

Exhibit No.:
Witness: Michael Gorman
Type of Exhibit: Surrebuttal Testimony
Issue: Rate of Return, Cost of Debt,
Depreciation
Sponsoring Party: Federal Executive Agencies,
Sedalia Industrial Energy
Users' Association and
St. Joe Industrial Group
Case No.: ER-2007-0004

**Before the Public Service Commission
of the State of Missouri**

In the Matter of Aquila, Inc. d/b/a Aquila)
Networks-MPS and Aquila Networks-L&P,)
for authority to file tariffs increasing electric) Case No. ER-2007-0004
rates for the service provided to customers)
in the Aquila Networks-MPS and Aquila)
Networks-L&P service areas)

FILED

MAY 3 2007

Missouri Public
Service Commission

Surrebuttal Testimony and Exhibit of

Michael Gorman

On behalf of

**Federal Executive Agencies,
Sedalia Industrial Energy Users' Association
and St. Joe Industrial Group**

Project 8629
March 20, 2007



BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Exhibit No. 509
Case No(s). ER-2007-0004
Date 4/9/07 Rptr AM

In the Matter of Aquila, Inc. d/b/a Aquila)
 Networks-MPS and Aquila Networks-L&P,)
 for authority to file tariffs increasing electric) Case No. ER-2007-0004
 rates for the service provided to customers)
 in the Aquila Networks-MPS and Aquila)
 Networks-L&P service areas)

STATE OF MISSOURI)
)
COUNTY OF ST. LOUIS) SS

Michael Gorman, being first duly sworn, on his oath states:

1. My name is Michael Gorman. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by the Federal Executive Agencies, Sedalia Industrial Energy Users' Association and the St. Joe Industrial Group in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony and schedule which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2007-0004.

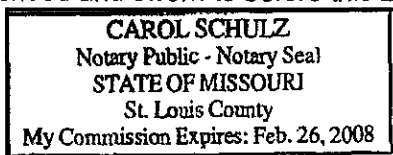
3. I hereby swear and affirm that the surrebuttal testimony and schedule are true and correct and that they show the matters and things they purport to show. 1 1

they purport to show.

W. L. L. L.

Michael Gorman

Subscribed and sworn to before this 20th day of March 2007.



Carol Schurz
Notary Public

My Commission Expires February 26, 2008.

**Before the Public Service Commission
of the State of Missouri**

In the Matter of Aquila, Inc. d/b/a Aquila	)	
Networks-MPS and Aquila Networks-L&P,	)	
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rates for the service provided to customers	)	
in the Aquila Networks-MPS and Aquila	)	
Networks-L&P service areas	)	

Surrebuttal Testimony of Michael Gorman

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A My name is Michael Gorman and my business address is 1215 Fern Ridge Parkway,**
3 **Suite 208, St. Louis, MO 63141-2000.**

4 **Q ARE YOU THE SAME MICHAEL GORMAN WHO PRESENTED DIRECT AND**
5 **REBUTTAL TESTIMONY IN THIS PROCEEDING?**

6 **A Yes, I am.**

7 **Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

8 **A I will respond to the rebuttal testimony of Aquila witness Dr. Samuel C. Hadaway on**
9 **the issue of return on equity. In addition, I respond to Aquila witness Winterman on**
10 **the issue of cost of debt and Aquila witness Williams on the issue of service lives for**
11 **determining depreciation rates for Other Production plant accounts.**

12 **Q PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.**

13 **A I respond to Dr. Hadaway's criticisms of the models and assumption that I have used**
14 **to estimate Aquila's reasonable and fair return on equity. Specifically, I show why his**

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1 arguments concerning the DCF, risk premium and CAPM analyses are flawed and
2 why his equity return recommendation for Aquila is inflated and excessive.

3 I also propose an adjustment to Aquila witness Richard Winterman's updated
4 MPS embedded debt cost estimate and rebut Mr. Dennis Williams' depreciation
5 expense arguments.

6 **DCF Analysis**

7 **Q WHAT ARGUMENTS DID DR. HADAWAY RAISE CONCERNING YOUR**
8 **PROPOSED DCF ANALYSIS?**

9 A At Pages 13 – 14 of his rebuttal testimony, Dr. Hadaway makes two arguments
10 concerning my DCF study. First, he complains that I only relied on the constant
11 growth DCF model, where he used several DCF versions including a non-constant
12 growth studies. Also, he complains that based on his opinion, a constant growth DCF
13 model does not produce reasonable results.

14 His second complaint relates to the growth rate used in my DCF studies. He
15 believes my growth rate estimates are not reasonable.

16 **Q DO YOU BELIEVE DR. HADAWAY'S DCF STUDIES PRODUCE MORE**
17 **REASONABLE RESULTS THAN YOUR CONSTANT GROWTH DCF STUDY?**

18 A No. The primary differential between my DCF study and Dr. Hadaway's is his use of
19 a grossly inflated GDP growth forecast that is significantly in excess of the consensus
20 economists' long-term GDP growth forecast. Hence, the GDP forecast used by Dr.
21 Hadaway is not reflective of rational investment decision-making and capital market
22 expectations that are reflected in current stock prices.

1 Indeed, I updated Dr. Hadaway's DCF studies using the consensus
2 economists' projected GDP growth in conjunction with Dr. Hadaway's dividend yield.
3 The combined sum of his three DCF studies to produce a result of 9.7%. This result
4 is reasonably consistent with my recommendation in this proceeding and my DCF
5 model of 9.5%.

6 Hence, his multi-growth DCF models produce comparable results to my
7 constant growth DCF model if realistic GDP growth rates are used in the analysis .

8 **Q DR. HADAWAY ARGUES THAT THE CONSTANT GROWTH DCF RESULT IS NOT**
9 **REASONABLE AND RELIABLE. DO YOU AGREE?**

10 **A** No. Dr. Hadaway's contention that the constant growth DCF model doesn't produce
11 an adequate risk premium over prevailing utility bond yields is based solely on Dr.
12 Hadaway's excessive equity risk premium estimates, and is therefore not credible.

13 In my direct testimony, I reviewed the results of the constant growth DCF
14 model and showed that they were rational based on fundamental company factors,
15 reasonable in comparison to expected long-term growth rates, and reasonable in
16 comparison to prevailing interest rates. The bottom line, constant growth DCF
17 parameters show strong earnings, low payout ratios that will allow for the retention of
18 earnings to fund future growth, and predictable and adequate earnings to cover
19 dividends that allow for future growth in dividends.

20 Review of these parameters also indicates constant payout ratios and
21 continuing growth in book value that will support growth in stock prices and earnings.
22 As such, the constant growth model at this time produces reasonable results,
23 consistent with other capital market costs, and is based on sound fundamental
24 company principles underlying the growth and yield components of the DCF model.

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1 The bottom line, the DCF studies are producing reasonable results which do reflect
2 good estimates in investor required returns for investing in utility stock.

3 **Q IS IT REASONABLE FOR DR. HADAWAY TO RELY ON GDP GROWTH THAT IS**
4 **OUT OF LINE WITH PUBLISHED CONSENSUS GROWTH PROJECTIONS?**

5 A No. The relevant issue in determining an unbiased and reasonable DCF estimate is
6 to develop a reasonable estimate of the growth rate expectations of investors, not Dr.
7 Hadaway's desired and inflated growth estimate.

8 The most unbiased and reasonable estimate of investors' growth expectations
9 for utilities is embodied in published analysts' forecasted growth rates. These are the
10 growth rate expectations most likely reflected in observable stock prices.

11 Further, as discussed in my direct testimony, the use of consensus analysts'
12 projected growth for the companies in my comparable group is conservatively high,
13 based on virtually every logical assessment of long-term sustainable growth.

14 **Q PLEASE EXPLAIN WHY THAT IS THE CASE.**

15 A As I discussed in my direct testimony, historically these utilities' dividend growth has
16 not exceeded the rate of inflation. In contrast, my analyst-projected growth is
17 approaching two times the projected rate of inflation of 2.3%. Also, the most recent
18 consensus economists' growth projection published this month for the long-term GDP
19 growth rate is still 5.1%.¹ This is proof that the growth rates in my constant growth
20 DCF model are conservatively high based on historical comparisons. Again,
21 historically, utility earnings and dividends have grown at a rate much slower than
22 GDP growth.

¹ Blue Chip Economic Forecast, March 10, 2006, at 15.

1 Also, in my direct testimony I showed that the companies' financial metrics
2 strongly support current dividend payments and provide adequate retention of
3 earnings to fund future growth at levels consistent with analysts' growth projections.
4 This demonstrates that those utilities are in a strong position to realize analysts'
5 growth projections. Hence, these analyst growth projections are a reasonable and
6 rational proxy for long-term sustainable growth.

7 **Q DID DR. HADAWAY PROVIDE ANY REBUTTAL TO YOUR DEMONSTRATION**
8 **THAT ANALYST GROWTH RATE ESTIMATES ARE CONSERVATIVE BASED ON**
9 **A REVIEW OF HISTORICAL GROWTH RATE, AND IN COMPARISON TO**
10 **CONSENSUS ECONOMISTS' PROJECTIONS OF FUTURE INFLATION AND GDP**
11 **GROWTH?**

12 **A**No. Dr. Hadaway's rebuttal testimony is silent on this important fundamental
13 assessment of long-term sustainable growth.

14 **Q DO YOU HAVE ANY COMMENTS CONCERNING DR. HADAWAY'S**
15 **REPLICATION OF YOUR CONSTANT GROWTH DCF ANALYSIS?**

16 **A**Dr. Hadaway updated my constant growth DCF study reflecting his GDP growth rate
17 of 6.6%. It is not surprising that the DCF return increases if one includes an inflated
18 GDP growth rate. Importantly, however, as noted above, this growth rate reflects only
19 Dr. Hadaway's GDP growth assessment, and is completely out of line with the
20 consensus economists' five and ten-year GDP growth forecasts. Again, the
21 consensus economists' updated five and ten-year GDP projection was published this
22 month and remains at 5.1%. Dr. Hadaway's DCF growth rate is not reflective of

1 rational investment decisions, nor the consensus of professional economists and
2 security analysts' assessment of utility growth.

3 The growth rate advocated by Dr. Hadaway is well in excess of consensus
4 market participant expectations and clearly appears to be designed to increase the
5 DCF return estimate. As such, Dr. Hadaway's DCF studies, and his revision of my
6 DCF study using his exaggerated GDP growth factor, should be rejected.

7 **Risk Premium Analysis**

8 **Q WHAT ARE THE ISSUES DR. HADAWAY TAKES WITH YOUR RISK PREMIUM**
9 **MODEL?**

10 A At pages 14 – 17 of his rebuttal testimony, Dr. Hadaway takes issue with my equity
11 risk premiums. He argues that my equity risk premiums are too low because: (1) I did
12 not increase the average equity risk premium to reflect an inverse relationship
13 between interest rates and equity risk premiums, and (2) he appears to believe that I
14 should have used an equity risk premium toward the high end of my estimated range
15 rather than toward the midpoint.

16 **Q ARE DR. HADAWAY'S CRITICISMS OF YOUR RISK PREMIUM STUDY**
17 **REASONABLE?**

18 A No. Identifying an appropriate risk premium to use in a rate proceeding is a difficult
19 process, but it requires, contrary to Dr. Hadaway's assertion, a review of the risk
20 differential in utility equity investment risk relative to bond investment risk. It is worth
21 noting that Dr. Hadaway fails to provide any authoritative reference for his simplistic
22 view of the link between interest rates and equity risk premiums. This is not
23 surprising because academic literature does not universally support a simplistic

1 inverse relationship between interest rates and equity risk premiums as Dr. Hadaway
2 contends. Rather, the academic literature is quite clear – while there may be an
3 inverse relationship between equity risk premiums and interest rates during certain
4 periods of time, that relationship can materially change depending on the time period
5 studied. For example, there have been certain time periods where the relationship
6 between equity risk premiums and interest rates has been direct (positive), not
7 inverse (negative).

8 **Q PLEASE SUMMARIZE THE ACADEMIC RESEARCH ON INTEREST RATES AND**
9 **EQUITY RISK PREMIUM.**

10 **A** The academic literature on the inverse relationship between interest rates and equity
11 risk premiums has observed that there has been an inverse relationship that was
12 caused by changes to perceived risk differentials between debt and equity
13 investments. It is not, however, tied only to changes in nominal interest rates.
14 Further, the relationship between interest rates and equity risk premiums is not
15 constant, but rather can change materially over time.

16 The academic literature addressing this issue that I am familiar with is based
17 on market data in the 1980s and mid-1990s. During the 1980s and very early 1990s,
18 an inverse relationship did exist, but that was not the case prior to 1980 and has not
19 been shown to be the case since the mid-1990s. For example, a paper written by
20 Eugene Brigham, Dilip K. Shome and Steve R. Vinson, entitled "The Risk Premium
21 Approach to Measuring a Utility's Cost of Equity," published by the Public Utility
22 Research Center, August 1984, stated as follows in the abstract:

23 "(4) Before 1980, equity risk premiums for utilities
24 increased as interest rates rose, but after that date an
25 increase in interest rates was associated with lower risk
26 premiums. As a result, in recent years a 100 basis point

1 increase in long-term interest rates has led to an increase
2 of about 37 basis points in the cost of equity. (5) Risk
3 premiums are not stable; they change substantially over
4 relatively short periods of time, and this volatility has
5 implications for anyone who seeks to measure equity
6 capital costs on the basis of a debt yield plus a risk
7 premium, including advocates of the CAPM approach."
8 (Emphasis added)

9 In a more recent study by Robert S. Harris and Felicia C. Marston published in
10 the Journal of Applied Finance – 2001, "The Market Risk Premium: Expectational
11 Estimates Using Analysts Forecasts," the authors expanded an earlier study of risk
12 premiums to cover a period of 1982-1998. In this study, the authors noted a historical
13 inverse relationship between equity risk premiums and interest rates. The authors
14 went into detail to explain, however, that the historical relationship was likely affected
15 more by relative investment risk changes, and not simply changes to nominal interest
16 rates as Dr. Hadaway implies in his testimony. The authors state as follows:

17 ". . .The market risk premium changes over time and
18 appears inversely related to government interest rates but
19 is positively related to the bond yield spread, which
20 proxies for the incremental risk of investing in equities as
21 opposed to government bonds."

22 Importantly, the authors in that same study concluded as follows:

23 ". . .As a result, our evidence does not resolve the equity
24 premium puzzle; rather, the results suggest investors still
25 expect to receive large spreads to invest in equity versus
26 debt instruments.

27 There is strong evidence, however, that the market
28 risk premium changes over time. Moreover, these
29 changes appear linked to the level of interest rates as well
30 as *ex ante* proxies for risk drawn from interest rate spreads
31 in the bond market . . ."

32 Clearly, the academic literature does not support a simplistic inverse
33 relationship between interest rates and equity risk premiums. Rather, the authors of
34 these studies recognize that equity risk premiums change with perceived changes in
35 investment risk. Dr. Hadaway's simplistic analysis has no bearing on changes to

1 perceived risk, and inappropriately increases equity risk premiums for no other reason
2 than the recent historical reduction in nominal interest rates.

3 Reductions to nominal interest rates over the last ten years are simply not
4 adequate reason for increases to equity risk premiums. Indeed, decreases to interest
5 rates over the last ten years have been likely caused by reduced inflation
6 expectations, which would decrease both bond interest rates and common equity
7 required returns. Reduced inflation expectations alone should not change relative
8 debt to equity investment risk, and thus would not cause equity risk premiums to
9 increase. Consequently, Dr. Hadaway's proposal to reflect an inverse relationship
10 between equity risk premiums and bond interest rates is flawed and unreliable, and
11 should be rejected.

12 **Q DR. HADAWAY ASSERTS THAT YOU HAVE PREVIOUSLY SUPPORTED AN**
13 **INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK**
14 **PREMIUMS. PLEASE COMMENT.**

15 **A** The testimony cited by Dr. Hadaway was offered in the mid-1990s, during a period
16 when interest rates were more volatile and capital markets were much different than
17 today. Nevertheless, I did not support at that time, and I do not support now, Dr.
18 Hadaway's simplistic model of increasing equity risk premiums only by virtue of
19 change to nominal interest rates. In that case, I recognized a large reason for
20 reductions to interest rates was a dramatic reduction in expected future inflation.
21 Hence, I did not adopt Dr. Hadaway's model in that case, because he did properly
22 recognize that a large reason for the reduction in nominal interest rates was reduced
23 inflation outlooks.

1 In this case, I carefully reviewed the expected risk between bond and equity
2 investments. As the academic literature referenced above supports, I relied on the
3 spread of utility bond yields over Treasury bond yields as an indication of whether
4 equity risk premium should be above or below the historical average. That analysis
5 indicates that equity risk premiums should not be above historical average because
6 utility bond spreads over Treasury bonds are at historically narrow levels. This
7 indicates the markets are not pricing premiums into utility stock investments, and thus
8 the equity risk premium would not be abnormally high.

9 **Q DID DR. HADAWAY PERFORM A REGRESSION STUDY THAT INDICATES A**
10 **NEGATIVE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK**
11 **PREMIUM?**

12 **A**Dr. Hadaway did perform a regression analysis comparing equity risk premiums
13 derived from authorized returns on equity relative to prevailing interest rates to
14 estimate a pattern that suggests that equity risk premiums do increase with declines
15 in interest rates. However, a logical review of the data does not support his simplistic
16 findings and conclusion.

17 Rather, it is clear from my experience in regulatory proceedings, and my
18 review of Dr. Hadaway's data that regulatory commissions have simply reduced
19 authorized returns on equity slower than interest rates have declined. There is no
20 cause and effect of the expanding risk premium. As a result, the regression model
21 Dr. Hadaway constructed is not a competent review of market evidence.

22 The practical effect of Dr. Hadaway's regression analysis would be to mute
23 the decline in authorized returns on equity as capital market costs decline. This
24 would provide utilities with excess compensation during declining capital markets,

1 and would not properly consider an assessment of investment risk and fair
2 compensation. As such, Dr. Hadaway's simplistic and flawed assumption that equity
3 risk premiums expand only with declines in nominal interest rates should be rejected.

4 **Q THE HARRIS ET AL. ARTICLE CITED ABOVE INDICATES THAT A BOND YIELD**
5 **SPREAD COULD BE USED TO INDICATE WHETHER INDUSTRY RISK AND**
6 **EQUITY RISK PREMIUMS HAVE CHANGED. DO UTILITY BOND SPREADS**
7 **OVER TREASURY BONDS INDICATE THAT THE UTILITY INDUSTRY RISK HAS**
8 **INCREASED AND UTILITY EQUITY RISK PREMIUMS HAVE INCREASED?**

9 **A** No. As I described in my direct testimony at Pages 27 and 28, utility bond yield
10 spreads over Treasury yields currently are below average, relative to the last 26
11 years. This indicates that the market's assessment of investment risk for the utility
12 industry is not higher now than it has been over the last 26 years. Hence, utility
13 equity risk premiums today should conservatively be comparable to the average
14 equity risk premiums experienced over the last 26 years, not higher as Dr. Hadaway
15 asserts.

16 This bond spread between utility bonds and Treasury bonds is shown on my
17 Direct Schedule MPG-11. As shown on this schedule, the 2006 spread between A-
18 rated and BBB-rated utility bonds is 1.08% and 1.33%, respectively. These are
19 among the lowest utility bond spreads relative to Treasury bonds over the last 26
20 years.

21 Again, this indicates that the utility industry's risk has not increased, but rather
22 is stable to declining. This is consistent with the "back to basics" outlook of the utility
23 industry, where many utilities, including Aquila, are shedding higher-risk non-

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1 regulated companies and returning back to core competencies of operating low-risk
2 regulated utility operations.

3 **Q DR. HADAWAY ASSERTS THAT IT IS ONLY APPROPRIATE TO USE**
4 **PROJECTED INTEREST RATES IN AN EQUITY RISK PREMIUM STUDY.**
5 **PLEASE RESPOND.**

6 **A** Dr. Hadaway's reliance on projected interest rates only, while completely ignoring
7 current observable real market interest rates, is flawed. The Commission should not
8 rely only on projected interest rates, because interest rate projection accuracy is
9 highly problematic.

10 I demonstrated this in my direct testimony at Pages 6 through 8. In that
11 testimony I showed that interest rate projections are highly inaccurate. I showed that
12 economists' projections of future interest rates have consistently been overstated
13 during the last five years. Hence, I concluded that current observable interest rates
14 are as accurate projections of future interest rates as interest rate projections.
15 Therefore, to be conservative, I used both current and projected interest rates in my
16 rate of return analyses.

17 **CAPM Analysis**

18 **Q DID DR. HADAWAY TAKE ISSUE WITH YOUR CAPM ANALYSIS?**

19 **A** Yes. At pages 17 – 18 of his rebuttal testimony, Dr. Hadaway argues that the beta
20 estimate used in my study was too low to reflect Aquila's risk, and he complained that
21 I did not give any weight to the 10.6% CAPM return estimate based on his proxy
22 group in supporting my proposed return on equity of 10.0%.

1 **Q DID YOU GIVE WEIGHT TO THE 10.6% CAPM RETURN ESTIMATE?**

2 **A** Yes. Dr. Hadaway's assertion is false. As discussed at Page 35 of my direct
3 testimony, I gave 50% weight to the CAPM return estimate based on Dr. Hadaway's
4 proxy group of 10.6% in supporting my 10.0% return on equity for Aquila in this case.
5 Indeed, my 10.0% return on equity was based on the midpoint of the range of 9.5%
6 to 10.6%. The 10.6% was based on my CAPM study of Dr. Hadaway's group.

7 It is important that Dr. Hadaway asserts that my failure to give any weight to
8 the 10.6% is an indication of my attempts to decrease, or bias downward, my return
9 on equity estimate for Aquila. Since Dr. Hadaway has failed to accurately and
10 thoroughly review my testimony, his assertion that there is any bias in my
11 recommended return on equity is based on erroneous and fallacious representations
12 of my testimony. Indeed, in my testimony I made significant rounding adjustments
13 and concessions to Dr. Hadaway in the development of a return on equity that is not
14 biased downward but, if anything, is conservatively high.

15 In any event, his representation that I gave no weight to the 10.6% return on
16 equity is flat out wrong.

17 **Q WHY IS IT REASONABLE TO USE THE BETA ESTIMATE FOR YOUR PROXY**
18 **GROUP IN ESTIMATING A RETURN FOR AQUILA?**

19 **A** As discussed in my direct testimony, beta estimates for utilities have been increasing
20 over recent years despite the fact that utility investment risk has been decreasing.
21 The reason the beta estimates have been increasing is largely attributable to the fact
22 that utility stocks have outperformed the overall market over the last five years. This
23 stock performance is giving a false impression of increasing risk. This impression is

1 wrong because all other utility risk factors are indicating stable to declining investment
2 risk.

3 Further, I showed in my testimony that the beta estimate I used in mine and
4 Dr. Hadaway's group was very high by historical standards. As such, the beta
5 estimate is producing a very conservative and high estimated CAPM result estimate
6 which is increasing my return on equity for Aquila in this case. Dr. Hadaway's
7 contention that my CAPM return estimate is somehow biased downward is without
8 merit and based on erroneous contentions.

9 **Dr. Hadaway's Updated Analysis**

10 **Q DOES DR. HADAWAY'S UPDATED RETURN ON EQUITY ANALYSIS,**
11 **PRESENTED AT PAGES 18 AND 19 OF HIS REBUTTAL TESTIMONY, CONTAIN**
12 **THE SAME FLAWS AS THE ANALYSIS IN HIS DIRECT TESTIMONY?**

13 **A** Yes. Dr. Hadaway's updated return on equity estimates contain the same flaws as
14 those in his direct testimony. Specifically, he relies on a DCF growth rate of 6.6%
15 based on historical GDP growth. This growth rate exceeds consensus economists'
16 projections of future GDP growth and is not reasonable for use in the DCF analysis.
17 Use of this inflated growth rate, inflated Dr. Hadaway's DCF return estimates. Dr.
18 Hadaway also fails to recognize current observable real market interest rates in his
19 risk premium studies. He relies solely on his projected interest rates. Dr. Hadaway
20 has not provided any evidence that his projected utility bond yields reflect investors'
21 expectations, or are shared by any credible and independent market research firm.
22 Therefore, Dr. Hadaway's risk premium studies are substantially overstated, as they
23 were in his direct testimony.

1 As shown on my Exhibit MPG-3, Schedule 1, updating Dr. Hadaway's DCF
2 analysis using the consensus economists' projected GDP growth rate of 5.1% would
3 lower his updated DCF return estimates from 10.7% down to 9.2% (the average of
4 Pages 1-3). Further, reflecting current observable utility bond yields in Dr. Hadaway's
5 risk premium analysis would lower his risk premium study from 10.7% down to 10.5%
6 (Baa yield of 6.1% and risk premium of 4.42% from Schedule SCH 16, Page 1).
7 Corrections to Dr. Hadaway's updated cost of equity estimates continue to show that
8 a fair return on equity for Aquila is no higher than 9.7% (the midpoint of 9.2% to
9 10.5%), very similar to my recommended return of 10.0%.

10 **Q DO YOU HAVE ANY RESPONSE TO THE REBUTTAL TESTIMONY OF AQUILA**
11 **WITNESS RICHARD WINTERMAN?**

12 **A**Yes. In his rebuttal testimony Mr. Winterman updates the embedded debt costs for
13 MPS and L&P. As I understand it, in that update he reflects a revision to the Utility's
14 embedded debt cost caused by the securities that matured during calendar year
15 2006. However, Mr. Winterman's update did not include a bond that matured on
16 January 15, 2007. Mr. Winterman asserts that this bond maturity is outside the test
17 year and the adjustment should therefore not be made. Further, he argues that if an
18 adjustment is made, then it should reflect a flotation cost adjustment of between 38-
19 42 basis points, rather than 18 basis points as I used in my direct testimony.

20 **Q DO YOU AGREE WITH MR. WINTERMAN'S PROPOSED EMBEDDED DEBT**
21 **COST?**

22 **A**I accept Mr. Winterman's update for the embedded debt cost based on securities that
23 mature during calendar year 2006. I disagree with him that the January 15, 2007

1 bond maturity should not be reflected in the update. MPS has a 9.1% bond that
2 matured on January 15, 2007. This is a known and measurable change to MPS' cost
3 of service and it should be reflected in order to ensure rates determined in this
4 proceeding properly reflect MPS' cost of service while the rates are in effect.

5 **Q DO YOU PROPOSE AN ADJUSTMENT TO MR. WINTERMAN'S UPDATED**
6 **EMBEDDED COST OF DEBT FOR MPS?**

7 A Yes. Using the midpoint of Mr. Winterman's flotation cost range of 35 basis points
8 (28 to 42 basis points) and the "Baa" utility bond yield around January 15, 2007, the
9 date of the bond maturity, the revised embedded debt cost estimate for MPS is
10 6.662% as developed on my Exhibit MPG-3, Schedule 2.

11 **Q ARE THERE ANY OTHER ISSUES YOU TAKE WITH MR. WINTERMAN?**

12 A Yes. Mr. Winterman seems to be of the opinion that I am recommending an
13 adjustment to L&P's cost of debt. However, my comments on L&P's debt related to
14 requiring the Company to explain why L&P's cost of debt is so much higher than
15 prevailing market interest costs and other utilities embedded debt costs. This is
16 important in light of the Company's commitment to manage its utility cost of service to
17 protect Missouri retail customers from its financial restructuring effort. In my direct
18 testimony at Page 16, I recommended the Commission direct Aquila to explain why
19 L&P's cost of debt is above market. Absent such an acceptable explanation, I
20 recommended that the Commission make an adjustment to L&P's debt costs on the
21 premise that the Company simply has not justified such an above-market cost of debt.

1 **Q DID MR. WINTERMAN JUSTIFY L&P'S ABOVE-MARKET DEBT COST?**

2 A At Pages 3 and 4 of his testimony he describes how L&P's debt has been reduced
3 somewhat since L&P was acquired by Aquila. Further, he states that L&P's debt has
4 a fixed rate without any step-up or step-down provision. Hence, he maintains there
5 was no increase to the rates as a result of Aquila's credit rating downgrade. He
6 ultimately concludes that little of L&P's debt can be refinanced at attractive and
7 economical rates.

8 However, while Mr. Winterman did argue that L&P's debt cannot be
9 economically refinanced, he fell short of explaining what economic studies Aquila has
10 undertaken in order to determine that it cannot be economically refinanced. This
11 illustration I think is important in order to ensure that Aquila is pursuing every
12 opportunity to reduce L&P's cost of debt. As such, I do not find Mr. Winterman's
13 unsupported assertion convincing.

14 **Q DO YOU RECOMMEND AN ADJUSTMENT TO L&P'S DEBT COST IN THIS**
15 **PROCEEDING BASED ON MR. WINTERMAN'S PRESENTATION?**

16 A No. However, I recommend the Commission instruct Aquila to advise it of all efforts
17 undertaken to refinance L&P's above-market embedded debt costs. In the event any
18 economic opportunity arises that allows the Company to reduce L&P's cost of debt,
19 Aquila should be required to pursue that cost savings as a high priority objective.

20 L&P's embedded debt cost is significantly above market and significantly
21 above other utilities' embedded cost of debt. This is a serious problem that requires
22 serious management attention. Aquila appears to have significant contractual
23 limitations to economically finance this debt but that should not preclude the

1 Commission from insisting on aggressive pursuits to exercise all opportunities to
2 reduce L&P's debt cost.

3 **Depreciation Rates for Other Production Plants**

4 **Q DO YOU HAVE ANY COMMENTS RELATED TO THE REBUTTAL TESTIMONY OF**
5 **AQUILA WITNESS DENNIS R. WILLIAMS?**

6 A Yes. Mr. Williams believes it is inappropriate to adjust Aquila's depreciation expense
7 based on anything other than a complete review of depreciation rates for all of its
8 plant functions. He also believes it inappropriate to consider the depreciation rates
9 for other Missouri utilities in establishing appropriate depreciation expense.

10 **Q PLEASE RESPOND TO MR. WILLIAMS' POSITION.**

11 A In my direct testimony I recommended an adjustment to Aquila's depreciation rates to
12 reflect a reasonable depreciation expense subject to recovery from Aquila's
13 customers. In that testimony I found certain adjustments that were overstated that
14 resulted in depreciation expense which I found to be unreasonable. I did not take
15 issue with all of Aquila's depreciation accounts, because I did not find all of the
16 accounts to be unreasonable. I did find certain "Other Production" accounts to be
17 unreasonably high in comparison to approved depreciation rates for other Missouri
18 utilities. As such, I believe my depreciation expense adjustment will result in a
19 reasonable level of depreciation expense in setting Aquila's rates in this proceeding.

20 **Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

21 A Yes

MPG:cs/8629/109540

Aquila Networks

Discounted Cash Flow Analysis Traditional Constant Growth DCF Model

Line	Utility	Stock Price (P0) (1)	Next Year's Div (D1) (2)	Dividend Yield (3)	2010 DPS (4)	2010 EPS (5)	Retention Rate (B) (6)	2010 BVPS (7)	ROE (R) (8)	BxR Growth (9)	Zacks (10)	Value Line (11)	GDP (12)	Average Growth (13)	ROE (14)
1	Alliant Energy	38.37	1.27	3.31%	1.57	2.60	39.62%	26.10	9.96%	3.95%	4.00%	5.50%	5.10%	4.64%	7.9%
2	Ameren Corp.	53.97	2.54	4.71%	2.54	3.20	20.63%	34.65	9.24%	1.90%	6.10%	1.00%	5.10%	3.53%	8.2%
3	American Electric Power	40.95	1.59	3.88%	2.00	3.75	46.67%	30.25	12.40%	5.79%	3.90%	6.50%	5.10%	5.32%	9.2%
4	CH Energy	52.40	2.16	4.12%	2.20	3.25	32.31%	35.50	9.15%	2.86%	N/A	3.00%	5.10%	3.69%	7.8%
5	Cent. Vermont P.S.	22.37	0.92	4.11%	0.92	1.60	42.50%	19.65	8.14%	3.46%	N/A	10.00%	5.10%	6.19%	10.3%
6	Consolidated Edison	47.96	2.32	4.84%	2.38	3.05	21.97%	33.65	9.06%	1.99%	3.70%	2.00%	5.10%	3.20%	8.0%
7	DTE Enrgy	46.06	2.14	4.65%	2.32	3.50	33.71%	36.25	9.66%	3.26%	4.30%	3.00%	5.10%	3.91%	8.6%
8	Duquesne Light	19.89	1.00	5.03%	1.00	1.50	33.33%	11.00	13.64%	4.55%	N/A	5.00%	5.10%	4.88%	9.9%
9	Empire District	23.70	1.28	5.40%	1.28	1.75	26.86%	17.00	10.29%	2.76%	N/A	9.50%	5.10%	5.79%	11.2%
10	Energy East Corp.	24.48	1.21	4.94%	1.40	2.00	30.00%	21.25	9.41%	2.82%	4.50%	4.00%	5.10%	4.11%	9.0%
11	Green Mountain	33.74	1.18	3.50%	1.54	2.55	39.61%	25.35	10.06%	3.98%	N/A	3.50%	5.10%	4.19%	7.7%
12	Hawaiian Electric	27.41	1.24	4.52%	1.24	1.75	29.14%	17.00	10.29%	3.00%	6.50%	3.00%	5.10%	4.40%	8.9%
13	MGE Energy	34.19	1.40	4.09%	1.44	2.45	41.22%	18.95	12.93%	5.33%	N/A	6.00%	5.10%	5.48%	9.6%
14	NiSource Inc.	23.58	0.92	3.90%	1.00	1.75	42.86%	21.00	8.33%	3.57%	3.30%	3.50%	5.10%	3.87%	7.8%
15	Northeast Utilities	26.32	0.78	2.96%	0.93	1.70	45.29%	19.55	8.70%	3.94%	8.70%	8.50%	5.10%	6.56%	9.5%
16	NSTAR	34.79	1.33	3.82%	1.65	2.75	40.00%	19.00	14.47%	5.79%	5.80%	7.50%	5.10%	6.05%	9.9%
17	Pinnacle West Capital	48.41	2.13	4.40%	2.43	3.70	34.32%	41.05	9.01%	3.09%	6.80%	7.00%	5.10%	5.50%	9.9%
18	PPL Corporation	35.07	1.20	3.42%	1.80	3.50	48.57%	17.00	20.59%	10.00%	9.20%	11.00%	5.10%	8.83%	12.2%
19	Progress Energy	47.01	2.46	5.23%	2.52	2.90	13.10%	33.95	8.54%	1.12%	3.60%	N/A	5.10%	3.27%	8.5%
20	Puget Energy, Inc.	24.31	1.00	4.11%	1.10	1.75	37.14%	21.25	8.24%	3.06%	7.00%	5.00%	5.10%	5.04%	9.2%
21	SCANA Corp.	41.02	1.72	4.19%	1.90	3.25	41.54%	29.25	11.11%	4.62%	4.70%	3.50%	5.10%	4.48%	8.7%
22	Southern Co.	36.13	1.60	4.43%	1.80	2.50	28.00%	18.25	13.70%	3.84%	4.70%	3.50%	5.10%	4.28%	8.7%
23	Vectren Corp.	28.32	1.27	4.48%	1.39	1.90	26.84%	17.40	10.82%	2.93%	4.00%	3.00%	5.10%	3.76%	8.2%
24	Xcel Energy, Inc.	22.31	0.93	4.17%	1.10	1.75	37.14%	16.00	10.94%	4.06%	4.30%	6.00%	5.10%	4.87%	9.0%
25	Group Average	34.70	1.48	4.26%	1.64	2.52	34.68%	24.18	10.78%	3.82%	5.28%	5.24%	5.10%	4.83%	9.1%
26	Group Median			4.18%											9.0%

Source:
Schedule SCH-15 Page 2 of 5.

Aquila Networks

Discounted Cash Flow Analysis Constant Growth DCF Model Long-Term GDP Growth

Line	Utility	Stock Price (P0) (15)	Next Year's Div (D1) (16)	Dividend Yield (17)	GDP (18)	ROE Col 17+18 (19)
1	Alliant Energy	38.37	1.27	3.31%	5.10%	8.41%
2	Ameren Corp.	53.97	2.54	4.71%	5.10%	9.81%
3	American Electric Power	40.95	1.59	3.88%	5.10%	8.98%
4	CH Energy	52.40	2.16	4.12%	5.10%	9.22%
5	Cent. Vermont P.S.	22.37	0.92	4.11%	5.10%	9.21%
6	Consolidated Edison	47.96	2.32	4.84%	5.10%	9.94%
7	DTE Enrgy	46.06	2.14	4.65%	5.10%	9.75%
8	Duquesne Light.:	19.89	1.00	5.03%	5.10%	10.13%
9	Empire District	23.70	1.28	5.40%	5.10%	10.50%
10	Energy East Corp.	24.48	1.21	4.94%	5.10%	10.04%
11	Green Mountain	33.74	1.18	3.50%	5.10%	8.60%
12	Hawaiian Electric	27.41	1.24	4.52%	5.10%	9.62%
13	MGE Energy	34.19	1.40	4.09%	5.10%	9.19%
14	NISource Inc.	23.58	0.92	3.90%	5.10%	9.00%
15	Northeast Utilities	26.32	0.78	2.96%	5.10%	8.06%
16	NSTAR	34.79	1.33	3.82%	5.10%	8.92%
17	Pinnacle West Capital	48.41	2.13	4.40%	5.10%	9.50%
18	PPL Corporation	35.07	1.20	3.42%	5.10%	8.52%
19	Progress Energy	47.01	2.46	5.23%	5.10%	10.33%
20	Puget Energy, Inc.	24.31	1.00	4.11%	5.10%	9.21%
21	SCANA Corp.	41.02	1.72	4.19%	5.10%	9.29%
22	Southern Co.	36.13	1.60	4.43%	5.10%	9.53%
23	Vectren Corp.	28.32	1.27	4.48%	5.10%	9.58%
24	Xcel Energy, Inc.	22.31	0.93	4.17%	5.10%	9.27%
25	Group Average	34.70	1.48	4.26%	5.10%	9.4%
26	Group Median			4.18%		9.3%

Source:

Schedule SCH-15 Page 3 of 5.

Aquila Networks

Discounted Cash Flow Analysis Low Near-Term Growth Two-Stage Growth DCF Model

Line	Utility	Next Year's Div (D ₁) (20)	2010 DPS (21)	Annual Change to 2008 (22)	Stock Price (P0) (23)	Year 1 Div (24)	Year 2 Div (25)	Year 3 Div (26)	Year 4 Div (27)	Year 5 Div (28)	Year 5-150 Growth (29)	ROE = IRR (30)
1	Alliant Energy	1.27	1.57	10.00%	-38.37	1.27	1.37	1.47	1.57	1.65	5.10%	8.6%
2	Ameren Corp.	2.54	2.54	0.00%	-53.97	2.54	2.54	2.54	2.54	2.67	5.10%	9.2%
3	American Electric Power	1.59	2.00	13.67%	-40.95	1.59	1.73	1.86	2.00	2.10	5.10%	9.3%
4	CH Energy	2.16	2.20	1.33%	-52.4	2.16	2.17	2.19	2.20	2.31	5.10%	8.7%
5	Cent. Vermont P.S.	0.92	0.92	0.00%	-22.37	0.92	0.92	0.92	0.92	0.97	5.10%	8.7%
6	Consolidated Edison	2.32	2.38	2.00%	-47.96	2.32	2.34	2.36	2.38	2.50	5.10%	9.4%
7	DTE Enrgy	2.14	2.32	6.00%	-46.06	2.14	2.20	2.26	2.32	2.44	5.10%	9.5%
8	Duquesne Light	1	1.00	0.00%	-19.89	1.00	1.00	1.00	1.00	1.05	5.10%	9.5%
9	Empire District	1.28	1.28	0.00%	-23.7	1.28	1.28	1.28	1.28	1.35	5.10%	9.8%
10	Energy East Corp.	1.21	1.40	6.33%	-24.48	1.21	1.27	1.34	1.40	1.47	5.10%	10.0%
11	Green Mountain	1.18	1.54	12.00%	-33.74	1.18	1.30	1.42	1.54	1.62	5.10%	9.0%
12	Hawaiian Electric	1.24	1.24	0.00%	-27.41	1.24	1.24	1.24	1.24	1.30	5.10%	9.0%
13	MGE Energy	1.4	1.44	1.33%	-34.19	1.40	1.41	1.43	1.44	1.51	5.10%	8.7%
14	NiSource Inc.	0.92	1.00	2.67%	-23.58	0.92	0.95	0.97	1.00	1.05	5.10%	8.7%
15	Northeast Utilities	0.78	0.93	5.00%	-26.32	0.78	0.83	0.88	0.93	0.98	5.10%	8.1%
16	NSTAR	1.33	1.65	10.67%	-34.79	1.33	1.44	1.54	1.65	1.73	5.10%	9.2%
17	Pinnacle West Capital	2.13	2.43	10.00%	-48.41	2.13	2.23	2.33	2.43	2.55	5.10%	9.4%
18	PPL Corporation	1.2	1.80	20.00%	-35.07	1.20	1.40	1.60	1.80	1.89	5.10%	9.4%
19	Progress Energy	2.46	2.52	2.00%	-47.01	2.46	2.48	2.50	2.52	2.65	5.10%	9.8%
20	Puget Energy, Inc.	1	1.10	3.33%	-24.31	1.00	1.03	1.07	1.10	1.16	5.10%	9.0%
21	SCANA Corp.	1.72	1.90	6.00%	-41.02	1.72	1.78	1.84	1.90	2.00	5.10%	9.1%
22	Southern Co.	1.6	1.80	6.67%	-36.13	1.60	1.67	1.73	1.80	1.89	5.10%	9.4%
23	Vectren Corp.	1.27	1.39	4.00%	-28.32	1.27	1.31	1.35	1.39	1.46	5.10%	9.3%
24	Xcel Energy, Inc.	0.93	1.10	5.67%	-22.31	0.93	0.99	1.04	1.10	1.16	5.10%	9.3%
25	Group Average											9.2%
26	Group Median											9.2%

Source:
Schedule SCH-15 Page 4 of 5.

Aquila Networks

Embedded Cost of Debt Adjustment- MPS

<u>Assigned Debt</u>	<u>Repriced At</u>	<u>Effective Rate</u>	<u>MO Electric Assigned Debt</u>	<u>MO Electric Annual Interest</u>	<u>MO Electric Weighted Avg Cost of Debt</u>
30 Yr 8.27%, Due 11/15/21 Effective Rate 8.502%		8.502%	33,140,579	2,817,612	
15 Yr 8.2%, Due 1/15/07 Effective Rate 9.114%	6.54%	9.114%	1,198,595	78,388	
30 Yr 8.0%, Due 3/1/23 Effective Rate 8.129%		8.129%	24,493,301	1,991,060	
Sr 6.70%, Due 10/15/06 Effective Rate 6.745%		6.745%	0	0	
Wamego 96, Due 3/1/26 Effective Rate 3.404%		3.404%	7,300,000	248,492	
Environ Improve, Due 5/1/28 Effective Rate 3.701%		3.701%	5,000,000	185,050	
Sanwa Bank Loan, Due 12/9/09 Effective Rate 7.02%		7.020%	2,475,606	173,788	
Sr 11.875% (downgrade 14.875%), Due 7/1/12 Effective Rate 5.35% (10/01/04)		5.350%	108,063,961	5,781,422	
Sr 11.875% (downgrade 14.875%), Due 7/1/12 Effective Rate 6.05% (7/15/04)		6.050%	66,171,000	4,003,346	
Sr 11.875% (downgrade 14.875%), Due 7/1/12 Effective Rate 6.474% (6/26/06)		6.474%	101,965,118	6,601,222	
Sr 11.875% (downgrade 14.875%), Due 7/1/12 Effective Rate 5.848% (12/29/06)		5.848%	26,502,110	1,549,843	
Sr 7.625%, Due 11/15/09 Effective Rate 7.742%		7.742%	0	0	
Sr 7.95% (downgrade 9.95%), Due 2/1/11 Effective Rate 8.01%		8.010%	67,675,446	5,420,803	
Sr. 7.875% (QUIBS) Effective Rate 8.142%		8.142%	49,097,890	3,997,550	
Total			493,083,606	32,848,576	6.662%

Source:

Schedule RJW-1, Page 1, Revised.
Bold indicates repriced debt issuance.