

1 TESTIMONY

2 OF BEN JOHNSON, PH.D.

3 On Behalf of

4 THE STATE OF MISSOURI

5 OFFICE OF THE PUBLIC COUNSEL

6 Before the

7 MISSOURI PUBLIC SERVICE COMMISSION

8
9 Case No. ER-2005-0436

10
11 **Introduction**

12
13 **Q. Would you please state your name and address?**

14 A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

15
16 **Q. Are you the same Ben Johnson who earlier filed direct testimony in this proceeding?**

17 A. Yes, I am.

18
19 **Q. What is your purpose in submitting this testimony?**

20 A. In this surrebuttal testimony I will be responding to certain portions of the rebuttal
21 testimony of Aquila witness Samuel Hadaway, and Staff witness David Murray. The fact
22 that I do not discuss other portions of the testimony of these witnesses, or the positions
23 taken by other witnesses, should not be construed as agreement with such undiscussed
24 testimony.

Response to Samuel Hadaway

Q. Could you summarize the portions of Dr. Hadaway's testimony that you intend to address?

A. Dr. Hadaway criticizes the capital structure I used in my cost of capital analysis, because it "effectively ignores all the progress that the Company has made to improve its equity ratio in 2005". [Hadaway Rebuttal, p. 18] He further criticizes my recommended capital structure because it is inconsistent with the capital structures of the comparable companies used in my ROE analysis. [Id., p. 19]

Dr. Hadaway criticizes my DCF methodology, claiming that I only considered "historical" growth rates. [Id., p. 21] As an aside, Dr. Hadaway disagrees with my assertion that it would have been more appropriate for him to use real GDP growth as an indicator of dividend growth in his DCF analysis, rather than the nominal GDP growth rates he utilized. [Id., p. 22]

Dr. Hadaway also generally claims that my ROE recommendation is inappropriate, because it is lower than what has been authorized for other electric companies by other commissions over the past two years. [Id., pp. 2-3] Finally, Dr. Hadaway claims that my ROE recommendation, if adopted, would "weaken rather than support the financial condition of Aquila's MPS and L&P operating divisions". [Id., p. 9]

1 **Q. Let's turn to Dr. Hadaway's first criticism, regarding your recommended capital**
2 **structure. What was the basis of your recommended levels of debt and equity**
3 **financing?**

4 A. As I explained in my direct testimony, I used Aquila's actual capital structure, which
5 includes a reasonable, cost-effective mixture of equity and debt. This enables the
6 Company to recover the actual debt costs incurred in financing the Missouri regulated
7 utilities. More specifically, I used the capital structure on Aquila's books as of the end of
8 2004. This is consistent with the 2004 test year approved by the Commission. It is not
9 necessary to use a hypothetical capital structure, nor is it necessary to use capitalization
10 data from a proxy group of other utilities. Similarly, there is no need to go beyond the
11 test year, as suggested by Dr. Hadaway.

12 I don't think it is necessary to go outside the test year established for this
13 proceeding. However, updating the Company's actual capital through June 30, 2005
14 would be a reasonable second-best alternative – and substantially more appropriate than
15 the non-company-specific capital structure proposed by Dr. Hadaway. His approach
16 effectively requires customers to pay for the use of significantly more high-cost equity
17 capital than was actually used by the Company during the test year – and more than is
18 necessary to finance the regulated electric operations. In my view, Aquila's utility
19 customers should not be required to pay for hypothetical capital costs and income taxes
20 that do not exist in reality. Rather, it is more appropriate to consider the actual mix of
21 debt and equity (and associated levels of income taxes) during the test year.

1 **Q. You mentioned the possibility of using the Company's actual capital structure as of**
2 **June 30, 2005. How would that affect your cost of capital estimates?**

3 A. This would have relatively little effect on my recommendation. According to Dr.
4 Hadaway, as of June 30, 2005, Aquila's capital structure consisted of 42.47 percent
5 equity. However, a review of Aquila's 10-Q for the second quarter of 2005 does not
6 support this contention. As shown in the table below, as of June 30, 2005, Aquila's
7 balance sheet included \$2,328.3 million in long term debt, and \$1,103.7 million in
8 common equity. [Aquila 10-Q, June 30, 2005] This compares to \$2,329.9 million in long
9 term debt and \$1,130.5 million in common equity as of December 31, 2004. As shown,
10 Aquila's equity ratio actually declined slightly from the end of 2004 through mid-year
11 2005.

Table 1

Aquila Capital Structure

(In Millions)

	12/31/04		6/30/05		09/30/05	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Long Term Debt	2,329.9	67.3%	2,328.3	67.8%	1,987.1	58.0%
Common Equity	1,130.5	32.7	1,103.7	32.2	1,400.8	42.0
Total	3,460.4	100.0	3,432.0	100.0	3,427.9	100.0

While Dr. Hadaway is correct when he states that the Company has recently reduced its debt levels, it appears that significant changes to the Company's capital structure did not occur until the 3rd quarter of 2005. In fact, the Company states in its 10-Q that long term debt was only reduced by \$21.7 million during the first half of 2005. [Id.] Further, Aquila's June 30, 2005 balance sheet indicates that only \$1.6 million in net long term debt was eliminated; the remainder of the \$21.7 million reduction was associated with the current portion of the Company's long term debt. Finally, this small reduction in long term debt was more than offset by a \$26.8 million reduction in common equity during the first 6 months of 2005. Given these circumstances, using Aquila's mid-year 2005 capital structure would have a de minimus effect on my overall recommendation.

1 **Q. Can you now respond to Dr. Hadaway's second criticism regarding your**
2 **recommended capital structure?**

3 A. Dr. Hadaway claims that my recommendation to use the test year capital structure is
4 inappropriate, because the Company was more leveraged than the group of comparable
5 companies used in my market analysis. However, as I have explained, it is generally
6 preferable to use the Company's actual capital structure rather than a proxy or
7 hypothetical structure. Admittedly, deviation from the Company's actual capital structure
8 might be necessary if Aquila had relied upon an imprudently low level of equity capital,
9 or an excessively costly high level of equity. Such a deviation from reality is not
10 necessary in this case, because the Company's actual test year capital structure falls
11 within a reasonable range. While the Company was somewhat more leveraged than
12 management might have preferred, the actual mixture of equity and debt was not
13 unreasonable, and it results in a lower level of total costs (including income taxes) than if
14 a higher level of equity funding had been relied upon.

15
16 **Q. Let's turn to Dr. Hadaway's criticisms of your DCF analysis. Is he correct in**
17 **asserting that you only considered historical data in the development of your growth**
18 **component?**

19 A. No. As I explained in my direct testimony, in estimating the growth component in a DCF
20 analysis, the status of investor expectations or psychology should be assessed very
21 carefully. While I emphasized the benefits of reviewing actual historical growth rates, I

1 cautioned that

2 [A] strictly mechanical process should not be used, because this considers
3 neither the available evidence regarding investors' moods and expectations
4 nor subtle nuances such as the sustainability of particular growth rates
5 (whether historically achieved or projected for the future). ... [Johnson
6 Direct, p. 24]
7

8 I also pointed out that historic dividend growth is not always a good indicator of future
9 dividend growth, particularly over the very long term future. [Id., p. 31] Although the
10 historical data showed recent dividend cuts by firms in my comparable group, I did not
11 assume that investors are expecting negative dividend growth in the future. Investors do
12 not simply look at the historical rate of dividend growth in valuing stocks. Investors
13 recognize that growth is dynamic, and realize that a firm with a low dividend payout and
14 low rate of dividend growth may be reinvesting a large portion of its earnings, which
15 should benefit investors through increased earnings, higher stock prices, and higher
16 dividends in the future.
17

18 **Q. If you had relied strictly on historical indicators of growth, would your**
19 **recommendation have been different?**

20 A. Yes. I utilized a growth rate of 3.0% to 4.0%, but dividend growth (excluding outliers)
21 for the 29 electric companies has historically averaged around 2.0% , as shown on page 4
22 of Schedule 6, attached to my direct testimony. Similarly, as shown on page 4 of
23 Schedule 8, earnings growth for these companies has historically averaged between 1.0%
24 and 2.5%. Finally, as shown on page 4 of Schedule 10, growth in book value as

1 historically averaged between 1.6% and 3.2%. All of these historic growth rates are lower
2 than my recommendation. Given this discrepancy, it should be clear that I am estimating
3 investor expectations for future growth, and I am not recommending use of a historical
4 growth rate.

5 If I had relied strictly on this historical data for the growth component of my DCF
6 analysis, my recommended ROE would have differed from my actual conclusions. As I
7 explained in my direct testimony, my recommended growth rate exceeds the historical
8 data, because it is investor *expectations* about the future, not past results, that are most
9 relevant in developing a DCF analysis. My recommended growth rate fairly reflects the
10 average investor's expectations for long term dividend growth for these 29 electric
11 companies, given the historical context, as well as investor expectations for future
12 improvements in economic and the industry conditions.

13
14 **Q. Did Dr. Hadaway give adequate consideration to the historical growth achieved by**
15 **his comparable companies in his DCF analysis?**

16 A. No – at least not to any significant degree. The results of his DCF analysis are dominated
17 by his reliance on financial analysts' estimates of near-term future dividends. In so doing,
18 he has largely ignored the weak and negative growth experienced during the recent past,
19 as well as the likelihood that the long term future growth rate will be lower than what
20 may be experienced during the next few years.

21 As I explained in direct, these estimates show, at most, what certain stockbrokers

1 and other analysts are anticipating will occur in the near future – a period in which many
2 of these firms will be “catching up” or recovering from the effects of adverse financial
3 conditions and negative growth. Correctly developed, the DCF method requires use of
4 long term growth expectations, and these cannot be directly determined from the short
5 term dividend and earnings estimates published by financial analysts.

6 The only historical growth data on which Dr. Hadaway relies to any significant
7 degree, is the historical growth in the nation’s gross domestic product (GDP.). As I
8 explained in direct testimony, there is no evidence that the dividends paid by Dr.
9 Hadaway’s comparable firms have ever been correlated with GDP growth in the past, or
10 that they will be correlated with GDP in the future. Moreover, to the extent GDP data is to
11 be considered in estimating long term dividend growth, it would be more appropriate to
12 focus on real growth in the economy, rather than nominal growth. Yet Dr. Hadaway’s
13 argues the opposite:

14 The ROE that all witnesses in this case are determining for Aquila is a
15 “nominal” rate, that is, in includes an inflationary component. For this
16 reason, the growth term used in the DCF formula must be a “nominal”
17 rate. [Hadaway Rebuttal, p. 22]
18

19 Needless to say, I disagree with this reasoning. Dr. Hadaway proposes to use the
20 historical rate of growth in nominal GDP as an indicator of expected future growth in
21 dividends for his group of comparable electric utilities. As I will explain, in this context
22 it would have been more appropriate for Dr. Hadaway to use the rate of growth in “real”
23 GDP.

1 **Q. Can you first explain the difference between real GDP growth and nominal GDP**
2 **growth?**

3 A. GDP is a measure of the total size of a nation's economy. It is essentially the total volume
4 of goods and services produced in a given period (minus the cost of goods used in the
5 production process). By comparing measures of GDP for different time periods, one can
6 observe differences in the volume of good and services produced during those periods.
7 However, because GDP is stated as a dollar amount, inflation can affect the value of the
8 goods and services produced in different years. During an inflationary period, nominal
9 GDP may increase, even if the economy is not actually growing. To overcome this
10 distortion, GDP is often analyzed in "real" terms, based upon the price levels that were in
11 effect in a benchmark year.

12 As explained by The Bureau of Economic Analysis, "real GDP is an expression of
13 the changes in output that are associated with changes in quantity and not with changes in
14 prices". [BEA's Chain Indexes, Time Series, and Measures of Long-Term Economic
15 Growth, Steven Landefeld and Robert Parker, May, 1997] Nominal GDP, on the other
16 hand, is an expression of the changes in output associated with changes in quantity as
17 well as any changes in prices which have occurred over the time period in question.

18
19 **Q. What is the significance of the difference between real and nominal GDP growth for**
20 **purposes of this proceeding?**

21 A. Dr. Hadaway suggests that GDP growth should be used as an indicator of future growth

1 in dividends per share paid by electric utilities, but he supplies no theoretical or empirical
2 evidence to suggest a correlation between growth in nominal GDP and the rate of growth
3 in dividends per share for his proxy group – or any other group – of electric utilities.

4 To the extent GDP data has any relevance at all in this context, I believe it is only
5 useful as an indicator of the underlying growth rate of the economy as a whole. The
6 overall rate of growth of the economy arguably has an indirect impact on the growth
7 prospects for electric utilities, because most forms of production require electricity, and
8 growth in electric usage has historically been correlated with growth in the economy. In
9 this regard, it is important to realize that growth in electric sales tends to be correlated
10 with growth in “real” GDP, not the rate of inflation.

11 Dr. Hadaway has not offered any basis for assuming that dividends per share will
12 track the rate of growth in nominal GDP. Needless to say, electric utilities’ profits and
13 dividends per share do not necessarily grow in direct synch with inflation, nor do they
14 necessarily increase just because nominal GDP is increasing . In reality, increased
15 inflation tends to increase expenses, which tends to put downward pressure on earnings
16 (and thus on dividends). Even if regulators allow utilities to pass cost increases through to
17 their customers (through a fuel adjustment clause or rate case), that doesn’t necessarily
18 suggest that earnings or dividends will increase – at best, the net impact of inflation may
19 simply be neutral, allowing firms to be protected from the adverse impact of inflation.

1 **Q. Let’s turn to Dr. Hadaway’s comparison of your ROE recommendation with the**
2 **returns authorized by other Commissions. Can you briefly summarize this**
3 **comparison?**

4 A. Yes. Dr. Hadaway presents a list of authorized electric utility returns, averaged by
5 quarter, from January 1, 2004, through the 3rd quarter, 2005. The quarterly averages range
6 from 10.06% to 11.00%. [Rebuttal Schedule SCH-1] On the basis of this data, Dr.
7 Hadaway claims that my 9.95% recommended ROE is “well below the mainstream of
8 recent ROEs allowed by other regulatory commissions around the country”. [Hadaway
9 Rebuttal, p. 3]

10
11 **Q. What is your response to this comparison?**

12 A. First, I would note that the return allowed in this case should be based on the evidence in
13 this proceeding – not based on the conclusions reached by other regulatory commission’s
14 other proceedings, where the facts and available evidence were undoubtedly somewhat
15 different. Even Dr. Hadaway concedes that the Commission has indicated it “will not set
16 ROEs in Missouri based upon returns authorized by other commissions...” [Id., p. 3]

17 Second, I would note that Dr. Hadaway has not supplied any details concerning
18 the regulatory decisions included in his comparison. He does not disclose the number of
19 cases considered (sample size) nor does he provide the names of the utilities, the names
20 of the commissions, or any other information about the individual cases included in his
21 averaging process. To the extent the Commission wants to consider the judgments

1 reached by regulators in other jurisdictions, in order to evaluate the amount of weight to
2 put on these comparisons, it would be necessary to review which commission made each
3 decision, which company was involved, and numerous other details concerning the facts
4 and circumstances that applied to each case.

5 Finally, I would point out that my overall range of ROE evidence (including both
6 my comparable earnings and market-based ROE recommendations) ranged from 8.4% to
7 11.5%. This evidence completely overlaps the quarterly averages noted by Dr. Hadaway,
8 which range from 10.06% to 11.00%. It is also worth noting that my point estimate of
9 9.95% is just 0.11% lower than the low end of Dr. Hadaway's range of other commission
10 decisions.

11 Considering that I provided data that covers the entire range of quarterly averages,
12 and that my point estimate is just slightly below the range of other commission decisions,
13 I find it hard to understand the harsh rhetoric used by Dr. Hadaway. Considering the
14 amount of data to be evaluated, and the degree of judgment necessarily applied to the
15 interpretation of this data, no two regulatory commissions (or expert witnesses) are likely
16 to reach precisely the same conclusions concerning the cost of capital in any given case.
17 When comparing conclusions reached in one case with conclusions reached in other cases
18 – where the facts are undoubtedly different – one can hardly expect identical conclusions.

19 Frankly, I don't see how a .11% discrepancy can possibly justify a claim that my
20 recommendation is "well below the mainstream of recent ROEs allowed by other
21 regulatory commissions around the country." In fact, Dr. Hadaway's recommended

1 11.50% ROE is actually 0.50% above the high end of the range of other commission
2 decisions cited by him. If an estimate that is .11% below the range of decisions qualifies
3 as “well below the mainstream” then a .50% discrepancy in the other direction would
4 logically be even farther “out of the mainstream.”

5
6 **Q. Could you now address Dr. Hadaway’s claim that your recommendations, if**
7 **adopted, would weaken the Company’s financial position?**

8 A. Simply stated, I disagree. Dr. Hadaway compares the Company’s total debt and interest
9 expense to the Funds from Operations (FFO) that would result from my
10 recommendations, and concludes that these two ratios indicate bond ratings of BB and
11 BBB, respectively. [Id., p. 11] He also concludes that my recommended debt level, as a
12 percentage of total capitalization, indicates a bond rating of B. [Id.] Dr. Hadaway claims
13 that, given the Company’s forthcoming “heavy construction program”, credit metrics in
14 the “mid-BBB” range are paramount to Aquila’s ability to successfully raise capital. [Id.,
15 p. 9] Hence, he argues that my recommendations would weaken Aquila’s financial
16 condition.

17 Dr. Hadaway’s ratio analysis is essentially a repackaged criticism of my use of the
18 actual test year capital structure. Presumably, if I had recommended use of a
19 hypothetically higher percentage of equity, these metrics would improve. However, the
20 reality is that at the end of 2004, Aquila’s capital structure consisted of 32.7% equity.
21 Further, at the end of 2004, Aquila’s senior debt was rated B- by S&P and Fitch, and B2

1 by Moody's. [Aquila 2004 Annual Report, p. 31]

2 As I have explained, it is generally preferable to use the Company's actual data
3 rather than a hypothetical construct. I will concede that some deviation from the
4 Company's actual test year capital structure might be necessary if Aquila had an
5 imprudently low level of equity capital, or it was unable to raise the capital necessary to
6 finance needed construction projects. However, a deviation from reality is not necessary
7 in this case, because the Company's actual test year capital structure falls within a
8 reasonable range, and it has been able to raise both debt and equity capital on reasonable
9 terms. The actual mixture of equity and debt was not unreasonable, and it results in a
10 lower level of total costs (including income taxes) than if a higher level of equity funding
11 had been relied upon.

12 In my view, it is not necessary or appropriate for the Commission to require
13 ratepayers to pay more than the Company's actual cost of capital during the test year, in
14 an effort to strengthen the Company's financial position. Rather, the Commission should
15 provide an opportunity for the Company to recover its actual cost of capital, thereby
16 ensuring that both ratepayers and stockholders are treated fairly.

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21

Response to David Murray

Q. Let's turn to your response to Staff witness Murray's rebuttal. Can you begin by explaining the stock issuance adjustment you included in your market analysis?

A. As I explained in my direct testimony, under the market approach, market data are used indirectly to estimate the return requirement for equity investors. Since the rate of return is applied to the book amount of equity investment, I believe it is reasonable to factor up the estimated investor return requirement to allow for the transaction costs of issuing stock. Mr. Murray disagrees, concluding that such an adjustment is unnecessary in the current environment, where utility market-to-book ratios are above 1. [Murray Rebuttal, p. 29] Further, Mr. Murray feels that if such costs are to be recovered, they should be recovered as they are actually incurred, rather than through an adjustment to the cost of equity. [Id.]

Q. What is your response?

A. The method used to recover stock flotation costs is partly a matter of policy. While I generally recommend recovery of these costs through an upward adjustment to the equity cost calculations, this adjustment is not necessary if these costs are treated as an expense, and recovered through other parts of the revenue requirement calculations. In that case, excluding any adjustment for flotation costs, my market approach results in an estimated cost of capital of 8.0% to 9.0%. In turn, if the Commission were to give equal weight to

1 both my market approach and comparable earnings methods, I would recommend using
2 9.625% as the best estimate of the cost of equity.

3
4 **Q. Can you now respond to Mr. Murray's criticism of your cost of debt?**

5 A. Mr. Murray feels that Aquila's debt assignment process is inappropriate for determining
6 the embedded cost of debt for L&P and MPS. He explains:

7 The mere fact that these costs differ by 126 basis points should cause the
8 Commission to question the equitability of such a process. [Id., p. 30]

9
10
11 In my direct testimony, I presented different rate of return recommendations for each of
12 Aquila's Missouri operating divisions. My recommendations for L&P and MPS differed,
13 because Aquila assigned different debt costs to each division. However, I also presented a
14 weighted average cost of capital recommendation, in case the Commission concludes that
15 it would be more appropriate to use the same cost of capital for both operating divisions.
16 My weighted average rate of return was based upon the divisions' relative levels of net
17 plant in service, which resulted in an overall debt cost of 6.91%. If the Commission were
18 to decide that a single debt cost should be used for both divisions, I recommend using the
19 6.91% included in my weighted average rate of return, which is similar to, but a little
20 lower than, the 7.281% debt rate recommended by Mr. Murray.

21
22 **Q. Does this conclude your surrebuttal testimony, which was prefiled on December 13,**
23 **2005?**

24 A. Yes.