreed to eliminate the PRAM in September 1996. As a
22   result, the company is exposed to fluctuations in fuel costs as well as
23   hydro and weather conditions.

24   Q.   Did Dr. Lurito recognize that absence of the PRAM implies greater

25   risk and, in turn, an increase in investors' required rate of return on equity?

1   A.   Yes. Dr. Lurito estimated that including or excluding the PRAM

2   would have the effect of lowering or raising the cost of equity by 50 basis points. As

3   the WUTC noted in its order in Docket No. UE-920433 et al:

4   Dr. Lurito calculated that PRAM has resulted in a 50-basis-point
5   reduction in the cost of equity since Puget's last general rate case. (p.
6   28)

7   In other words, given that the firms in Dr. Lurito's proxy group are largely insulated

8   from fluctuations due to power generation costs, his prior testimony would suggest

9   that Avista's cost of equity should be set 50 basis points higher to account for its lack

10 of a similar adjustment mechanism. Given that hydroelectric generation accounts for

11 roughly 17 percent of Avista's energy resources, versus approximately 4 percent for

12 Puget Sound, Dr. Lurito's 50 basis-point adjustment would appear to be a

13 conservative adjustment for Avista.

14   Q.   Please address Dr. Lurito's contention that his recommendations

15 would allow Avista to maintain its current bond ratings.

16   A.   Dr. Lurito's bases his assertion on his mechanical computation of

17 various financial ratios, but the process of establishing bond ratings is far more

18 complex, as Moody's recognized in a January 2000 Special Comment:

19   Those familiar with credit analysis know all too well that the numbers
20   alone do not tell the whole story. Thorough credit analysis is not
21   something that lends itself well to a formulaic approach. Indeed,
22   Moody's considers each issuer on its unique, individual merits
23   considering a host of quantitative and judgmental factors. (p. 4)

24 Dr. Lurito's optimism regarding the adequacy of his recommendations is belied by

1   S&P's recent <u>CreditWire</u> announcement (May 9, 2000) that it was revising its outlook

2   on Avista's debt from "stable" to "negative". S&P noted that:

3   The financial position may be further weakened at the regulated level
4   if the Washington Utilities and Transportation Commission (WUTC)
5   adopts a rate order comparable with the rate reduction recommended
6   by its staff in the amount of $16.5 million…An adverse ruling by the
7   WUTC, in line with the staff's recommendation, would further hamper
8   financial performance, possibly leading to lower ratings, Standard &
9   Poor's said.

10   Q.   Finally, would you please comment on Dr. Lurito's contention that an

11   incentive return to reward Avista for exemplary management should not be awarded

12   because it would benefit only existing stockholders, not new investors (p. 31).

13   A.   The fact that new shareholders may not benefit from an allowance to

14   reward Avista for efficient and economic management is irrelevant. The purpose of

15   awarding an incentive above the cost of equity is to recognize exemplary

16   performance, not to attract additional capital by rewarding new investors. Dr. Lurito's

17   observation that existing shareholders will benefit if Avista is authorized a return on

18   equity greater than investors' required rate of return is disingenuous, since this is

19   exactly what such an incentive is designed to accomplish.

C.Response to Criticisms

1   Q.   What is Dr. Lurito's principal criticism of your DCF analysis?

2   A.   Dr. Lurito apparently takes issue with my application of the multi-

3   stage DCF model because it demands that I "guess what investors are expecting" and

4   requires certain assumptions to implement. But of course, this criticism applies

1   equally well to the constant growth DCF model that Dr. Lurito relied on. In fact,

2   because the cost of equity is unobservable, it cannot be estimated without exercising

3   judgement and making an educated "guess" about what expectations investors might

4   reasonably have embodied into current market prices. Given the changes confronting

5   electric utilities, including those in Mr. Lurito's proxy group, the assumptions

6   underlying my application of the multi-stage DCF model are certainly more plausible

7   than the "steady-state" presumed by the constant growth model Dr. Lurito used.

8   Rather than recognizing the complexities inherent in estimating the current

9   cost of equity for utilities, Dr. Lurito tries to "avoid having to guess" what investors

10   might expect by taking refuge in the simplifying assumptions of the constant growth

11   model. Unfortunately, however, these assumptions are violated at every turn, with the

12   result that most of the cost of equity estimates implied by Dr. Lurito's analysis simply

13   make no economic sense. Thus, while I agree with Dr. Lurito that the greater number

14   of inputs needed to apply my multi-stage DCF model increases its apparent

15   complexity, considering the deregulation and competition faced by utilities, it is

16   certainly more plausible than assuming investors expect electric utilities to grow to

17   eternity at a single constant rate based on historical results or near-term projections.

18   Q.   Please address Dr. Lurito's concerns regarding your assumption of a

19   changing payout ratio for electric utilities.

20   A.   In contrast to the assumptions of the constant growth DCF model,

21   there is every indication that electric utilities are changing their financial policies,

1   including dividend practices, to more closely align them with competitive businesses.

2   Indeed, Value Line highlighted expectations for declining payout ratios for UIL and

3   WPS, two of the firms in Mr. Lurito's group. In its October 8, 1999 report, Value

4   Line noted that WPS offered "one of the highest dividend yields in the industry" and

5   projected that the payout ratio (then approximately 87 percent) would decline "to

6   management's target of 70% by 2003". Similarly, Value Line's March 10, 2000

7   report for UIL also remarked on that company's high dividend yield and stated that

8   "until the payout ratio declines to the low seventies, no dividend hike is likely".

9   This downward trend in expected payout ratios as competition is introduced in

10   the utility industry is also well established, as documented by the following reference

11   from the February 23, 1995 edition of S&P's Industry Surveys:

12   According to EEI calculations, the industry's dividend payout
13   ratio…declined to 80.5% at December 31, 1993, from 84.4% a year
14   earlier…During the first nine months of 1994 (latest available), the
15   downward trend in the dividend payout ratio continued…[F]or the
16   industry overall, we expect dividend increases to average only about
17   1.5% annually over the next several years. This outlook reflects our
18   expectation that companies will adjust payouts to reflect the slow
19   growth in demand and, more importantly, rising competition. (p. U
20   37)

21   While this changing payout ratio is completely at odds with the assumptions of the

22   constant growth DCF model, it is consistent with my multi-stage analysis and, more

23   importantly, the expectations of real-world investors.

24   Q.   Did Dr. Lurito disagree with your assumption that generating facilities

25   account for at least one-half of electric utilities total assets?

1   A.   No. Dr. Lurito did not quarrel with the accuracy of this assumption; he

2   simply observed that it was not based on an independent study. But the widespread

3   belief that at least 50 percent of electric utilities' assets is composed of generation is

4   well documented in the investment literature, as the two examples quoted in

5   Appendix B, page 5 of my direct testimony indicate.

6   Q.   Was the competitive sector growth rate used in your multi-stage DCF

7   analysis based on near-term projections, as Dr. Lurito noted in his testimony?

8   A.   Yes. But in contrast to electric utilities, projected growth rates for a

9   broad market index such as the S&P 500 and the Value Line Industrial Composite are

10   relatively unaffected by dramatic structural changes within a single industry.

11   Moreover, because of the diversity inherent in these benchmark groups, the impact of

12   changes in specific industries would be largely offsetting. As a result, there is no

13   basis to assume that investors would anticipate longer-term growth for these

14   competitive market benchmarks to be higher, or lower, than growth in the short-term.

15   Q.   What about Dr. Lurito's contention that higher long-term growth

16   expectations are incompatible with the mature state of the electric power industry?

17   A.   First, considering his assumption that utilities will grow to perpetuity

18   at a constant rate equal to historical averages or 3-5 year projections, I find it ironic

19   that Dr. Lurito would highlight the fact that "younger firms typically have higher

20   growth rates" and "grow rates slow down" as a firm matures. Similarly, while Dr.

21   Lurito characterized utilities as being in a "mature industry", he also grants that they

1   have entered a "new era" (p. 17). In any event, utilities have ignored Dr. Lurito's

2   claims that they have reached maturity and are reacting to the changes in their

3   industry in a variety of ways, from expanding investments in non-regulated

4   enterprises to purchasing overseas utilities with opportunities for higher long-term

5   growth. Because investors have considered prospects for these activities in evaluating

6   utility common stocks, it is wrong for Dr. Lurito to suggest that these expectations

7   can be ignored when implementing the DCF model.

8   Q.   Please address Dr. Lurito's overall assessment of your risk premium

9   analyses (pp. 40-47).

10   A.   My direct testimony recognized that each method of estimating equity

11   risk premiums has limitations. Therefore, I relied on the findings of a number of

12   different studies of equity risk premiums for utilities because, just as there is no

13   single, infallible way to estimate investors' growth expectations for use in the DCF

14   model, either is there a perfect way to estimate equity risk premiums. While four of

15   the studies used DCF models, only one relied on the simplified constant growth form,

16   with the other three using different and more complex versions. Another study

17   estimated equity risk premiums from market-to-book ratios and authorized rates of

18   return, and two were based on surveys of investors and regulators, respectively. The

19   last two studies looked at the rates of return realized by the market generally, and

20   electric utilities specifically. The studies also covered a variety of diverse time

21   periods. Several focused primarily on the 1970s and 1980s, others looked at extended

1   periods, and three included data through the present.

2   Moreover, it is my testimony that the electric utility industry is facing

3   fundamental structural changes, which are driving investors' assessment of risk and

4   their expectations for growth. Given that many of the competitive risks now faced by

5   electric utilities were largely absent in the past, equity risk premiums based on

6   historical relationships would likely understate the rate of return currently required by

7   investors.

8   Q.   Why didn't you apply the various DCF approaches used in the risk

9   premium studies that you cited to estimate the current cost of equity?

10   A.   As Dr. Lurito noted on page 17 of his testimony:

11   Prior to the start of the "new era" in the electric/gas utility industry,
12   most companies displayed reasonably low and stable historical
13   dividends, earnings and book value per share growth rates. This
14   permitted investors to reasonably anticipate that these trends would
15   continue into the long-run future. (p. 17)

16   Thus, while the DCF methods used in developing the risk premiums discussed in my

17   testimony produced meaningful cost of equity estimates at the time they were applied,

18   this would no longer be the case today. The problems with current applications of

19   certain DCF approaches was amply demonstrated by Dr. Lurito, who claimed that one

20   of the DCF methods relied on in these academic studies would result in a current cost

21   of equity of 6.7 percent, clearly an illogical result.

22   Q.   Please comment on Dr. Lurito's proposed adjustment to your risk

23   premium study based on authorized rates of return.

1   A.   Dr. Lurito asserts that authorized rates of return overstate the cost of

2   equity by 50 to 75 basis points because regulators routinely incorporate adjustments

3   for flotation costs and market pressure and market drop risk. While I believe flotation

4   costs are certainly a legitimate and necessary expense that should be recovered, it is

5   not my experience that an allowance for flotation costs is automatically granted.

6   Moreover, there are other ways in which flotation costs might be recovered, apart

7   from an upward adjustment to the cost of equity. Finally, in the past decade I am

8   unaware of a single instance in which a regulatory commission has granted an

9   allowance for market pressure and/or market drop risk, with Dr. Lurito providing no

10   support whatsoever for his allegations. Indeed, while Dr. Lurito's qualifications

11   indicate that he has been testifying in regulatory proceedings since 1973, he noted in

12   response to Data Request No. 95 that he "does not have available testimony in which

13   he has recommended a 50 to 75 basis point return on equity markup".

14   Q.   Did you manipulate your risk premium results by choosing particular

15   time periods for analysis, as Dr. Lurito implies?

16   A.   No. My application of the risk premium method included all available

17   data to develop estimates of current equity risk premiums. In contrast, Dr. Lurito

18   selectively chose to ignore available data in his attempt to derive a risk premium that

19   would support his own cost of equity recommendation. Of course, Dr. Lurito's

20   calculations were purely end-result driven and tell us nothing about investors'

21   required rate of return for utilities.

IV. STEPHEN G. HILL

1   Q.   What overall rate of return did Mr. Hill propose for Avista's jurisdictional

2   utility operations?

3   A.   Mr. Hill proposed an overall rate of return for Avista of 8.82 percent, the

4   same as that recommended by Dr. Lurito. Along with updated component costs of debt

5   and preferred stock, Mr. Hill combined a rate of return on equity of 10.875 percent with a

6   capital structure composed of 38.97 percent common equity, 2.52 percent preferred stock,

7   7.93 percent trust preferred securities, 46.03 percent long-term debt, and 4.55 percent

8   short-term debt.

9   Q.   Briefly describe how Mr. Hill arrived at his recommended cost of equity

10   for Avista.

11   A.   Following a general description of economic and capital market

12   conditions, Mr. Hill applied the constant growth DCF model to a group of eight other

13   electric and gas utilities. He then used three other methods – earnings-price ratio, market-

14   to-book ratio, and two applications of the Capital Asset Pricing Model (CAPM) – to

15   check his DCF results. Based on these analyses, Mr. Hill concluded that the cost of

16   equity for the firms in his comparable group is in the range of 10.50 to 11.25 percent,

17   from which he selected the midpoint, or 10.875 percent. In contrast to Dr. Lurito, Mr.

18   Hill did not incorporate an allowance for flotation costs into his estimated rate of return

19   on equity.

20   Q.   What was the basis for Mr. Hill's recommended capital structure?

1   A.   Mr. Hill developed a hypothetical, "utility-only" capital structure by

2   subtracting virtually all of Avista's investment in non-utility businesses from the equity

3   component of the consolidated capital structure at December 31, 1999.

4   Q.   What is fundamentally wrong with Mr. Hill's recommendations?

5   A.   While my analyses explicitly account for the impact of competition on

6   investors' expectations for the utility industry, Mr. Hill continues to insist that

7   conventional, constant growth assumptions reflect how investors are currently valuing

8   utility common stocks. Of course, there is every indication that he is wrong. The

9   historical growth rates examined by Mr. Hill provide little guidance to future results and

10   near-term projections do not capture expectations beyond the transition to competition.

11   As I noted in my direct testimony, a report on deregulation in the electric utility industry

12   published by the Association for Investment Management and Research (AIMR), with

13   over 40,000 worldwide members in the investment profession, concluded that "the basics

14   of this industry are no longer valid" and that "new analytical tools" were required to

15   analyze and value electric utility securities. Meanwhile, Mr. Hill's hypothetical capital

16   structure is inconsistent with the capitalization maintained by his comparable group of

17   utilities. And despite the fact that the hypothetical capital structure proposed by Mr. Hill

18   implied greater financial leverage than is maintained by his proxy group, Mr. Hill failed

19   to make an upward adjustment to his cost of equity to recognize this higher risk.

A. Cost of Equity

1   Q.   Briefly summarize how Mr. Hill arrived at his recommended cost of

1   equity for Avista.

2   A.   Following a general description of economic and capital market

3   conditions, Mr. Hill applied the constant growth DCF model to a group of 8 other

4   combination electric/gas utilities. He then used three other methods – earnings-price

5   ratio, market-to-book ratio, and the Capital Asset Pricing Model (CAPM) – to check

6   his DCF results. Based on these analyses, Mr. Hill concluded that the cost of equity

7   for the firms in his proxy group is in the range of 10.50 to 11.25 percent, from which

8   he selected the midpoint as his recommended rate of return on equity for Avista, or

9   10.875 percent.

10   Q.   What evidence did Mr. Hill present to support his contention that the

11   10.875 percent return on equity he recommended for Avista is reasonable in today's

12   capital markets?

13   A.   Apart from noting that bond yields are "relatively low by historical

14   standards", Mr. Hill selected two citations from investment industry research reports

15   which reported DCF calculations for a group of natural gas utilities and average

16   market-to-book ratios for electric utilities.

17   Q.   Does the fact that bond yields are "relatively low by historical

18   standards" imply that Mr. Hill's recommended 10.875 percent return on equity is

19   reasonable?

20   A.   No. While interest rates represent one logical reference point, the

21   impact of fluctuating capital market conditions on the cost of equity is not readily

1   determined. As Mr. Hill noted:

2   …equity capital cost rates and bond yields do not move in lock-step
3   fashion over time. (p. 7)

4   In fact, there is substantial evidence that equity risk premiums tend to move inversely

5   with interest rates. In other words, when interest rates rise, equity risk premiums

6   narrow, and when interest rates fall, equity risk premiums are greater.

7   The last time the WUTC established the rate of return on equity for Avista

8   was in March 1987, when the Commission authorized 12.9 percent in Docket No. U-

9   86-99. Since that time, the average yield on single-A public utility bonds has fallen

10   from approximately 8.9 percent to an average of 8.3 percent for April 2000. As

11   discussed in my direct testimony, analysis of authorized rates of return on equity for

12   electric utilities indicate that the cost of equity changes approximately one-half as

13   much as the corresponding change in bond yields. Even ignoring the inverse

14   relationship between equity risk premiums and interest rates, adjusting the WUTC's

15   12.9 percent return on equity by the full 60 basis-point change in bond yields implies

16   a current cost of equity of 12.3 percent.

17   Indeed, Mr. Hill's observation that the Federal Reserve's policy is currently

18   more accommodating than in 1986 and 1987 is belied by the facts. Mr. Hill noted

19   that:

20   …in 1986, the Federal Funds rate – the rate at which commercial
21   banks trade funds for overnight use (a fundamental building block of
22   capital costs in the U.S.) – was 6.5%. Today, that basic interest rate
23   stands at roughly 5.75%, 75 basis points less… (p. 7)

1   But with the Federal Reserve's decision on May 16, 2000 to raise this benchmark rate

2   one-half a percentage point to 6.5 percent, it is now equal to the rate cited by Mr. Hill

3   and slightly higher than the average of 6.13 percent prevailing in March 1987 when

4   the WUTC issued its decision in Docket No. U-86-99.

5   Q.   Apart from the interest rate trends cited by Mr. Hill, what other

6   changes have occurred that impact investors' required rate of return on equity for

7   electric utilities?

8   A.   Offsetting any impact attributable to changes in interest rates is the

9   ever increasing uncertainty associated with the restructuring of the electric utility

10   industry. Concerns over the challenges posed by the industry's transition to

11   competition have become increasingly magnified, and the capital markets have

12   brought the risk exposure associated with restructuring into sharp focus since

13   mid-1993. Given the fundamental tradeoff between risk and return, investors'

14   expectations for significantly higher uncertainty imply a corresponding increase in the

15   cost of equity.

16   Q.   Does the single investment analyst report cited by Mr. Hill support his

17   allegation that investors' return expectations for utilities have fallen to all-time lows?

18   A.   No. On page 6 of his testimony, Mr. Hill resorts to a selected cite from

19   A. G. Edwards relating to solely to gas, not electric, utilities in an attempt to support

20   his untenable position. But the 9 percent return figure cited in this report is simply

21   another example of how mechanical applications of the constant growth DCF model

1 can produce illogical results, with Mr. Hill granting that:

2   …investors, over the long-term, require something substantially
3   greater than a 9% return on their utility equity investments. (p. 6)

4 In fact, the publication referenced by Mr. Hill noted that "dividend yield comparisons

5 offer little benefit to accessing gas utility stock valuations" and observed that utility

6 stock prices are impacted by factors not considered in the traditional DCF analysis

7 conducted by Mr. Hill:

8   **Takeover Speculation (25%)** The recent takeover frenzy has created
9   a situation where stocks trade more on rumors than company
10   fundamentals. We believe takeover speculation currently explains
11   approximately 25% of the movement in gas utility stocks. (p. 6,
12   emphasis in original)

13 Meanwhile, in their January 14, 2000 <u>Electric Utility Stock Update</u>, A. G. Edwards

14 noted that electric utilities are expected to achieve "solid EPS growth and strong cash

15 flow" and concluded that:

16   Electric consumption should continue to grow 1.5% to 2.5% annually
17   on a weather-normalized basis. Maintenance and capital expenditures
18   are generally manageable. Deregulation is spurring companies to
19   develop new businesses and provide customers with new services.
20   **These factors are expected to lead to EPS growth in the 4% to 6%**
21   **range for most electric utilities over the next several years.** (p. 5,
22   emphasis added)

23 Combining this 4 to 6 percent near-term growth rate range with the 7.83 percent

24 average dividend yield for Mr. Hill's proxy group of utilities results in a cost of equity

25 range of 11.83 to 13.83 percent. A. G. Edwards further illustrated the inadequacy of

26 Mr. Hill's recommendation by reference to examples of utilities with expected returns

27 far in excess of his 10.875 percent cost of equity:

1   Duke shares yield 4.0% and we project 8% annual EPS growth. FPL
2   Group shares yield 4.8% and we project 6% to 7% annual EPS growth.
3   (p. 5)

4   Meanwhile, a February 3, 2000 Goldman Sachs publication supports my position that

5   the "steady state" assumptions of the constant growth DCF model do not comport

6   with investors' expectations of higher long-term growth from utilities:

7   We believe that accelerating growth rates, improving management
8   decision making, structural changes, accelerating LBO activity, and
9   incremental recognition of technology investments will drive the prices
10   of many power and utility stocks…EPS growth rates for select power
11   & utility stocks are accelerating. (p. 3)

12   Whether or not Mr. Hill believes that such an acceleration in long-term growth is

13   achievable, these are the expectations <u>investors</u> have embodied into current market

14   prices and the only growth rates relevant for the DCF model.

15   Q.   Does Mr. Hill's reference to market-to-book ratios for utility stocks

16   demonstrate the reasonableness of his 10.875 percent recommended cost of equity for

17   Avista?

18   A.   No. As discussed previously in response to Dr. Lurito, with

19   market-to-book ratios for utilities presently above 1.0 times, Mr. Hill's

20   recommendations imply a sharp drop in share prices and capital losses for investors.

21   Under Mr. Hill's constant growth DCF theory, this would imply that investors are

22   anticipating negative growth, with their cost of equity falling below utilities' dividend

23   yields.

24   Moreover, if the goal of regulation is to duplicate the result that would be

1   obtained for firms of comparable risk in a competitive market, this requires a

2   market-to-book premium similar to that prevailing for unregulated firms. This is

3   especially true for utilities today, given the transition to competitive markets and

4   investors' realization that returns for a significant portion of electric companies'

5   operations will no longer be tied to historical cost. As Mr. Hill granted:

6   ...some utilities have unregulated investments which are valued
7   differently than utility property... (p. 11)

8   with the article cited on page 13, lines 19-21 of Mr. Hill's testimony noting the

9   problems that unregulated investments can pose in any analysis of market-to-book

10   ratios:

11   One major concern is that the number of "pure play" regulated
12   companies keeps falling. As a result, the reported book value per share
13   for "regulated" companies reflects nonutility assets. Moreover, only
14   for the regulated firm is the book value per share an economically
15   meaningful number. For nonregulated firms the book value per share
16   reflects a myriad of accounting changes that mix historical and current
17   values, as well as including some values that do not affect economic
18   earnings (such as some contingent liabilities) and failing to include
19   some (such as the value of brand names) that do. (pp. 421-422)

20   Q.   Does Mr. Hill's discussion accurately characterize the historical trend

21   in public utility bond yields?

22   A.   No. Interest rates have been trending upward, with the yield on single-

23   A public utility bonds most recently rising from an average of 8.3 percent in April

24   2000 to reach approximately 8.8 percent during May 2000. Meanwhile, Mr. Hill

25   claimed that "although there was an upward movement in interest rate levels during

26   1999, that has abated recently" and stated that "the last time debt cost rates were as

1 low as they were during 1998 was roughly thirty years ago". But the average yield on

2 public utility bonds fell to a low of approximately 6.8 percent in the fall of 1993.

3 Regulatory Research Associates, Inc. (RRA) reported in their January 21, 2000

4 edition of Regulatory Focus that authorized rates of return on equity for electric

5 utilities averaged 11.07 percent during the fourth quarter of 1993. Adjusting this rate

6 of return to reflect a 200 basis-point increase in single-A public utility bond yields

7 implies a current cost of equity of approximately 12.0 percent. Even ignoring the fact

8 that investors' perceptions of the investment risks associated with electric utilities

9 have shifted dramatically upward since that time, these allowed rates of return suggest

10 a current cost of equity that exceeds Mr. Hill's recommendation in this case by more

11 than a full percentage point.

B. DCF Analysis

1 Q. Did Mr. Hill properly apply the constant growth DCF model?

2 A. No. Although Mr. Hill began his DCF analysis by correctly stating:

3 The DCF model relies on the equivalence of the market price of the
4 stock (P) with the present value of the cash flows **investors expect**
5 **from the stock**, providing the discount rate equals the cost of capital.
6 (page 24, emphasis added)

7 his application of the DCF model to his proxy group of utilities departed from this

8 fundamental proposition because of his strict reliance on the mathematical DCF

9 theory instead of the realities of investors' actual expectations in financial markets.

10 The use of DCF models to estimate the cost of equity is essentially an attempt to

11 replicate the market pricing mechanism that led to the observed stock price, with

1   investors' required rate of return simply being inferred. In contrast, Mr. Hill applied

2   the DCF model based on a strict interpretation of the academic theory underlying its

3   derivation.

4   Q.   What is wrong with adhering strictly to the theory underlying the

5   constant growth DCF model?

6   A.   Enumerated in my direct testimony (p. 39), many unrealistic

7   assumptions are required to derive the constant growth form of the DCF model, with

8   Mr. Hill noting some of these infirmities in his testimony:

9   The model also assumes that the company whose equity cost is to be
10   measured exists in a steady state environment, i.e., the payout ratio and
11   the expected return are constant and the earnings, dividends, book
12   value and stock price all grow at the same rate, forever. (p. 25)

13   Because the assumptions underlying the constant growth DCF model are never met in

14   practice, the constant growth DCF model can, at best, only be considered an

15   abstraction of reality. As such, the DCF model <u>cannot</u> universally produce correct

16   measures of the cost of equity; rather, it can only serve as a potential guide to

17   investors' required rate of return. Mr. Hill granted this limitation of the DCF model

18   in his testimony:

19   As with all mathematical models of real-world phenomena, the DCF
20   theory does not exactly "track" reality. (page 25)

21   Therefore, the only inputs (i.e., cash flows) that matter in implementing the DCF

22   model are those that <u>investors used</u> to value the utility's stock. Any application of the

23   DCF model which does not focus exclusively on investors' actual expectations is a

1   misuse of the DCF model to estimate the cost of equity.

2   Q.   Can you provide an example of how Mr. Hill disregards this principle?

3   A.   Yes. Consider Mr. Hill's discussion of his hypothetical firm in

4   Appendix B to his testimony. He stated that certain actual growth rates can be

5   "unreliable" within DCF theory, and concluded that the proper growth rate to use with

6   the DCF model is the theoretical "sustainable growth rate". But Mr. Hill's contention

7   is wrong. The only correct growth rate to be used in the DCF model is the long-term

8   growth rate investors actually incorporated into the observed stock price, irrespective

9   of whether Mr. Hill considers it "ridiculous" or inconsistent with "the underlying

10   fundamentals of growth in the DCF model" (Appendix B, p. iv)

11   The fact is Mr. Hill confused the <u>theory</u> of the DCF model with its <u>application</u>.

12   As noted earlier, Professor Myron J. Gordon's complete mathematical DCF model is

13   tautological. In other words, the constant growth DCF model is true by virtue of the

14   strict assumptions made to derive it, and given these assumptions, any number of

15   propositions can be "demonstrated" (Appendix B, p. iv). But to the extent that these

16   assumptions are not met in practice and the DCF model does not "track reality", the

17   theoretical DCF model will not conform to the real world. In turn, cost of equity

18   estimates that are based solely on mathematical identities instead of investors' actual

19   long-term growth expectations will not accurately measure their required rate of

20   return.

21   Q.   Does Mr. Hill's theoretical application of the constant growth DCF

1   model comport with reality?

2   A.   No. His application of DCF theory assumes perpetual stability, which

3   is at direct odds with the realities faced by utilities as the industry transitions to

4   competition.   For example, electric utilities are widely expected to forego dividend

5   increases in response to competition, moving their retention ratios towards those of

6   other industries over the long-run. As noted in "Interpreting Electric Utilities'

7   Numbers and Equity Valuation", published by AIMR (January 28, 1997):

8   The coming deregulation of the electric-power-generation segment
9   implies the potential for significant earnings volatility. This part of the
10   industry, which typically involves more than half of an average
11   company's assets, cannot be expected to contribute to a dividend policy
12   that compares with the 70-80 percent payout ratio currently enjoyed by
13   investors. As a result the math is very simple. If half the business can
14   contribute zero dividends and the other half has an 80 percent payout
15   ratio potential, the target payout ratio probably trends toward 40
16   percent. (p. 36)

17   It is simply unrealistic to assume, as Mr. Hill does, that investors' assessment

18   of the sweeping fundamental changes occurring in the electric utility industry can be

19   reduced to the simple, theoretical "br" of the constant growth model. Similarly, with

20   the restructuring of the electric utility industry still in its infancy, Mr. Hill provided no

21   explanation as to why investors' long-term expectations would converge to the

22   near-term projections and historical growth rates that served as the basis for his

23   analysis.

24   Q.   Does Professor Gordon, who Mr. Hill cites as an authority, recognize

25   that that modification of the constant growth DCF model is warranted when growth

1   rates are expected to change in the future?

2   A.   Yes. In <u>The Cost of Capital to a Public Utility</u> (MSU Public Utilities

3   Studies, 1974), Professor Gordon states:

4   An investigator who has reason to believe that a firm's dividend is
5   expected to grow at the rate GRAV (short-term average growth) for N
6   periods and at the rate GRLR (long- run normal growth) thereafter
7   reasonably might use this information to arrive at KGON (the cost of
8   equity) and consider this measure of share yield superior to KGAV
9   (the cost of equity using short-term average growth) or even KGAVC
10   (the cost of equity using short-term average growth corrected for
11   measurement error). (p. 100)

12   In short, although Mr. Hill's mentor, Professor Gordon, endorses a long-term growth

13   rate that incorporates differing near- and longer-term growth expectations, and

14   acknowledging that the relevant growth rate in the DCF model is investors' long-term

15   growth expectations, Mr. Hill nonetheless restricted his DCF analysis to a simple

16   mathematical derivation based solely on historical data and near-term forecasts.

17   Q.   Has Mr. Hill previously recognized that investors' future expectations

18   for deregulated operations is likely to resemble those for other competitive firms?

19   A.   Yes. In Case No. 8797 before the Maryland Public Service

20   Commission (MPSC), Mr. Hill based his recommended cost of equity for the

21   deregulated generating assets of Potomac Edison Company on analyses for other

22   firms in the competitive sector. To estimate the cost of equity for the generating

23   segment, Mr. Hill stated that:

24   …I have elected to analyze the cost of equity capital of firms in
25   competitive, capital intensive industries – automobile and appliance
26   manufacturing…The firms included in the sample group in this portion

1   of my analysis are Ford Motor Company (F), General Motors (GM),
2   Honda Motor Co., Ltd., (HMC), PACCAR, Inc. (PCAR), Toyota
3   Motor Corp. (TOYOY), Volvo (VOLVY), Black and Decker Corp.
4   (BDK), Maytag Corp. (MYG), National Presto Industries (NPK), Toro
5   Corp. (TTC), and Whirlpool Corp. (WHR). (p. 33)

6   As shown on Schedule WEA-7, securities analysts are currently projecting growth

7   rates for Mr. Hill's group of competitive sector firms in the 9.5 to 12.5 percent range.

8   These growth rates are entirely consistent with the 10.4 percent growth rate for non-

9   regulated activities incorporated into my DCF analyses.

10   Q.   Is there evidence that future expectations for the firms in Mr. Hill's

11   comparable group will differ from historical growth rates and near-term projections?

12   A.   Yes. For example, Value Line's March 10, 2000 report noted the

13   impact that competitive power generation activities are expected to have on growth

14   for Constellation Energy Group (CEG):

15   **Constellation Power Source (CPS) should account for the bulk of**
16   **earnings growth to 2003-2005.** Through 2003, we look for CPS to
17   add as much as 5,000 megawatts of physical capacity to the current
18   base of 6,200 MWs. As the wholesale and retail markets open to
19   competition nationally, and power demand rises, CPS's generating
20   plant output should rise from historical levels, as should revenues and
21   net profits. We project that CEG's share net will increase 10%-12%
22   annually, on average, over the next five years. (p. 165)

23   In contrast to the growth real-world investors might reasonably expect for CEG, Mr.

24   Hill selected a "sustainable" growth rate of 4.5 percent. Similarly, Value Line noted

25   that, while Alliant Energy's (LNT) near-term earnings are expected to suffer from

26   expanding involvement in overseas utility operations, these activities are projected to

27   generate significantly higher returns in the long-term:

1   **Alliant Energy has bought a stake in four Brazilian electric**
2   **utilities.** It paid $347 million for a 49.2% interest. The investment
3   will likely dilute LNT's share earnings by 3% this year, but it should
4   generate annual returns in excess of 15% thereafter.

5   Q.   Can you provide an example of Mr. Hill's confusion between the

6 theory and practice of the constant growth DCF model?

7   A.   Yes. Mr. Hill stated that:

8   ...a reasonable estimate of investors' expectations for utility price/book
9   ratios is that it will range between current levels and 1.0. I have used
10   the average as an estimate of investors' expectations for the future. (p.
11   30)

12 But consider the implication of Mr. Hill's statement for LNT, the first of the 8 utilities

13 included in Mr. Hill's proxy group. According to Mr. Hill (Schedule 11, p. 1), LNT's

14 $28.65 average share price implies a market-to-book ratio of 1.34 times. Based on

15 Mr. Hill's assumption, investors expect LNT's market-to-book ratio to fall to 1.17

16 times (half-way between 1.34 and 1.00). Applying this market-to-book ratio to Value

17 Line's 2003-2005 projected book value of $23.20 for LNT implies that investors

18 expect LNT's shares to sell at approximately $27 four years hence, or below their

19 current price.

20   According to Mr. Hill, investors expect zero growth in LNT share price over

21 the next four years. But this is not the growth rate that Mr. Hill used in his DCF

22 analysis. Instead, his "g" was based on the strict, steady-state assumptions underlying

23 DCF theory. In fact, if investors expect no growth in share price, as Mr. Hill believes,

24 then the only return they will realize from an investment in LNT is dividend yield,

1   However, LNT's dividend yield is currently only 6.98 percent (Schedule 6). This is

2   some 180 basis points below the 8.8 percent yield on single-A public utility debt

3   reached in May 2000, and approximately 2.4 percent below the 9.40 percent cost of

4   equity Mr. Hill estimated using his DCF model (Schedule 7). This contradictory

5   end-result amply demonstrates Mr. Hill's confusion between DCF theory and practice,

6   and that his theoretical application of the DCF model has little relevance in estimating

7   investors' actual required rates of return from LNT or Avista.

8   Q.   Was Mr. Hill right to include his cost of equity estimate for LNT in

9   arriving at his average DCF result?

10   A.   No. As noted above, Mr. Hill's DCF cost of equity for LNT was just

11   9.4 percent, far below even the bottom of his cost of equity range. And as Mr. Hill

12   stated on page 6 of his testimony:

13   …investors, over the long-term, require something substantially
14   greater than a 9% return on their utility equity investments.

15   Indeed, given current levels of bond yields and the risk-return tradeoff fundamental to

16   capital markets, an equity return in the low single-digits is simply illogical, and hardly

17   representative of the return investors require for bearing the risks of the most junior of

18   a utilities' securities.

19   Q.   What cost of equity is implied by Mr. Hill's DCF analysis once LNT is

20   excluded?

21   A.   Excluding the 9.4 percent cost of equity estimate for LNT, Mr. Hill's

22   DCF results ranged from approximately 10.4 to 12.0 percent, and implied an average

1   cost of equity of approximately 11.3 percent.

C. Other Analyses

1   Q.   Does Mr. Hill's application of the CAPM indicate that his DCF results

2   are "overstated" (p. 39)?

3   A.   No. Mr. Hill's CAPM results are also biased downward, for two

4   principal reasons. First, Mr. Hill applied the CAPM using short-term T-bill rates as

5   the risk-free rate of interest. But as discussed by Roger G. Ibbotson and Rex A.

6   Sinquefield in their seminal monograph, <u>Stocks, Bonds, Bills and Inflation: Historical</u>

7   <u>Returns (1926-1987)</u>, the use of short-term T-bills as the risk-free interest rate is

8   inconsistent with using the CAPM to estimate the cost of equity:

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

11   A.   The CAPM was originally formulated to measure the
12   short-term cost of capital, but it may be adapted to measure the
13   long-term cost of capital by using the expected return on a long-term
14   government bond, instead of the risk-free rate of return, as the risk-less
15   rate. (p. 122)

16   Because common stock is a permanent source of capital (i.e., a perpetuity), the

17   pertinent risk-free rate for use in the CAPM when estimating the cost of equity is the

18   yield on long-term U.S. Treasury bonds, not the yield on short-term T-bills.

19   Q.   What other factors indicate that the results of Mr. Hill's CAPM

20   analysis are biased downward?

21   A.   In his discussion of the CAPM, Mr. Hill noted the controversy that

22   surrounds the reliability of beta as a measure of investment risk and explained that:

1   (C)ost of capital analysis is a decidedly forward-looking, or *ex-ante*
2   concept. Beta is not. The measurement of beta is derived completely
3   with historical, or *ex-post*, information. Therefore, the beta of a
4   particular company, because it is usually derived with five years of
5   historical data, is slow to change to current (i.e., forward-looking)
6   conditions… (Appendix D, p. i)

7   Thus, because the reported beta values for the firms in Mr. Hill's utility group are

8   calculated based on historical information, they fail to accurately reflect the greater

9   uncertainties utilities now face as the industry transitions to competition.

10   Q   Is there any substance to Mr. Hill's modified earnings-price ratio

11 (MEPR) analysis?

12   A.   None whatsoever. Mr. Hill's statement that the MEPR understates the

13 cost of equity when the utility's market-to-book ratio is greater than one, and vice

14 versa (p. 40), is generally correct. But there is absolutely no theoretical justification

15 for Mr. Hill's <u>averaging</u> the MEPR with a rate of return on book equity, either current

16 or expected, as he did in his Schedule 10. Nor is such an averaging justified even if

17 the Federal Energy Regulatory Commission (FERC) may have sometime in the past

18 utilized the expected rate of return on book value as a check of reasonableness in

19 establishing an upper bound to investors' required rate of return.

20   Q.   Does Mr. Hill's market-to-book ratio (MTB) analysis provide any new

21 or additional information as to the rate of return required by investors from his proxy

22 group of utilities?

23   A.   Absolutely none. As Mr. Hill acknowledged:

24   This method is derived algebraically from the DCF model and,

1   therefore, cannot be considered a strictly independent check of that

2   method. (p. 42)

3   That Mr. Hill's MTB analysis is nothing more than a rehash of his previous DCF

4   analysis is also evident from his Schedules 7 and 11. In particular, there is little

5   difference between Mr. Hill's average cost of equity of 11.03 percent using his DCF

6   method and the 11.05 percent using his MTB method. This similarity is not because

7   the results of two different methods are converging, but because the DCF and MTB

8   methods are essentially the same, only packaged slightly differently. And just as Mr.

9   Hill's DCF analysis is fundamentally flawed because it is tied to tautological DCF

10   theory rather than investors' actual expectations, so too is his MTB analysis since it is

11   derived from the very same theoretical model and uses virtually identical inputs.

12   Q.   Please comment on the table displayed on page 44 of Mr. Hill's

13   testimony.

14   A.   While at first blush this table might suggest that Mr. Hill performed

15   four different analyses that all indicated a cost of equity for his proxy group falling

16   within a fairly narrow range, this is not the case. As discussed earlier, both of Mr.

17   Hill's CAPM analyses are wrong because they are based on short-term interest rates.

18   Moreover, Mr. Hill's DCF and MTB analyses are, for all intents and purposes, one

19   and the same and his MEPR analysis is meaningless, since he averaged "apples and

20   oranges" to arrive at the values shown. Finally, adjusting Mr. Hill's DCF analysis to

21   remove illogical values results in an average cost of equity of 11.3 percent. While

22   this cost of equity falls far short of investors' required rate of return because it fails to

1   account for their higher long-term growth expectations for utilities, it exceeds even

2   the upper end of Mr. Hill's 10.50 to 11.25 percent cost of equity range.

3   Q.   Did Mr. Hill include an adjustment to recognize common stock

4   flotation costs in his recommended fair rate of return on equity?

5   A.   No. Mr. Hill asserted that an adjustment for flotation costs was

6   unnecessary because:

7   1. Avista's common stock is selling above book value;

8   2. Avista has presented no evidence that it intends to issue additional
9   common stock in the future;

10   3. Issuance expenses are not out-of-pocket expenses;

11   4. His DCF growth rate included an upward adjustment to recognize
12   expectations of stock sales above book value; and,

13   5. "Research" has shown that an adjustment for issuance expenses is

14   unnecessary.

15   Q.   Do these five assertions justify Mr. Hill's decision to ignore flotation

16   costs in determining his recommended rate of return for Avista?

17   A.   No. While Mr. Hill's first two reasons may be factually correct, they

18   say nothing about whether or not a flotation cost adjustment is warranted for Avista.

19   In fact, even if Avista is not expected to issue additional common stock, a flotation

20   cost adjustment is necessary to compensate for flotation costs incurred in connection

21   with past issues of common stock. As discussed in my direct testimony, (pp. 55-56),

22   the flotation costs incurred in connection with the sale of common stock are not

23   included in a utility's rate base because the portion of the gross proceeds that is used

1   to pay these costs is not available to invest in plant and equipment. Even though there

2   is no accounting convention to accumulate the flotation costs associated with past

3   common stock issues, flotation costs are a necessary expense of obtaining equity

4   capital. The fact that a flotation cost adjustment is necessary account for past sales of

5   common stock was stated succinctly in Dr. Lurito's testimony:

6   According to Avista Corporation's 1999 10-K Report, Avista Utilities
7   will generate sufficient funds internally through 2002 to preclude the
8   need for external financing. **However, it is necessary to allow Avista**
9   **Utilities to recover in rates an amount sufficient to allow Avista**
10   **Corporation to recoup sunk financing costs related to past**
11   **common stock sales.** (p. 25, emphasis added)

12   As noted earlier, Dr. Lurito agreed with my recommendation to adjust the cost of

13   equity for Avista upward by 25 basis points to account for flotation costs.

14   Mr. Hill's third argument that flotation costs "are not an expense" is simply

15   wrong. Mr. Hill apparently believes that if investors in past common stock issues had

16   paid the full issuance price directly to Avista and Avista had then paid underwriters'

17   fees by issuing a check to its investment bankers, that flotation cost would be a

18   legitimate expense. Of course, the fact that underwriters earn their fees by

19   discounting the share price paid to Avista below its market value produces the exact

20   same end result; namely, Avista is not able to earn a return on that portion of the

21   proceeds used to pay for "floating" the equity issue. Mr. Hill's observation merely

22   highlights the absence of an accounting convention to properly accumulate and

23   recover these legitimate and necessary costs.

24   Similar to his first two reasons, Mr. Hill's fourth justification for rejecting a

1 flotation cost adjustment entirely ignores expenses incurred for past equity issues.

2 With respect to his contention that his DCF growth rate included an upward

3 adjustment to recognize future sales of common stock above book value, the growth

4 investors might expect resulting from sales of new stock above book value is a

5 different issue than past or future flotation costs paid to third parties.

6   Finally, contrary to Mr. Hill's assertions, the necessity of an adjustment for

7 past flotation costs has been recognized in the literature. In an article entitled

8 "Common Equity Flotation Costs and Rate Making" published in Public Utilities

9 Fortnightly (May 2, 1985), E.F. Brigham, D.A. Aberwald, and L.C. Gapenski

10 demonstrate that even if no further stock issues are contemplated, a flotation cost

11 adjustment in all future years is required to keep shareholders whole, and that the

12 flotation cost adjustment must consider total equity, including retained earnings.

13 Additionally, Roger A. Morin's Regulatory Finance: Utilities' Cost of Capital

14 contains the following discussion:

15   Another controversy is whether the underpricing allowance should still
16   be applied when the utility is not contemplating an imminent common
17   stock issue. Some argue that flotation costs are real and should be
18   recognized in calculating the fair rate of return on equity, but only at
19   the time when the expenses are incurred. In other words, the flotation
20   cost allowance should not continue indefinitely, but should be made in
21   the year in which the sale of securities occurs, with no need for
22   continuing compensation in future years. This argument implies that
23   the company has already been compensated for these costs and/or the
24   initial contributed capital was obtained freely, devoid of any flotation
25   costs, which is an unlikely assumption, and certainly not applicable to
26   most utilities…The flotation cost adjustment cannot be strictly
27   forward-looking unless all past flotation costs associated with past
28   issues have been recovered. (p. 175)

D. Capital Structure

1   Q.   What capital structure did Mr. Hill recommend for Avista's

2   jurisdictional electric and gas utility operations?

3   A.   Starting with Avista's consolidated capital structure, Mr. Hill derived

4   his "utility-only" capitalization by subtracting Avista's entire net investment in non-

5   utility businesses from the common equity outstanding in each of the six quarters

6   ended December 31, 1999. Mr. Hill then averaged the resulting quarterly balances for

7   each capital component, to arrive at his recommended capital structure of 46.03

8   percent long-term debt, 4.55 percent, short-term debt, 7.93 percent preferred

9   securities, 2.52 percent preferred stock, and 38.97 percent common equity.

10   Q.   Does the capital structure that Mr. Hill derived represent the actual

11   capitalization of Avista's regulated utility operations?

12   A.   No. Avista does not have a holding company structure. Consequently,

13   a separate balance sheet is not maintained for Avista's regulated activities, with the

14   capital for its various business lines being provided from general corporate funds.

15   Despite Mr. Hill's assertion that his recommendation represents "the actual mix of

16   capital Avista management is utilizing to capitalize its operations", the capitalization

17   he derived is a <u>hypothetical</u> capital structure that arbitrarily assumes Avista's non-

18   utility activities are financed with 100 percent common equity.

19   Q.   Is it reasonable to attribute a capital structure consisting of 100 percent

20   equity to non-utility businesses?

1   A.   No.   Firms in the competitive sector are not typically financed with

2   100 percent equity. For example, Value Line reported (February 4, 2000) that the 827

3   industrial, retail, and transportation companies included in its Industrial Composite

4   maintained a capital structure consisting of approximately 39 percent long-term debt

5   and 61 percent common equity, while independent power producers AES Corp. and

6   MidAmerican Energy Holdings Company had equity ratios on the order of 29 percent

7   and 24 percent, respectively. Meanwhile, S&P recently noted the difficulties

8   associated with determining an appropriate capital structure for energy marketing

9   activities in Utilities & Perspectives (March 20, 2000):

10   The proper capital structure is fundamental to an energy trading firm's
11   long-term financial viability. Given the diverse mix of players in the
12   energy markets, a single optimal capital structure may be limiting.
13   Energy marketers have several distinguishing factors that make it
14   difficult to compare each other on the same scale, especially risk
15   management practices. (p. 2)

16   As a result, any adjustment of Avista's consolidated capitalization to arrive at a

17   hypothetical "utility-only" capital structure is fraught with difficulties and problematic

18   at best. It was for this reason that my recommended capital structure was based on

19   the capitalization for a proxy group of electric and gas utilities.

20   Q.   Has Mr. Hill previously recognized that a capital structure consisting

21   entirely of common equity is not appropriate for unregulated businesses?

22   A.   Yes. In his testimony before the MPSC in Case No. 8797, Mr. Hill

23   attributed a capital structure consisting of 40 percent debt and 60 percent common

24   equity to the deregulated generating segment of Potomac Edison Company. This

1   capital structure for a merchant power generator (MPP) was based in part on statistics

2   for the Value Line Industrial Composite similar to those reported above. As Mr. Hill

3   observed in his testimony:

> 4   Because an MPP is a capital-intensive operation functioning in a
> 5   competitive market, I also reviewed the average capital structure of the
> 6   competitive industrial sector of the U.S. economy…A review of the
> 7   available data, summarized above, indicates that a reasonable and
> 8   conservative capital structure for determining the overall cost of
> 9   capital for an MPP consists of 60% equity and 40% debt. This capital
> 10   structure is virtually equivalent to that being used to capitalize
> 11   industrial firms in the U.S. today, falls within the range of equity ratios
> 12   S&P projects for investment-grade MPPs, is above the top end of the
> 13   range Duff & Phelps believes is prudent for Merchant Power Plants
> 14   and is considerably less leveraged that the capital structures currently
> 15   in use in the IPP industry. (pp. 28-29)

16   In contrast to his proposal to attribute a capital structure of 100 percent equity to

17   Avista's nonutility operations, Mr. Hill argued in Maryland that a 60 percent equity

18   ratio was likely to be "conservative" since non-regulated operations could ultimately

19   be capitalized "with less equity and more debt".

20   Q.   Is Mr. Hill's recommended capital structure consistent with that

21   maintained by his comparable group of utilities?

22   A.   No. The capital structures maintained by each of the firms in Mr.

23   Hill's group of comparable firms at year-end 1999 are presented in Schedule WEA-8.

24   As shown there, the average common equity ratio for the group of utilities that Mr.

25   Hill believes are "similar in risk to Avista" (p. 3) ranges from 49 to 45 percent,

26   depending on whether short-term debt is included or excluded from permanent

27   capital. Contrary to Mr. Hill's assertions that his recommended capital structure is

1   "similar to that utilized in combination gas and utility industry" (sic), it is inconsistent

2   with the capitalization maintained by the very group of utilities Mr. Hill believes is

3   most comparable to Avista.

4   Q.   Is Mr. Hill's recommended capital structure consistent with what other

5   regulators are authorizing for electric and gas utilities?

6   A.   No. As I noted in my direct testimony (p. 28), based on data for 1994-

7   1998 reported by RRA, common equity represented 46.15 percent and 48.61 percent

8   of the average capital structure authorized electric and gas utilities, respectively.

9   More recently, RRA reported in an April 5, 2000 study that the average equity

10   component of the authorized capital structure for electric utilities was 45.08 percent

11   during 1999 and 49.75 percent in the first quarter of 2000. For gas utilities, the

12   average common equity ratio authorized during these same time periods was 49.06

13   percent and 53.95 percent, respectively.

14   Q.   Did Mr. Hill adjust his return on equity recommendation to account for

15   the greater risk associated with his proposed capital structure?

16   A.   No. As discussed earlier and in my direct testimony, a higher debt

17   ratio, or lower common equity ratio, translates into increased financial risk for

18   investors, as Mr. Hill recognized in his testimony:

19   In my view, due to the differences in common equity ratio between
20   Avista and my sample group of firms, the Company could be said to
21   carry somewhat higher financial risk. (p. 50)

22   Accordingly, common shareholders require a correspondingly higher rate of return to

1   compensate them for bearing the greater uncertainty associated with a lower common

2   equity ratio. This interrelationship between capital structure and the cost of equity

3   was recognized in the WUTC's order in the Puget Sound case referenced previously,

4   in which Mr. Hill also submitted testimony:

5   All of the parties, except the company recommended a change in the
6   cost of equity, depending on the capital structure adopted by the
7   Commission, so that the cost of equity and capital structure decisions
8   must be made together… (p. 28)

9   The company has increased the equity component of its capital
10   structure to 45%, and the Commission does not find this to be an
11   inappropriate or imprudent capital structure… (p. 31)

12   While the Commission recognizes the increase in the equity
13   component of the capital structure, it also must recognize that this
14   increase in equity reduces the risk measured in the cost of money
15   studies performed by the parties. (pp. 31-32)

16   Similarly, Mr. Hill should have recognized that the higher risk implied by his

17   proposed capital structure warrants an upward adjustment to the cost of equity he

18   determined for his comparable group.

19   Q.   Did Mr. Hill recognize that the absence of a PCA also implies greater

20   risk for Avista?

21   A.   Yes. Mr. Hill begrudgingly admitted that:

22   …there may be some risk-inducing aspect relating to the fact that a few
23   of the firms include in my sample group do have power adjustment
24   clauses… (p. 51)

25   In fact, a review of the 1999 Form 10-K reports for the utilities in Mr. Hills group

26   indicates that four of the eight companies in his group (LNT, CHG, CIN, and TE)

27   have some form of adjustment clause in place to accommodate changes in fuel or

1   purchased power costs. Of the four that are not expected to have a PCA equivalent

2   going forward, three of these utilities (AEE, CEG, and RGS) have either undergone

3   comprehensive industry restructuring or have incentive regulation plans in place. For

4   example, Ameren Corporation (AEE) may earn a return on equity up to 12.61 percent,

5   with earnings sharing up to a return of 16 percent.

6   In addition, because the utilities in Mr. Hill's group do not rely significantly

7   on hydro generation, they are better able to mitigate the risks of fluctuating power

8   costs. For example, AEE noted in its 1999 Form-10K that:

9   …the Company has entered into several long-term contracts with
10   various suppliers to purchase coal and nuclear fuel to manage its
11   exposure to fuel prices.

12   Similarly, RGS observed that:

13   Under the Competitive Opportunities Settlement, RG&E's electric
14   rates are capped at specified levels through June 30, 2002. As a result
15   of owned generation and long-term fixed rate supply contracts, RG&E
16   is largely insulated from market price fluctuations for procurement of
17   its electric supply.

18   This contrasts with Avista's electric operations, which remain exposed to the impact

19   of year-to-year fluctuations in water conditions. This exposure was recognized by

20   Moody's in a January 1999 credit analysis:

21   Lack of a power cost adjustment mechanism in Washington creates the
22   potential for earnings to vary depending on the availability of hydro
23   resources and the degree of success the company has in optimizing the
24   use of resources through the utility division's wholesale marketing and
25   trading operations…The PCA mechanism allows for greater stability
26   in revenue and earnings from utility operations, which can otherwise
27   vary dramatically due to differences between actual generating costs
28   and those that are calculated under the assumption of normal

1   streamflow conditions. (pp. 3 & 7)

2   Q.   Dr. Lurito and Mr. Hill both argue for including short-term debt in a

3   utility's capital structure. Do you disagree?

4   A.   It depends. For those companies where short-term debt may be

5   regarded as a permanent source of capital, it is properly included in the utilities'

6   capital structure for ratemaking purposes. Conversely, where short-term debt is

7   temporary and not part of the permanent capital used to finance investment in plant

8   and equipment, it is properly excluded in calculating the overall rate of return.

9   Indeed, short-term debt is typically used to meet seasonal working capital needs, and

10   may also be used to finance capital improvements until a sufficient balance has

11   accumulated to economically issue common stock or long-term debt. But again, both

12   of these uses are temporary, rather than a permanent reliance on short-term debt as an

13   ongoing source of capital.

14   Q.   Does the simple fact that Avista had short-term debt outstanding at

15   December 31, 1999 mean that it should be included when calculating Avista's

16   consolidated capital structure?

17   A.   No. Like other utilities, Avista's short-term debt balances fluctuate

18   depending on seasonal or other operating requirements. For example, in the 13 month

19   period ending December 1999 Avista's month-end balance of short-term debt

20   outstanding fluctuated between zero (December 1998 and April 1999) and $127.4

21   million (August 1999). These fluctuations, and the fact that there was no short-term

1   debt outstanding in two of the months during this period, evidences that the use of

2   short-term debt by Avista is temporary.

3   Q.   Does the outstanding balance at December 31, 1999 accurately reflect

4   Avista's use of short-term debt?

5   A.   No. Because of the significant fluctuations in outstanding balances,

6   Dr. Lurito's use of year-end figures grossly overstates the amount of short-term debt

7   used by Avista. For example, Mr. Hill's Schedule 2, page 2 indicates that, over the

8   six quarters ended December 31, 1999, short-term debt constituted only 4 percent of

9   Avista's consolidated capital structure, versus the 8.5 percent recommended by Dr.

10   Lurito. But again, the fact that short-term debt balances were completely liquidated

11   during two of the months during this time period indicates that it is not part of the

12   permanent capital used to finance investment in plant and equipment.

13   Q.   Do the year-end balances maintained by other utilities provide a

14   reasonable guide to the industry's reliance on short-term debt?

15   A.   No. As discussed earlier, because short-term debt outstanding

16   typically fluctuates with seasonal or other operating requirements, the year-end

17   balance may not accurately reflect any permanent reliance on this financing source.

18   Moreover, as is evident from Schedule WEA-8, financing policies and practices vary

19   widely among utilities. While some utilities appear to rely fairly heavily on short-

20   term debt as a source of financing (e.g., TE - TECO Energy), others have little short-

21   term debt outstanding (e.g., AEE – Ameren Corporation & RGS – RGS Energy

1   Group). While Avista's financing policies and practices are at neither of these

2   extremes, they are much closer to the latter and far from the former.

3   Q.   Both Dr. Lurito and Mr. Hill also reference your testimony in Avista's

4   most recent proceeding in Idaho in their discussion of capital structure. Does your

5   testimony on behalf of Avista in Idaho provide any support for their

6   recommendations?

7   A.   No, none whatsoever. In Case No. WWP-E-98-11 before the Idaho

8   Public Utilities Commission (IPUC), Avista elected to adjust its actual capital

9   structure similar to the manner described on page 30 of my direct testimony in this

10   proceeding. But as I testified in Idaho, the hypothetical capital structure that Avista

11   requested in Case No. WWP-E-98-11 fell outside the range maintained by

12   comparable utilities and implied significantly greater financial risk. Moreover, I also

13   noted that this regulatory capital structure did not meet the minimum benchmarks

14   specified by S&P for a single-A bond rating. And just as Dr. Lurito and Mr. Hill

15   failed to recognize this higher risk in their cost of equity recommendations, so too did

16   the IPUC staff. As I stated in my rebuttal testimony:

17   Ms. Carlock ignored the significantly greater financial risk implied by
18   Avista's regulatory capital structure, which contains much higher debt
19   levels than are maintained by the firms she used to estimate the cost of
20   equity. As a result, her cost of equity estimates do not incorporate the
21   additional return investors require to bear the greater financial risk
22   associated with Avista's regulatory capital structure; (p. 2)

23   Because Ms. Carlock's cost of equity analysis was predicated on the
24   lower financial risk of her electric utility groups, her recommendation
25   understates the required rate of return associated with Avista's highly

1   leveraged regulatory capital structure. If customers are to benefit from

2   the lower overall cost of capital resulting from Avista's regulatory

3   capital structure, then it is only proper that they bear the higher return

4   on equity required to obtain this benefit. (p. 13)

5 As I explained in my direct testimony in this proceeding (pp. 30-31), while this

6 hypothetical capital structure may have once provided an expedient means to account

7 for non-utility activities, it now results in an artificial, highly leveraged capitalization

8 that largely reflects the expanding role of Avista's other businesses. As a comparison

9 with the capital structure for Mr. Hill's comparable group indicates, this hypothetical

10 capital structure diverges significantly from that maintained by other electric and gas

11 utilities.

E. Responses to Criticisms

1   Q.   Is Mr. Hill's suggestion that the constant growth DCF model is only

2 being abandoned by "utility-sponsored" rate of return witnesses accurate (p. 53)?

3   A.   No. As documented in my direct testimony (pp. 46-48), it is becoming

4 increasingly evident to thoughtful rate of return witnesses, regardless of whether they

5 represent commissions, intervenors, or utilities, that conventional applications of the

6 constant growth DCF model are not providing accurate estimates of investors'

7 required rates of return. Accordingly, increased reliance is being placed on other

8 methods to estimate the cost of equity, including general forms of the DCF model

9 (e.g., "two-stage" DCF models) and risk premium methods.

10   For example, the Public Utility Commission of Texas (PUCT), which I can

11 assure you is not "utility-sponsored", made the following Findings of Fact in a case

1   involving El Paso Electric Company (EPEC) (Docket No. 9945):

2   108. EPEC's cost of capital is properly determined through a combined
3   discounted cash flow and risk premium analysis, as performed by
4   General Counsel.

5   109. Under present market and utility industry conditions, the constant
6   discounted cash flow model does not provide reliable results.

7   110.The risk premium analysis performed by Ms. Hinkle is reasonable.

8   Similarly, the PUCT determined in Docket No. 12852 that the cost of equity for

9   Entergy Gulf States "is properly determined using a non-constant discounted cash

10   flow (DCF) and risk premium analysis".

11   Finally, Mr. Hill refers to a dated article from Public Utility Reports in support

12   of his claim that state regulators continue to rely on the DCF approach. But the DCF

13   techniques that regulators are currently relying on may not be the constant growth

14   methods advocated by Mr. Hill. In Florida, one of the states that Mr. Hill cites as

15   continuing to rely on "standard" DCF techniques, the Public Service Commission

16   concluded in an April 29, 1998 decision that:

17   Upon consideration, we find that the multi-stage DCF model employed
18   by AT&T/MCI witness Cornell is superior to the single-stage DCF
19   model used by BellSouth witness Billingsley for estimating the cost of
20   capital of BellSouth. Witness Cornell testifies that the form of the
21   DCF model he uses is well supported in the financial community. (p.
22   22)

23   Q.   Do you agree with Mr. Hill that the constant growth DCF results

24   presented in your testimony before the IPUC in Case No. WWP-E-98-11 were

25   consistent with authorized rates of return on equity for electric utilities?

26   A.   No. As I indicated in my testimony before the IPUC, my constant

1   growth DCF results implied a cost of equity for a single-A electric utility on the order

2   of 9 percent, implying an equity risk premium over then-prevailing public utility bond

3   yields of roughly 200 basis points (p. 33). But as noted in Appendix C, Table 2 of my

4   direct testimony in this case, rates of return on equity for electric utilities authorized

5   by state regulatory commissions averaged 11.74 percent during 1998. With public

6   utility bond yields averaging 7.00 percent over this same time period, authorized rates

7   of return implied an equity risk premium for an electric utility of 474 basis points.

8   Similarly, the analysis of realized rates of return on equity shown on Table 2

9   of my direct testimony indicated a current equity risk premium for an electric utility of

10   4.12 percent. Mr. Hill's observation that equity risk premiums fell below the 3.04

11   percent average in some years is a mathematical certainty and hardly insightful. More

12   noteworthy is the fact that, in all years where the equity risk premium fell below the

13   average, bond yields were considerably higher than current levels, demonstrating the

14   inverse relationship between interest rates and equity risk premiums. Contrary to Mr.

15   Hill's assertions, allowed rates of return for electric utilities provide strong evidence

16   that conventional applications of the constant growth DCF model to electric utilities

17   currently produce cost of equity estimates that drastically understate investors'

18   required rate of return. Indeed, it is perplexing that Mr. Hill would quarrel with my

19   decision to reject cost of equity estimates in the 9 percent range, given his observation

20   that "investors, over the long-term, require something substantially greater than a 9%

21   return on their utility investments" (p. 6).

1   Q.   Please respond to Mr. Hill's allegation that your application of the

2   non-constant growth DCF model is really "a step backward" (p. 58).

3   A.   Mr. Hill contends that, because the non-constant growth model

4   requires more inputs than his simplified, constant growth form, the reliability of the

5   results must somehow be diminished. Of course, just the opposite is true. While the

6   restrictive assumptions required to derive the constant growth DCF model lend a

7   patina of elegant simplicity, this sheen quickly corrodes when the underlying

8   presumptions are violated, as is the case in the utility industry today. Given the

9   transition of the industry to more competitive markets, Mr. Hill should have heeded

10   his own warning that:

11   If any of the assumptions made in that analysis are not realized the
12   results would not be accurate. (p. 58)

13   Mr. Hill's preference for form over function simply has no place in the practical use of

14   the DCF approach as a tool to estimate investors' required rate of return.

15   Q.   Please comment on Mr. Hill's allegation that you failed to explain your

16   application of the non-constant growth DCF model in your direct testimony (p. 58).

17   A.   The rationale, assumptions, and application of the multi-stage DCF

18   model presented on Schedule WEA-3 were fully articulated in my direct testimony.

19   Contrary to Mr. Hill's statement that my calculations were "only summarize[d]" in my

20   testimony, Appendix B was devoted to a complete explanation of this approach.

21   Finally, I grant Mr. Hill that this multi-stage DCF analysis differs from the

22   two-stage DCF model I sponsored in testimony before the West Virginia Public

1   Service Commission in 1994. The reason for this is that my application of the DCF

2   model is a product of non-constant growth DCF models that were subsequently

3   adopted by the PUCT. As noted in my direct testimony, such a multi-stage DCF

4   model is better suited to accommodate investors' expectations of varying growth rates

5   and payout ratios which accompany the electric utility industry's transition to

6   competition. Moreover, the use of growth in Gross Domestic Product (GDP) as a

7   proxy for investors' long-term growth expectations in the DCF model has come under

8   increasing criticism, as evidenced by the Initial Decision at FERC in a Trunkline Gas

9   Co. case. As noted in Foster Report (No. 2207, November 5, 1998):

10   Judge Zimmer found "no rational basis" for the Commission's
11   attempted use of GDP to measure long-term gas transmission earnings
12   and dividend growth of a particular pipeline...GDP reflects gross
13   revenues or sales, rather than earnings or profits from which dividends
14   are paid. As to the Commission's rationale that a company's growth
15   rate will slow as it matures to approach that of the economy as a
16   whole, the ALJ said there are "striking examples, in different
17   industries, of exceptions to this notion." (p. 4)

18   Unlike Mr. Hill, my analyses continue to evolve in order to better reflect the impact of

19   changing circumstances on investors' expectations for utilities.

20   Q.   Has your opinion concerning the usefulness of risk premium methods

21   changed over time, as claimed by Mr. Hill?

22   A.   No. On pages 63-64 of his testimony, Mr. Hill quotes from an

23   affidavit I filed in Docket No. 84-800 (In the Matter of Authorized Rates of Return

24   for the Interstate Services of AT&T Communications and Exchange Telephone

25   Carriers) before the Federal Communications Commission (FCC). Then, as now, my

1   position is that there is no infallible quantitative method to estimate the cost of equity.

2   All of the available tools, including DCF and risk premium methods, must be used

3   carefully and with common sense. As I stated in my direct testimony:

4   Because it is unobservable, the cost of equity for a particular utility
5   must be estimated by analyzing information about capital market
6   conditions generally, assessing the relative risks of the utility
7   specifically, and employing various quantitative methods that focus on
8   investors' required rates of return. (p. 37)

9   Because of the unobservable nature of cost of equity and the complexities of capital

10   markets, I have consistently taken the position that no one quantitative method of

11   estimating the cost of equity should be accepted without testing the reasonableness of

12   the results against other methods. Indeed, Mr. Hill's use of multiple methods suggests

13   that he agrees with this fundamental principle, although, as discussed earlier, he failed

14   to follow it to any significant degree.

15   In Docket No. 84-800, the FCC proposed to use a risk premium formula to

16   adjust the prescribed rate of return. My testimony in that case was that no <u>single</u> risk

17   premium application should be relied upon in isolation. It was not that risk premium

18   methods are useless, as Mr. Hill insinuates by quoting out of context, but that each

19   method of estimating equity risk premium suffers from some infirmity that limits its

20   suitability for the type of "automatic pilot" rate of return determination that was being

21   considered by the FCC. Indeed, my position then and now corresponds to the

22   observation made by Mr. Hill earlier in his testimony:

23   …it is necessary to perform an independent cost of equity capital
24   analysis, rather than to simply "index" the cost of capital to current

1   interest rates. (p. 7)

2   Q.   Did Professor Gordon, recognized by Mr. Hill as the originator of the

3   DCF model, forsake all other methods?

4   A.   Not at all. For example, in his article "Problems in CAPM Estimation

5   of the Cost of Equity Capital" in <u>Earnings Regulation under Inflation</u> (Institute for

6   Study of Regulation, 1982), Professor Gordon noted:

7   Under the old simple version of the risk-premium method, a risk
8   premium that is considered reasonable is added to the long-term bond
9   rate. Prior to the inflation of the seventies, a risk premium of about
10   4% over the Aaa bond rate was considered reasonable for relatively
11   safe public utility shares. (p. 185)

12   Mr. Hill documents the prospects for moderate inflation in the 2.5 percent range (p.

13   9), which is consistent with the average inflation experienced during the 1960s. With

14   triple-A utility bonds presently yielding approximately 8.3 percent, adding Professor

15   Gordon's 4 percent equity risk premium to this long-term bond interest rate suggests a

16   cost of equity for the safest public utility of approximately 12.3 percent, a far cry

17   above Mr. Hill's 10.875 percent cost of equity recommendation.

18   And in "Bond Share Yield Spreads Under Inflation", <u>The American Economic</u>

19   <u>Review</u> (September 1976) Professor Gordon, along with Paul J. Halpern, documented

20   the inverse relationship between interest rates and equity risk premiums, concluding

21   that:

22   ...the differential between the expected real returns on bonds and
23   stocks will narrow with increases in the expected rate of inflation. (p.
24   564)

25   Given expectations for continued low inflation, this implies a relatively wide

1   differential between the required rates of return on bonds and stocks.

2   Q.   Has this inverse relationship between bond yields and equity risk

3   premiums been acknowledged by regulators?

4   A.   Yes. In addition to the examples cited on pages 4-5 of Appendix C to

5   my direct testimony, the Public Utility Commission of Oregon incorporated this

6   negative relationship in its findings in Order No. 99-697 (November 12, 1999):

7   We agree with NW Natural that Mr. Thorton's risk premium estimates
8   should be adjusted to reflect the inverse relationship between equity
9   risk premiums and interest rates. As NW Natural point out, another
10   member of Staff acknowledged this relationship in a prior rate
11   proceeding:

12   Q: Is there a reason to believe that the current market-risk
13   premium could be significantly different from the long-run
14   average market-risk premium?

15   A: Yes. The theory suggests that relatively high inflation
16   narrows the risk spread between stocks and bonds and that
17   relatively low inflation widens the spread. This is because the
18   risk of inflation affects common stocks and bonds
19   differently…In general then, the market-risk premium will be
20   below average when inflation is relatively high and above
21   average when inflation is relatively low, in keeping with the
22   changing relative risk of stocks and bonds. Testimony of
23   Philip Nyegaard, Docket UT 85.

24   Given the recent decline in interest rates, and the low level of inflation,
25   we agree with NW Natural that current market risk premia are higher
26   than the historical average premia used by Mr. Thorton in his analysis.
27   While difficult to quantify the appropriate adjustment to reflect this
28   inverse relationship, we conclude that, for purposes of this docket, Mr.
29   Thorton's market risk premium estimates should be increased by 150
30   basis points.

31   Q.   Is Mr. Hill correct that the inverse relationship between equity risk

32   premiums and interest rates is unreliable (pp. 76-78)?

1   A.   No. Mr. Hill readily acknowledged that there is a strong correlation

2   between equity risk premiums and interest rates, but he then claims that this

3   relationship may not be meaningful because of "auto-correlation" between the

4   variables (p. 69). First, Mr. Hill has confused correlation, which measures the

5   strength of the association between variables, with auto-correlation, which measures

6   the relationship between residuals from a regression equation. Even if

7   auto-correlation exists, this only means that the variance around the terms of the

8   equation (e.g., intercept and slope) is greater than the regression statistics indicate, not

9   that the regression terms themselves are "unreliable". Indeed, because the inverse

10   relationship between interest rates and equity risk premiums is so strong, the

11   existence of auto-correlation does not undermine the validity of the observed

12   relationship.

13   Q.   Does Mr. Hill's examination of bond yield differentials (pp. 71) say

14   anything about the behavior of equity risk premiums?

15   A. No. Long-term debt instruments and common stock are distinct securities

16   with vastly different characteristics that impact the respective returns required by

17   investors. One important characteristic considered in evaluating investment

18   opportunities is the relative impact of inflation on expected returns. As Gordon and

19   Halpern observed in the article cited above:

20   ...the allocation of an investors' wealth between a one- period
21   government bond and a nonmonetary risky asset, for example, a share
22   of common stock, is a function of the uncertainty as to the inflation
23   rate.

1   In fact, as noted in my direct testimony (Appendix C, p. 4), the ability of common

2   stocks to provide a better hedge against inflation is the reason most often given for the

3   inverse relationship between equity risk premiums and interest rates. Thus, there

4   would be no reason to believe that bond yield differentials would exhibit similar

5   trends.

6   Q.   Does this conclude your rebuttal testimony in this case?

7   A.   Yes, it does.