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MISSOURI PUBLIC SERVICE COMMISSION
UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

DAVID MURRAY

FILED

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Missouri Public
Service Commission

AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (Electric)

CASE NO. ER-2004-0034

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DAVID MURRAY
AQUILA, INC.
d/b/a AQUILA NETWORKS-MPS (Electric)**

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REBUTTAL TESTIMONY

OF

DAVID MURRAY

AQUILA, INC.

d/b/a AQUILA NETWORKS-MPS (Electric)

CASE NO. ER-2004-0034

Q. Please state your name.

A. My name is David Murray.

Q. Are you the same David Murray who filed direct testimony in this proceeding for the Staff of the Missouri Public Service Commission (Staff)?

A. Yes, I am.

Q. In your direct testimony, did you recommend a fair and reasonable rate of return for the Missouri jurisdictional electric and steam utility rate base for Aquila, Inc. d/b/a Aquila Networks-MPS (MPS)?

A. Yes, I did.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Mr. Mark Burdette and Dr. Donald A. Murry. Mr. Burdette sponsored rate-of-return testimony on behalf of the Office of the Public Counsel (OPC). Dr. Murry sponsored rate-of-return testimony on behalf of Aquila, Inc. (Aquila). I will address the issues of appropriate capital structure, embedded cost of long-term debt, the cost of short-term

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1 debt, and the cost of common equity to be applied to MPS for ratemaking
2 purposes in this proceeding.

3 **Direct Testimony Revisions**

4 Q. Do you have any revisions to make to your direct testimony?

5 A. Yes. The following revisions need to be made:

- 6 • On page 14, line 4, the date cited should be November 21, 2003, not
7 November 31, 2003.
- 8 • On page 32, line 20, the cost of short-term debt should be 3.37 percent
9 not 3.02 percent.
- 10 • On Schedule 21, line 6. should indicate an annual interest cost of
11 \$203,508,326 not \$203,743,049. This is because of an error in the
12 footnote on this schedule in which an interest cost of \$163,158,326
13 should have been added to the \$40,350,000 instead of \$163,393,049. I
14 have attached a revised Schedule 21. This increases the pretax interest
15 coverage on line 8. in the last column to 2.24. This change should also
16 be reflected on page 32, line 6 of my direct testimony.

17 **Cost of Common Equity, Capital Structure, Embedded Cost of Long-Term Debt,**
18 **and Average Cost of Short-Term Debt**

19 Q. Is there agreement between OPC, Staff and Aquila on the embedded cost
20 of long-term debt and the average cost of short-term debt?

21 A. No. OPC used Aquila's domestic operations' embedded cost of long-term
22 debt of 7.48 percent. Apparently, Aquila provided this embedded cost of long-term debt
23 in response to OPC data request 2002. Dr. Murry, Aquila's witness, recommended
24 different embedded costs of long-term debt for MPS based on debt assignments
25 that Aquila made to these divisions. Dr. Murry recommended an embedded cost of
26 long-term debt of 7.23 percent for MPS
27 . I calculated an embedded cost of long-term debt of 7.633 percent

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1 based on all of Aquila's operations except for the Australian operations because those
2 operations were sold as of June 24, 2003.

3 Neither OPC or Aquila utilized short-term debt in their recommended
4 capital structures. The cost of short-term debt of 3.37 percent that I utilized was based on
5 Aquila's response to Staff Data Request No. MPSC-224.

6 Q. Is there an agreement between Staff, Aquila and OPC on capital structure
7 and cost of common equity for MPS?

8 A. No. Mr. Burdette's capital structure at the test year, December 31, 2002,
9 does not include current maturities on long-term debt. This explains why he has a higher
10 common equity ratio than I do in my recommended capital structure as of the same date.
11 Mr. Burdette also failed to include any short-term debt. Dr. Murry recommended an
12 allocated capital structure for MPS based on Aquila's internal allocated capital
13 structure of 47.5 percent equity and 52.5 percent debt. Dr. Murry did not include any
14 short-term debt. Because Dr. Murry's recommendation is an allocated capital structure, it
15 would not change based on any update and/or true-up period. I am recommending
16 Aquila's consolidated capital structure based on the test year. My recommended capital
17 structure appropriately includes current maturities on long-term debt in the long-term
18 debt amount and it also appropriately includes the amount of short-term debt in excess of
19 construction work in progress (CWIP).

20 Mr. Burdette recommends a cost of common equity of 9.60 to
21 10.10 percent. Dr. Murry recommends a cost of common equity of 12.00 to
22 12.50 percent. Staff recommends a cost of common equity of 8.64 to 9.64 percent.

1 **Updated Capital Structure and Embedded Costs**

2 Q. Have you updated the capital structure, embedded cost of long-term debt,
3 and average cost of short-term debt?

4 A. No. As explained on page 21, lines 3 through 7 of my direct testimony,
5 Aquila's capital structure as of the update period, September 30, 2003 is not consistent
6 with the comparable companies' capital structure. Additionally, and more importantly,
7 Aquila's common equity ratio as of the update period is not consistent with how Aquila
8 was financed in the past. I will discuss Aquila's historical common equity ratios when it
9 had an investment grade credit rating later in my testimony. The common equity ratio as
10 of September 30, 2003 was 30.77 percent.

11 Q. Why didn't you update the embedded costs of debt?

12 A. It is important to match the capital structure components with their
13 embedded costs as of the same date because they are closely related. Otherwise, there
14 would be a mismatch of the costs and the capital structure components. Additionally, the
15 weighted average cost of short-term debt had risen to 5.18 percent from 3.45 percent for
16 United States short-term debt and to 5.85 percent from 3.02 percent for Canadian
17 short-term debt from the test year to the update period. These higher costs are a result of
18 Aquila's financial troubles related to non-regulated investments and should not be
19 reflected in the recommended cost of capital for the regulated utility.

20 **Dr. Murry's Recommended Capital Structure for MPS**

21 Q. Please summarize Dr. Murry's capital structure recommendation for MPS

22 .

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1 A. Dr. Murry proposes the use of MPS's book divisional capital
2 structure, which he claims is composed of 52.5 percent long-term debt and 47.5 percent
3 common equity.

4 Q. How does Aquila determine the allocated capital structure for MPS
5 ?

6 A. Dr. Murry provided the following explanation of Aquila's capital
7 allocation system on page 8, line 19 through page 9, line 8 of his direct testimony:

8 As I understand the process, the factors used to determine
9 an appropriate capital structure for MPS
10 included the line of business, comparative industry
11 standards, contemporary business and regulatory practices,
12 and accepted financial theory. It is my understanding that
13 originally Aquila used a proxy group of electric utility
14 companies to develop the target capital structures of its
15 electric utility divisions. Factors taken into account were
16 the appropriateness of the ratios analyzed, including risk,
17 industry standards, and rating agency guidelines. Over
18 time, Aquila has evaluated these ratios to assure their
19 continued relevance. Through capital budgeting and cash
20 management processes, Aquila updates the level of capital
21 ratios.

22 Q. Does Dr. Murry provide any further alleged support for the reasons why
23 he believes that Aquila's capital allocation system is reasonable?

24 A. Yes on page 9, lines 9 through 14 of his direct testimony, Dr. Murry
25 indicated that he independently verified that the "divisional" capital structure was
26 appropriate for setting an allowed return for MPS by comparing it to a group of
27 comparable electric utilities.

28 On page 10, line 20 through page 11, line 4 of his direct testimony,
29 Dr. Murry indicates that because his comparable group of companies averaged a

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1 46.5 percent common equity ratio over the past five years that this verifies the
2 reasonableness of Aquila's common equity allocation of 47.5 percent to MPS .

3 Q. Is there a reason that Dr. Murry's comparable group of companies'
4 average common equity ratio is quite similar to that of the allocated common equity ratio
5 that Aquila uses for MPS ?

6 A. Yes. The fact that the comparable companies that Dr. Murry selected have
7 a similar equity ratio to the one used by Aquila for MPS for ratemaking
8 purposes is self-serving. On page 10, lines 12 through 19 of his direct testimony,
9 Dr. Murry explains part of the criteria he used to select his comparable group of
10 companies. The criterion explained in this part of his testimony is financial risk.
11 Dr. Murry indicated that it was important to select companies that have comparable
12 capital structures to that which is allocated to MPS. Specifically, Dr. Murry
13 stated: "I selected electric utilities that had common equity ratios similar to the equity
14 ratios for MPS]." Therefore, it is no surprise that Dr. Murry's
15 comparable group has a similar equity ratio to that which is "allocated" to MPS
16 by Aquila for ratemaking purposes. Because this allocated equity ratio drove
17 Dr. Murry's selection of his comparable companies, this biases his results. If one wishes
18 to verify if an equity ratio is appropriate for ratemaking purposes based on the common
19 equity ratios of comparable companies, then it should be obvious that a criterion based on
20 a desired equity ratio is not appropriate.

21 Q. What are your concerns with the use of an allocated capital structure for
22 ratemaking purposes, such as the one Aquila uses for MPS?

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David Murray

1 A. The "capital allocation" process is determined by internal forces,
2 management and accountants and, therefore, cannot be relied upon as accurate for costing
3 capital. Management determines the appropriate amount of capital, currently
4 47.5 percent equity and 52.5 percent debt for its electric operations, to allocate to its
5 divisions through the process quoted above from Dr. Murry's direct testimony. It appears
6 that Aquila intends to continue to utilize this allocated capital structure process for
7 ratemaking purposes even though it does not actually have enough equity capital to
8 allocate to its divisions at the ratios Aquila uses for ratemaking purposes in this case.
9 This became apparent from the transcribed interview on July 16, 2003 in Case No.
10 EF-2003-0465, *In the Matter of the Application by Aquila, Inc. for the Authority to*
11 *Assign, Transfer, Mortgage or Encumber its Franchise, Works or System.* In that
12 interview the following exchange occurred between Mr. David Murray and
13 Mr. Ron Bible of the Missouri Public Service Commission Staff; Ms. Beth Armstrong
14 and Mr. Rick Dobson of Aquila and Mr. Paul Boudreau of Brydon, Swearngen and
15 England, P.C. (attorney representing Aquila):

16 MR. MURRAY: Don't you allocate more equity to your
17 regulated than your non-regulated or at least in the past
18 used to do it that way?

19 MS. ARMSTRONG: I don't believe so.

20 MR. BOUDREAU: This is Paul Boudreau. Who is asking
21 the questions now?

22 MR. MURRAY: This is David Murray.

23 MR. DOBSON: This is Rick Dobson. I can't say for sure
24 because I'm trying to recall from memory, but I actually
25 recall that we allocated from a theoretical standpoint in our
26 hypothetical on our non-regulated side quite a bit of equity
27 to that entity because it did have a higher risk profile.

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1 MR. MURRAY: So you allocated more equity to the non-
2 regulated than the regulated in the past?

3 MR. DOBSON: I believe that's true, based on my
4 recollection.

5 MR. MURRAY: Well, is it correct – I looked at the DR
6 that Bob had asked about earlier, that you allocated right
7 around 50 percent equity to a lot of your divisions,
8 your regulated divisions?

9 MR. DOBSON: That's right.

10 MR. MURRAY: What is your parent, the consolidated
11 structure been like the last five years?

12 MR. DOBSON: It hovered around 50-50 also. Sometimes
13 a little bit more than that, sometimes a little bit less than
14 that.

15 MR. MURRAY: If you allocated more equity to the non-
16 regulated than the regulated, did you have that equity to
17 allocate?

18 MR. DOBSON: No. Sometimes we didn't. Sometimes it
19 was an intercompany type transaction that would be
20 eliminated in consolidation. It would be a signal, though,
21 that at some point in time we probably do need to issue
22 more equity to balance the Company's risk profile.

23 MR. BIBLE: This is Ron Bible. Do you have that -- I
24 mean, it sounds like your stated intention going forward is
25 to allocate capital in those proportions. Do you have
26 the equity that exists now to do that?

27 MR. DOBSON: No. It doesn't. The significant amount of
28 impairments we took in 2002 have eroded a lot of book
29 equity, and so we don't have that.

30 Consequently, it is inappropriate to utilize Aquila's allocated capital
31 structure for ratemaking purposes in this case because quite simply, Aquila does not have
32 the equity to allocate to its divisions to maintain its target equity ratios. Even when
33 Aquila was in better financial condition, based on the answer above, it was not able to
34 allocate the amount of equity indicated in its allocated capital structure. Based on

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1 Mr. Dobson's (Aquila's Chief Financial Officer) claim that Aquila allocated more equity
2 to its non-regulated operations than its regulated operations, it would have been
3 impossible for Aquila to allocate up to 47.5 percent equity to its regulated operations.
4 Contrary to Mr. Dobson's belief that Aquila's consolidated capital structure had hovered
5 around 50 percent equity and 50 percent debt over the past five years, according to
6 Schedule 7 attached to my direct testimony, Aquila's common equity ratio had only
7 averaged 39.13 percent from 1998 through 2001. I excluded 2002 because this was when
8 Aquila's equity ratio began to erode due to the effect of Aquila's failed non-regulated
9 investments. Additionally, Schedule 1, attached to this rebuttal testimony, indicates that
10 Aquila's average common equity ratio for 1990 through 2001 was 38.41 percent with a
11 range of 34.65 percent in 1995 to 44.17 percent in 2001. Aquila's highest consolidated
12 common equity ratio during this twelve year period is below the 47.5 percent common
13 equity ratio that Dr. Murry proposes for ratemaking purposes in this case. My
14 recommended common equity ratio of 35.31 percent is above the low for this twelve year
15 period and is near the average for this twelve year period, in which Aquila had
16 investment grade credit ratings.

17 Mr. Dobson's statement that Aquila allocated more common equity to its
18 non-regulated operations than its regulated operations makes it clear that even when
19 Aquila was in better financial condition, it could not have allocated more common equity
20 to its regulated operations than Aquila's consolidated common equity ratio because
21 Aquila was allocating more equity to its non-regulated operations. It is only logical to
22 conclude that the amount of common equity allocated to the non-regulated operations
23 would be at a ratio somewhere above Aquila's consolidated common equity ratio and the

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1 common equity allocated to the regulated operations would be at a ratio somewhere
2 below the consolidated common equity ratio.

3 Q. Based on Mr. Dobson's statements and your knowledge about the amount
4 of equity that Aquila has in its capital structure now and has had in its capital structure in
5 the past, what do you conclude about Aquila's capital allocation system?

6 A. It is a system that does not reflect the reality of the type of capital that
7 Aquila's divisions receive from the corporate treasury. It does not reflect the reality of
8 Aquila's financing sources now and it did not reflect the reality of Aquila's financing
9 sources in the past. While Aquila may have internal accounts that indicate a certain
10 amount of equity and debt for its divisions, quite simply, the amount of equity it would
11 like to claim it allocated to its divisions is not available.

12 Q. Are investors, which includes creditors, concerned with Aquila's
13 allocation system for its divisions?

14 A. No. MPS are divisions of the corporate entity Aquila. These
15 divisions are kept separate for internal management and regulatory purposes, but as far as
16 investors, which includes creditors, are concerned, they have no interest in how Aquila
17 "allocates" its capital to its divisions other than the fact that a certain allocated capital
18 structure may allow the company to generate a larger revenue requirement in a rate case.

19 Aquila issues the debt and equity for the capital needs of its divisions.
20 Therefore, investors are only interested in Aquila's consolidated operations. Aquila's
21 divisions receive capital from the corporate treasury and this corporate treasury can have
22 various mixes of capital in it at any given point in time when the divisions draw down
23 capital from the treasury. Therefore, it is appropriate to utilize the consolidated capital

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1 structure of Aquila, if it is reasonable, because it is verifiable and represents how
2 Aquila's divisions are capitalized. Aquila's consolidated capital structure, as of the test
3 year, is reasonable considering how Aquila has historically been financed and the fact
4 that the common equity ratio as of the test year is consistent with the common equity
5 ratios of the comparable companies used in my direct testimony.

6 Q. If Aquila's capital structure as of the test year was not reasonable, what
7 would you have proposed to do to recommend a reasonable rate of return to apply to
8 MPS?

9 A. I would have proposed to use a hypothetical capital structure. I would not
10 accept the allocated capital structure proposed by Aquila because, as I have
11 demonstrated, it is a fictitious capital structure. Aquila's current financial condition does
12 not allow it to allocate the common equity that it targets for its divisions. Even in prior
13 years when Aquila was in better financial condition, it did not have the equity to allocate
14 to its regulated divisions because it was supposedly allocating more equity to its non-
15 regulated operations. Aquila's current financial condition has magnified the tenuousness
16 of an allocated capital structure process. The only types of capital structures that this
17 Commission should consider in a ratemaking proceeding are actual capital structures or
18 hypothetical capital structures. In fact, in previous fully litigated MPS rate cases, Case
19 No. ER-97-394 and Case No. ER-90-101, the Commission adopted the consolidated
20 capital structure of Aquila (previously UtiliCorp). It should be noted that the
21 Commission did accept Aquila's allocated capital structure in the partially settled MPS
22 rate case in 1993, Case No. ER-93-37. However, because this was a partially settled

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1 case, the Commission did not have the luxury of weighing all of the evidence as it was
2 able to in the fully litigated cases.

3 An allocated capital structure should not be accepted for ratemaking
4 purposes in this case. The use of an allocated capital structure gives the false impression
5 that a division of a company in financial distress can be insulated from this financial
6 distress. This Commission should not give validity to such a claim.

7 Q. What are the average common equity ratios for a representative sample of
8 the electric utility industry?

9 A. The December 2003 C.A. Turner Utility Reports indicates an average
10 common equity ratio of 41 percent for the 24 electric companies that it analyzes. The
11 average common equity ratio for the 15 BBB-rated electric companies that it analyzes is
12 37.93 percent. It is important to review BBB-rated utilities because this is what Aquila
13 was rated before it encountered financial difficulties and this is the credit rating that
14 Aquila said it will utilize when determining the cost of new debt that it issues for
15 purposes of ratemaking. Therefore, the capital structure used for ratemaking purposes in
16 this case should be consistent with that of a BBB-rated utility. The C.A. Turner Utility
17 Reports also indicate an average common equity ratio of 37 percent for the
18 42 combination electric and gas companies that it analyzes. The average common equity
19 ratio for the 14 BBB-rated combination electric and gas companies that it analyzes is
20 33.21 percent.

21 Additionally, according to the January 2, 2004 Value Line Summary and
22 Index on the central electric utility industry, the average common equity ratio for the
23 electric utility companies it analyzes was 39.0 percent for 2002.

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1 All of these figures confirm that if a hypothetical capital structure were to
2 be used, an appropriate common equity ratio would be in the range of 33 percent to
3 42 percent, not at the level of 47.5 percent recommended by Dr. Murry according to
4 Aquila's allocated capital structure system. However, as stated before, if the actual
5 capital structure of the parent or subsidiary is reasonable, verifiable and consistent with
6 how the Company has been financed in the past under "normal" circumstances, then this
7 capital structure should be used because it more accurately reflects the cost of capital.

8 **Dr. Murry's Comparable Companies**

9 Q. Do you have any concerns about the companies Dr. Murry selected for his
10 proxy group that would make the application of his proxy group cost of common equity
11 to MPS questionable?

12 A. Yes. Empire District Electric Company and Great Plains Energy (GPE)
13 both operate in the state of Missouri. It is has been Staff's position that any Missouri
14 jurisdictional utility companies should be eliminated when performing a proxy group
15 analysis because they are directly impacted by decisions of this Commission.

16 Q. Do you have any other concerns with Dr. Murry's use of GPE as a
17 comparable company in his analysis of the cost of common equity that should be applied
18 to MPS?

19 A. Yes. GPE received only 51 percent of its revenues from electric
20 operations for the 12 months ending September 2003 according to the December 2003
21 edition of the C.A. Turner Utility Reports. This lower amount of revenues from electric
22 utility operations is largely attributed to GPE's growth in revenues from its non-regulated
23 subsidiary, Strategic Energy. According to a GPE press release on October 22, 2003, for

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1 the 12 months ending September 2003, Strategic Energy contributed 49 percent of GPE's
2 overall revenues with the other 51 percent being contributed by Kansas City Power and
3 Light (KCP&L), its regulated subsidiary.

4 In a statement released by Moody's on November 12, 2003, when it
5 downgraded KCP&L's ratings, it cited some concerns about GPE's non-regulated
6 operations. Moody's specifically stated the following:

7 The affirmation of GPE's ratings reflects the stability of
8 KCP&L's operations, which are the principal source of
9 dividends for GPE, balanced against the greater risk of
10 GPE's unregulated activities. The negative outlook is
11 based upon concern that the growth of GPE's unregulated
12 activities will lead to an increase in its business risk profile,
13 and may also result in an increase in the level of debt or
14 guarantees at the holding company.

15 Therefore, it is obvious that GPE is veering away from being a company
16 whose operations are dominated by regulated utility operations.

17 Q. Do you have any concerns with any of the other companies in Dr. Murry's
18 comparable group?

19 A. Yes. According to the December 2003 C.A. Turner Utility Reports, MGE
20 Energy (not to be confused with Southern Union's MGE gas division in Missouri)
21 received 61 percent of its revenues from electric operations in Wisconsin. This does not
22 meet my more stringent criterion of at least 70 percent of revenues from electric
23 operations.

24 **Dr. Murry's Recommended Cost of Common Equity for MPS**

25 Q. Please summarize Dr. Murry's recommended cost of common equity for
26 MPS.

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1 A. Dr. Murry utilized both the Discounted Cash Flow (DCF) model and the
2 Capital Asset Pricing Model (CAPM) to estimate the cost of common equity for MPS
3 . Dr. Murry applied these models to his group of "comparable" companies.
4 Dr. Murry made several calculations of the comparable companies' cost of common
5 equity with both models on Schedules DAM-8 through DAM-16. These calculations
6 resulted in a wide range of results. On pages 23, line 18, through page 26, line 11 of his
7 direct testimony, Dr. Murry went on to discuss a variety of additional issues that he felt
8 were important to consider in his recommendation for the cost of common equity. He
9 discussed the current interest rate environment, the equity market environment in general
10 and in specific to electric utilities and his view that a "cushion" should be allowed in the
11 recommended return on equity in order to allow the company to earn its cost of common
12 equity. He then made his final recommendation for a return on common equity of 12.0 to
13 12.5 percent.

14 Q. Does Dr. Murry appear to give primary consideration to the results in
15 Schedules DAM-10 and DAM-13?

16 A. Yes. Dr. Murry produces a summary schedule, Schedule DAM-14, that
17 summarizes the results that he calculated in Schedules DAM-10 and DAM-13. On
18 page 21, line 15 through line 17 of his direct testimony, Dr. Murry indicates that "[t]he
19 most significant results for the purpose of ratemaking are the DCF calculations relying on
20 forecasted growth in earnings per share (EPS), which are in the range from 10.00 percent
21 to 13.85 percent." This range of cost of common equity is based on his results from
22 Schedules DAM-10 and DAM-13.

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1 Q. Do you have any concerns with Dr. Murry giving what appears to be
2 exclusive consideration to the DCF results that only rely on EPS growth estimates from
3 analysts?

4 A. Yes. It is important to consider historical growth rates because, as stated
5 on pages 8-32 in David C. Parcell's book, The Cost of Capital - A Practitioner's Guide,
6 1997 "investors, as a group, do not utilize a single growth estimate when they price a
7 utility's stock. Thus, rate of return analysts should consider multiple growth estimates in
8 order to better capture the growth embodied in a utility's stock price." It is important to
9 note that Mr. Parcell emphasizes that analysts should consider multiple growth estimates.
10 This applies to projected as well as historical growth rates. Additionally, Mr. Parcell
11 states: "Analysts should recognize that individual investors have different expectations
12 regarding growth and therefore no single indicator captures the growth expectations of all
13 investors." Therefore, it is important to not only give weight to multiple projected
14 growth rates, but to also give weight to historical growth rates because that is, in fact,
15 what investors as a group will do.

16 Q. Is it important for a rate of return witness to evaluate other financial
17 information in order to estimate the future growth rate to utilize in the DCF model?

18 A. Yes. The historical growth in dividends per share, earnings per share and
19 book value per share are all financial growth indicators that investors may use to estimate
20 future growth. This is precisely why the historical growth rates of these items are
21 published in the Value Line tear sheets that investors use to evaluate companies for
22 possible investment. These are all items that an investor (and consequently, a rate of

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1 return witness) should consider when estimating expected growth rates to be utilized in
2 the DCF model.

3 Q. Is there any authoritative support for evaluating these other financial
4 indicators in addition to the growth in earnings per share?

5 A. Yes. In The Cost of Capital – A Practitioner’s Guide, by David C. Parcell
6 pages 8-18 through 8-20 indicate the following:

7 Financial Indicators of Growth

8
9 There are a wide variety of acceptable methods for using
10 historical growth to estimate future growth in the DCF
11 model (Gordon, Gordon and Gould, 1989 50). The three
12 most commonly-used financial indicators of growth are
13 dividends per share (DPS), earnings per share (EPS), and
14 book value per share (BVPS) (Howe & Rasmussen, 1982,
15 1333). Actually, DPS, EPS and BVPS can be defined in
16 terms of each other, as $DPS = EPS - \Delta BVPS$ (Patterson,
17 1971). Viewed this way, any of the three terms is
18 dependent upon the others and each can be viewed as the
19 investors’ perceived growth rate.

20
21 Dividends Per Share

22 Past growth of DPS is the most direct link between historic
23 dividend growth and projected dividend growth. However,
24 in the long-run, dividends can grow at a rate no greater than
25 that of earnings. If the dividends out-paced earnings for an
26 extended period of time the company would deplete its
27 equity capital. In the short-run, the two growth rates can
28 diverge without causing financial harm to the company.
29 The average of these growth rates may provide a better
30 forecast of the long-run dividend growth rate than any of
31 the individual forecasts, because in the long-run the
32 dividend growth rate should equal the growth rate of the
33 earnings since it is primarily earnings that are used to
34 support the dividends.

35
36 Earnings Per Share

37 An investor’s expectations concerning a company’s cash
38 flows include both dividends plus the eventual proceeds
39 from the sale of the stock. Earnings provide the source of

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1 both the dividends paid to stockholders and the retained
2 earnings, which increase the book value and ultimately the
3 market price of the stock. As a result, EPS is often used as
4 a substitute for DPS.

5
6 Book Value Per Share

7 The growth of BVPS is used as a proxy for DPS growth
8 since BVPS growth principally reflects (in the absence of
9 large stock sales at prices well above or below book value)
10 the retention (i.e., not paying out all of earnings as
11 dividends) of earnings. The purpose of earnings retention
12 is to enhance the level of future EPS and DPS. In addition,
13 a company's EPS is equal to the BVPS times return on
14 equity (ROE). As a result, any factor that causes the BVPS
15 to increase (decrease) will tend to cause the EPS to increase
16 (decrease).

17
18 Relationship Among Growth Rates

19 Even though the DCF model assumes that EPS, DPS,
20 BVPS and the market price all grow at the same rate, it is
21 generally recognized that in practice this does not normally
22 occur. However, what is important to recognize in using
23 the simplified version of the DCF model is that the analyst
24 has no basis to forecast different future rates of growth for
25 each of these items.

26 Therefore, it is appropriate for the rate of return witness to evaluate a
27 variety of possible indicators of future growth.

28 Q. Besides his exclusive reliance on projected growth rates in
29 Schedule DAM-10, do you have any other concerns with this Schedule?

30 A. Yes. The range of DCF results in this schedule is based on the 52-week
31 high/low stock price of Dr. Murry's comparable companies. All of the low share prices
32 in this schedule date back to the summer and fall of 2002. Clearly these stock prices
33 should not be relied upon in estimating the cost of capital for MPS because they
34 are not reflective of recent stock prices. The objective in estimating the cost of capital for
35 a utility is to estimate the current cost of capital as indicated by the current capital and

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1 economic environment. Dr. Murry should have calculated stock price averages for a
2 recent period for his comparable companies in order to arrive at a reliable estimate of the
3 current cost of common equity capital for his comparable companies. If he had included
4 more recent stock price data with older stock price data in his averages, then this would
5 have minimized the effect on the dividend yield from the volatility of the stock prices
6 from day-to-day or even month-to-month.

7 Q. Should a rate of return witness utilize a spot stock price in estimating the
8 cost of capital for a utility?

9 A. No. The strict interpretation of the application of the DCF model requires
10 the use of a spot price for stock. This assumption is quite often relaxed at the judgment
11 of the analyst in utility rate case settings and rightfully so. It is interesting to note that the
12 original intent of the DCF model (sometimes referred to as the "dividend growth model"
13 in college finance textbooks) was to determine a reasonable price to pay for a stock at a
14 specific point in time. Based on the original intent of the DCF model the use of a spot
15 price is appropriate. But when setting rates for a utility, which may be applied over an
16 extended period, it is appropriate to determine the cost of common equity based on a
17 company's stock prices over some longer period. This would lend support to my use of a
18 four month average of high/low stock prices, instead of determining the cost of common
19 equity based on spot stock prices from over a year ago as Dr. Murry did on his
20 Schedule DAM-10. These low stock prices from over a year ago reflect a temporary
21 increased cost of common equity and are not reflective of the current cost of common
22 equity capital for Dr. Murry's comparable companies. Furthermore, statistically
23 speaking, it is better to have a larger sample size, such as my four month average of

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1 high/low stock prices for my comparable companies, when calculating an average stock
2 price, not just a high and a low for a 52-week period.

3 Q. Do you have any concerns with the other schedule, Schedule DAM-13,
4 that Dr. Murry primarily relies upon for his recommended cost of common equity in this
5 case?

6 A. Yes. Although he is using more recent stock prices, they are only for a
7 two-week period and again they are single spot high and low prices for this two-week
8 period, not an average of several high and low stock prices for some longer period. The
9 rates that result from this rate case will be in effect for MPS for an extended
10 period of time. It is inappropriate to use only a two-week period for the cost of capital
11 recommendation because a short period may reflect a temporary increase or decrease in
12 the cost of common equity to the company that may not be reflective of the cost of
13 common equity over the longer period that these rates will be in effect.

14 Q. What other concern do you have with Dr. Murry's Schedule DAM-13?

15 A. Once again, he relies solely on projected growth rates for earnings per
16 share (EPS). I have already discussed some of my concerns with his sole reliance on
17 projected EPS growth, but it is also important to consider publications that investors rely
18 upon to make investment decisions.

19 Dr. Murry chooses to blindly accept the EPS estimates from Value Line
20 and S&P without being critical of the possibility that some of these estimates may be
21 overly optimistic. It is common knowledge that many analysts' projections of EPS
22 estimates for companies tend to be overly optimistic. I addressed this in my surrebuttal
23 testimony in the last Missouri Public Service case, Case Nos. ER-2001-672 and

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1 EC-2002-265 (consolidated) and in the most recent Empire District Electric (Empire)
2 case, Case No. ER-2002-424 in which Dr. Murry was Empire's witness. In Case Nos.
3 ER-2001-672 and EC-2002-265 on page 7, line 16 through page 9, line 7 of my
4 surrebuttal testimony I discussed a December 31, 2001 *Business Week* article,
5 "Some Races Are Not To The Swift: *Many dividend-payers offer rising income*
6 *streams.*" The article discussed some of the advantages of dividend paying stocks in a
7 low interest rate environment, such as we are currently experiencing. The analysis done
8 in this article makes several assumptions about dividend growth, earnings growth, and
9 stock appreciation. The most important assumption, for purposes of this case, is the
10 assumption about earnings growth. In this article, the author used the five-year EPS
11 growth projected by Wall Street analysts, which was then "sliced by a third, since they're
12 always too high." Although this article simplifies the adjustment that needs to be made to
13 the projections of Wall Street analysts, its message is clear that many investors do not
14 accept the estimates of Wall Street blindly when evaluating investment alternatives.
15 Therefore, rate-of-return witnesses should not blindly accept these estimates.

16 Q. What would be the average DCF result in Schedule DAM-13 if you
17 followed the procedure concerning EPS estimates presented in the *Business Week* article?

18 A. If you followed the logic from the *Business Week* article, the EPS growth
19 rate that an analyst should use would be 3.56 percent, which is based on slicing by a third
20 the 5.34 percent average of the two projected growth rates (5.67% and 5.00%) indicated
21 in Dr. Murry's Schedule DAM-13. If this projected growth rate is added to Dr. Murry's
22 average dividend yield of 5.61 percent $((5.55\% + 5.67\%)/2)$, then the DCF result would

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1 be 9.17 percent, which is within 3 basis points of my recommended cost of common
2 equity of 9.14 percent.

3 Q. On page 21, line 4 through 6 of his direct testimony, Dr. Murry classifies
4 the growth rates in his Schedule DAM-12 as combined historical and forecasted growth
5 rates. Do you agree with this classification?

6 A. No. Dr. Murry uses a three-year (1997-1999) average historical EPS
7 figure as his present value and Value Line's estimated EPS for 2006 through 2008 as the
8 future value. A historical growth rate would be based on actual results for a given time
9 period, such as the ten-year compound growth rates from 1992 through 2002 that I
10 calculated on Schedule 13-1 attached to my direct testimony. If Dr. Murry had averaged
11 the ten-year historical growth rate that I calculated with his projected compound growth
12 rate, then I would agree with his characterization that the growth rates are "combined
13 historical and forecasted growth rates in earnings per share" as he indicated on page 21,
14 line 4 through 5 of his direct testimony. Any time an analyst uses an estimated future
15 figure to calculate a compound growth rate, this compound growth rate is a projected
16 growth rate because it is based on an estimate in the future. Therefore, the results
17 indicated in this schedule do not take into consideration historical growth rates because in
18 order for historical growth rates to be taken into consideration, the ending EPS value
19 would have to be a figure that has actually occurred, not one that is projected to occur.

20 Q. Is this the method that Dr. Murry used to calculate all of his growth rates
21 except for those on Schedules DAM-10 and DAM-13?

22 A. Yes.

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1 Q. If Dr. Murry relied primarily on Schedules DAM-10 and DAM-13, why is
2 it important to clarify the appropriate classification of the growth rates he calculated in
3 his other schedules?

4 A. It is important to clarify that the results in these other schedules are based
5 only on projected growth rates because readers may review these schedules as a test of
6 reasonableness for the schedules that he did primarily rely upon.

7 Q. Is there a schedule in which Dr. Murry provides historical growth rates?

8 A. Yes. He provides 5-year historical growth rates from Value Line
9 on Schedule DAM-5 attached to his direct testimony, but he discounted these
10 historical growth rates because of a "structural shift" (Murry Direct, p. 17, line 7) in the
11 equity markets and because of a "sharp division between prospective and historical data"
12 (*Id.* p. 16, ll. 21-22).

13 Q. Do you have any concerns with Dr. Murry's application of the CAPM on
14 Schedule DAM-15?

15 A. Yes. Dr. Murry chose to use the yield on corporate bonds as the risk-free
16 rate in his application of the CAPM. The generally recognized CAPM equation is as
17 follows: $k = R_f + \beta (R_m - R_f)$, where k = the cost of common equity, R_f = the
18 risk-free rate, β = beta coefficient and $R_m - R_f$ = the market risk premium. Therefore,
19 it is clear that the model generally contemplates the use of a risk-free rate.

20 Q. What is the definition of a risk-free rate?

21 A. According to Eugene F. Brigham and Joel F. Houston's textbook,
22 Fundamentals of Financial Management, 1998, page 128, the definition of the nominal
23 risk-free rate, which contemplates inflation is "The rate of interest on a security that is

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1 free of all risk; k_{RF} is proxied by the T-bill rate or the T-bond rate. k_{RF} includes an
2 inflation premium." Therefore, it is quite clear that the interest rate on corporate bonds,
3 which includes the risk of default, is not a risk-free rate.

4 Q. Does Dr. Murry perform a different calculation of the CAPM on
5 Schedule DAM-16?

6 A. Yes. On Schedule DAM-16, Dr. Murry performs a calculation of the
7 CAPM where he eventually uses the U.S. Treasury yield as the risk-free rate.

8 Q. What is the effect on Dr. Murry's CAPM results when he uses a corporate
9 bond yield versus a U.S. Treasury yield as the risk-free rate?

10 A. A comparison of the results of the application of the CAPM on
11 Schedule DAM-16 with the results on Schedule DAM-15 indicates that the use of the
12 corporate bond yield causes the results to increase.

13 Q. Does Dr. Murry make any questionable adjustments on his
14 Schedule DAM-16 that increase his CAPM cost of common equity results?

15 A. Yes, he makes a size premium adjustment.

16 Q. Is there clear evidence to suggest that a size premium adjustment should
17 be made to the CAPM analysis for utility companies?

18 A. No. The adjustment for size premium that Dr. Murry advocates is based
19 on a study of all of the stocks in the New York Stock Exchange, the American Stock
20 Exchange and the Nasdaq National Market. The study did not apply specifically to
21 regulated utilities. Annie Wong, associate professor at Western Connecticut State
22 University, performed a study that was published in the Journal of the Midwest Finance

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1 Association, Volume 22, that refutes the need for an adjustment based upon the smaller
2 size of public utilities. She indicates:

3 First, given firm size, utility stocks are consistently less
4 risky than industrial stocks. Second, industrial betas tend
5 to decrease with firm size but utility betas do not. These
6 findings may be attributed to the fact that all public utilities
7 operate in an environment with regional monopolistic
8 power and regulated financial structure. As a result, the
9 business and financial risks are very similar among the
10 utilities regardless of their size. Therefore, utility betas
11 would not necessarily be expected to be related to firm size.

12 Because smaller utilities operate in a regulated environment, just as large
13 utilities do, making an adjustment for firm size is not appropriate.

14 Q. Is there anything in Dr. Murry's direct testimony that leads you to believe
15 that he does not believe that his recommended 12.25 percent ROE is the cost of common
16 equity for his comparable companies and consequently the cost of common equity for
17 MPS?

18 A. Yes, on page 32, lines 4 through 10 of his direct testimony, Dr. Murry
19 discusses his position that the DCF model:

20 . . . "estimates the marginal cost of common equity to the
21 comparable companies. In that way, it is an estimate of the
22 minimal return necessary to attract marginal, or
23 incremental, investment in the common stock equities.
24 However, the method does not account for any other factors
25 that may affect the ability of the company to earn that
26 return. There is no cushion in this return to assure that a
27 regulated company will earn its allowed return."

28 Q. Does Dr. Murry contradict any other part of his direct testimony when he
29 argues for a "cushion" to assure that the regulated company will earn its allowed return?

30 A. Yes, I believe he does. On page 5, lines 11 through 18 of his direct
31 testimony, Dr. Murry discusses the principal objective in setting the allowed return in a

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1 regulatory proceeding. Dr. Murry maintains that the objective is "setting an allowed
2 return that is sufficient, **but not larger than necessary**, to allow a utility to recover the
3 costs of providing service" (emphasis added). This is consistent with the cost of service
4 principle in setting the rates for a utility company. Dr. Murry's proposition that a cushion
5 should be added to the cost of common equity violates this principle.

6 Mr. Burdette's Recommended Capital Structure for MPS

7 Q. Please summarize Mr. Burdette's capital structure recommendation for
8 MPS.

9 A. Mr. Burdette recommends Aquila's actual capital structure as of the test
10 year, December 31, 2002. Mr. Burdette utilized Aquila's 2002 Annual Report in order to
11 arrive at his recommended capital structure ratios of 40.14 percent common equity and
12 59.86 percent long-term debt.

13 Q. Do you agree with the amount of long-term debt that Mr. Burdette
14 included in his capital structure?

15 A. No. Mr. Burdette excluded current maturities from the amount of
16 long-term debt in his capital structure.

17 Q. Is this consistent with Mr. Burdette's position in the last Aquila rate case,
18 Case Nos. ER-2001-672 and EC-2002-265 (consolidated)?

19 A. No. Mr. Burdette adopted Staff's position on the amount of long-term
20 debt to include in the capital structure in the last Aquila rate case and the amount of
21 long-term debt recommended by Staff appropriately included current maturities on
22 long-term debt.

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1 Q. Do you have any other concerns with Mr. Burdette's capital structure
2 recommendation?

3 A. Yes. He failed to include any short-term debt in his capital structure
4 recommendation. As of December 31, 2002, Aquila had \$300,963,000 of short-term debt
5 outstanding with \$283,431,000 of Construction Work In Progress (CWIP) outstanding.
6 Therefore, it is appropriate to include a short-term debt balance of \$17,532,000 in the
7 capital structure, which is the difference between the amount of short-term debt
8 outstanding and the CWIP outstanding. The difference between actual short-term debt
9 outstanding and CWIP was used for the short-term debt balance because it is assumed
10 that CWIP will eventually be funded by long-term debt.

11 **Mr. Burdette's Recommended Cost of Common Equity for MPS**

12 Q. Please summarize Mr. Burdette's recommended cost of common equity for
13 MPS.

14 A. Mr. Burdette applied the DCF model and the CAPM to four publicly-
15 traded electric utilities in estimating the cost of common equity for MPS.
16 Although Mr. Burdette usually uses the CAPM only as a test of reasonableness for his
17 DCF results, it appears that the upper end of his cost of common equity range was
18 influenced by his CAPM results.

19 Schedule MB-10 of Mr. Burdette's direct testimony indicates his
20 recommended cost of common equity ranges from 9.60 percent to 10.10 percent. It
21 appears that Mr. Burdette arrived at the low end of his estimated range by adding his
22 4.55 percent dividend yield for his comparable group to his expected growth rate estimate
23 of 5 percent. Although the sum of these two figures results in a cost of common equity

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1 estimate of 9.55 percent, this is fairly close to the 9.60 percent for the low-end of his
2 range. I presume that he based the upper end of his range (10.10 percent) on his CAPM
3 analysis, but I cannot find any explanation for this, so I am not sure.

4 Q. Is it clear how Mr. Burdette arrived at the estimated growth rate of
5 5.00 percent in order to arrive at his DCF cost of common equity of 9.55 percent?

6 A. No. Mr. Burdette provides a summary of his growth rate calculations for
7 his comparable companies on page 17, lines 6 through 14 of his direct testimony.
8 However, it is not clear how he specifically arrives at his recommended growth rate of
9 5 percent indicated on line 18 on the same page. I would presume that he gave more
10 weight to the earnings per share growth rates because these are the highest growth rates
11 shown in his summary and closely match the 5 percent growth rate he is recommending.

12 Q. Does Mr. Burdette include negative growth rates in the calculations that he
13 performs to arrive at the results that he uses to determine an appropriate growth rate?

14 A. No, but in some prior cases he chose to include negative growth rates in
15 his averages. I am not sure why he changed his approach on the treatment of negative
16 growth rates.

17 Q. Do you have any concerns with Mr. Burdette's application of the CAPM?

18 A. Mr. Burdette has added a new version to his CAPM methodology since
19 the last couple of cases he wrote rate of return testimony, Case Nos. WR-2003-0500 and
20 WC-2004-0168 (consolidated), and GR-2003-0517. In those cases he used the
21 methodology that is displayed in the last column of his Schedule MB-8 in this case.
22 However, neither the new version nor his old methodology are applied correctly.

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1 The new version is contained in the second column of Schedule MB-8. In
2 this version Mr. Burdette subtracted a current risk-free rate from two different market
3 returns, one based on large company stock returns and one based on the average of both
4 large and small company stock returns, in order to determine the market risk premium.
5 The fundamental flaw that Mr. Burdette made in his calculation of the CAPM in this new
6 version is that he used average annual stock market returns for 1926 through 2002 and a
7 spot risk-free rate of 4.25 percent to determine the market risk premium. In order to
8 determine the proper historical market risk premium, Mr. Burdette should have
9 subtracted the 1926 through 2002 average annual return on intermediate-term
10 government bonds from the 1926 through 2002 average annual return on stocks. When
11 determining the market risk premium it is important to use the same time period for the
12 return on the market and the return on the risk-free rate in order to accurately measure the
13 expected risk premium over time. Otherwise the analyst is mixing and matching different
14 economic and capital market environments. The methodology that I used, in which the
15 risk premium is measured using the historical risk premium between stocks and treasury
16 bonds, is consistent with most of the valuations done in the textbook by
17 Aswath Damodaran, INVESTMENT VALUATION: Tools and Techniques for
18 Determining the Value of Any Asset, 1996, which is a textbook used in the curriculum for
19 students seeking the Chartered Financial Analyst (CFA) designation.

20 Q. Is it appropriate to use the current risk-free rate for the first variable, R_f in
21 the CAPM [$k = R_f + \beta (R_m - R_f)$]?

22 A. Yes. This is the variable that causes the CAPM results to reflect the
23 current interest rate environment.

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1 Q. What is the correct way to apply the CAPM using Mr. Burdette's inputs?

2 A. I have attached Schedule 2 to this rebuttal testimony in order to show the
3 correct way to apply the CAPM. The correct way shown in Schedule 2 combines some
4 of the variables that Mr. Burdette shows in both of his versions. However, I used the
5 current yield (November 26, 2003) on the 5-year treasury (Column 1) for the first
6 variable in the CAPM because when Mr. Burdette correctly calculated the market risk
7 premium of 6.60 percent in the last column of his Schedule MB-8 he used the average
8 annual returns of intermediate-term government bonds for the period of 1926 through
9 2002 from Ibbotsson Associates Inc.'s Stocks, Bonds, Bills and Inflation: 2003
10 Yearbook. Ibbotsson Associates Inc.'s Stocks, Bonds, Bills and Inflation: 2003
11 Yearbook, defines an intermediate-term government bond as "[a] one-bond portfolio with
12 a maturity of near 5 years." Therefore, although I agree that Mr. Burdette should use a
13 current interest rate for his first variable, I don't agree that it was appropriate for him to
14 utilize the 10-year risk-free rate since his market risk premium was based on the returns
15 of bonds with a maturity near 5 years.

16 I then multiplied the beta for his comparable companies (Column 2) by the
17 market risk premium (Column 3) to arrive at the beta adjusted market risk premium. I
18 then added this beta adjusted market risk premium to the current yield on the 5-year
19 treasury to arrive at the final corrected CAPM cost of common equity shown in
20 Column 4. The average cost of common equity of 7.39 percent is significantly less than
21 any of the incorrect CAPM costs of common equity indicated in Mr. Burdette's
22 Schedule MB-8 and also significantly less than my recommended cost of common equity
23 of 9.64 percent to 10.64 percent..

1 **Summary and Conclusions**

2 Q. Please summarize the conclusions of your rebuttal testimony.

3 A. My conclusions regarding the capital structure and cost of common equity
4 are listed below.

- 5 1. The use of the capital structures proposed by OPC and Aquila are
6 inappropriate. Neither witness has recognized any short-term debt
7 in their capital structure recommendations. OPC excluded current
8 maturities on long-term debt, which is both inappropriate and
9 inconsistent with even OPC precedent. The calculation of the cost
10 of capital for MPS should be based on Aquila's actual
11 consolidated capital structure as of December 31, 2002, as shown
12 on Schedule 9 attached to my direct testimony;
- 13 2. My cost of common equity stated in Schedule 23 attached to my
14 direct testimony, which is 8.64 percent to 9.64 percent, would
15 produce a fair and reasonable rate of return of 7.97 percent to 8.32
16 percent for the Missouri jurisdictional electric utility rate base for
17 MPS.

18 Q. Does this conclude your rebuttal testimony?

19 A. Yes, it does.

**Pro Forma Pre-Tax Interest Coverage Ratios
for Aquila, Inc.**

	<u>8.64%</u>	<u>9.14%</u>	<u>9.64%</u>
1. Common Equity (Schedule 10)	\$1,607,879,000	\$1,607,879,000	\$1,607,879,000
2. Earnings Allowed (ROE * [1])	\$138,920,746	\$146,960,141	\$154,999,536
3. Tax Multiplier (1 / { 1 - Tax Rate })	1.6231	1.6231	1.6231
4. Pre-Tax Earnings ([2] * [3])	\$225,482,262	\$238,531,004	\$251,579,746
5. Preferred Dividends	\$0	\$0	\$0
6. Annual Interest Costs (Schedule 10)*	\$203,508,326	\$203,508,326	\$203,508,326
7. Avail. for Coverage ([4] + [5] + [6])	\$428,990,588	\$442,039,330	\$455,088,072
8. Pro Forma Pre-Tax Interest Coverage ([7] / [6])	2.11 x	2.17 x	2.24 x

Electric Utility Financial Medians - Pretax Interest Coverage (x)

Standard & Poor's Corporation's
Utility Rating Service as of July 7, 2000

Lower Quartile	Median	Upper Quartile
<u>BBB</u>	<u>BBB</u>	<u>BBB</u>
1.97	2.53	3.15

Note: * Long-term debt interest expense from Aquila's response to MPSC-222 and MPSC-532, which includes all international debt, but not the interest expense associated with the 14.875% debt issuance. The assumed interest expense for this issuance is as follows:
\$500,000,000 x 8.07% Yield as reported by Mergent's Public Utility Bond for July 2002 = \$40,350,000.
Total: \$40,350,000 + \$163,158,326 = \$203,508,326 Annual Interest Cost.

AQUILA, INC.
CASE NO. ER-2004-0034

**Historical Consolidated Capital Structures for
Aquila, Inc.**
(Dollars in millions)

Capital Components	1990	1991	1992	1993	1994	1995
Common Equity	\$477.5	\$660.7	\$661.1	\$851.7	\$906.8	\$948.3
Preferred Stock	97.2	97.1	95.1	83.9	25.4	125.4 *
Long-Term Debt	679.3 **	931.6 **	896.7 **	1,011.5 **	1,115.7 **	1,370.5 **
Short-Term Debt	48.7	111.0	230.9	70.0	182.4	288.6
	<u>\$1,302.7</u>	<u>\$1,800.4</u>	<u>\$1,883.8</u>	<u>\$2,017.1</u>	<u>\$2,230.3</u>	<u>\$2,730.8</u>

Capital Components	1996	1997	1998	1999	2000	2001
Common Equity	\$1,158.0	\$1,163.6	\$1,446.3	\$1,525.4	\$1,799.8	\$2,551.6
Preferred Stock	125.0 *	100.0 *	100.0 *	350.0 *	450.0 *	250.0 *
Long-Term Debt	1,496.4 **	1,508.9 **	1,625.4 **	2,245.1 **	2,397.6 **	2,427.0 **
Short-Term Debt	252.0	113.8	235.6	248.9	501.0	548.6
	<u>\$3,031.4</u>	<u>\$2,886.3</u>	<u>\$3,407.3</u>	<u>\$4,369.4</u>	<u>\$5,148.2</u>	<u>\$5,777.2</u>

**Historical Consolidated Capital Structures for
Aquila, Inc.**
(In Percentages)

Capital Structure	1990	1991	1992	1993	1994	1995
Common Equity	36.65%	36.70%	35.09%	42.22%	40.66%	34.65%
Preferred Stock	7.46%	5.39%	5.05%	4.16%	1.14%	4.59% *
Long-Term Debt	52.15% **	51.74% **	47.60% **	50.15% **	50.02% **	50.19% **
Short-Term Debt	3.74%	6.17%	12.26%	3.47%	8.18%	10.57%
Total	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

Capital Structure	1996	1997	1998	1999	2000	2001	Average
Common Equity	36.20%	40.31%	42.45%	34.91%	34.98%	44.17%	38.41%
Preferred Stock	4.12% *	3.46% *	2.93% *	8.01% *	8.74% *	4.33% *	4.95%
Long-Term Debt	49.36% **	52.28% **	47.70% **	51.38% **	48.57% **	42.01% **	49.26%
Short-Term Debt	8.31%	3.94%	6.91%	5.70%	9.73%	9.50%	7.37%
Total	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>	<u>100.00%</u>

Notes: * Preferred Stock includes Company-obligated preferred securities.

**Includes current maturities on long-term debt.

Sources: Aquila, Inc.'s 2000 and 2002 Annual Reports.

AQUILA, INC.
CASE NO. ER-2004-0034

**Corrected Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates
for the Comparable Electric Utility Companies Contained in Mark Burdette's Schedule MB-8**

	(1)	(2)	(3)	(4)
	Risk Free Rate	Company's Value Line Beta	Market Risk Premium (1926-2002)	CAPM Cost of Common Equity (1926-2002)
Company Name				
Central Vermont Public Service	3.26%	0.45	6.60%	6.23%
Cleco Corporation	3.26%	0.90	6.60%	9.20%
Hawaiian Electric Industries, Inc.	3.26%	0.60	6.60%	7.22%
Green Mountain Power	3.26%	0.55	6.60%	6.89%
Average CAPM cost of equity		<u>0.63</u>		<u>7.39%</u>

Sources:

Column 1 = The appropriate yield is equal to the 5-year U.S. Treasury Bond yield for November 26, 2003 which was obtained from the Value Line Selection and Opinion: December 5, 2003.

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey.

Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2002 was determined to be 6.60% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2003 Yearbook per Mark Burdette's Schedule MB-8.

Column 4 = (Column 1 + (Column 2 * Column 3)).