

Exhibit No.:
Witness: Michael Gorman
Type of Exhibit: Rebuttal Testimony
Issue: Rate of Return, Depreciation
Sponsoring Federal Executive Agencies,
Party: 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)
rates for the service provided to customers) Case No. ER-2007-0004
in the Aquila Networks-MPS and Aquila)
Networks-L&P service areas)

Rebuttal Testimony and Schedules of

Michael Gorman

On behalf of

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

Project 8629
February 20, 2007



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

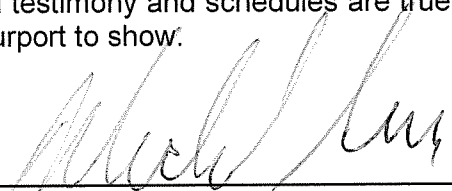
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STATE OF MISSOURI)
)
COUNTY OF ST. LOUIS) SS

Affidavit of Michael Gorman

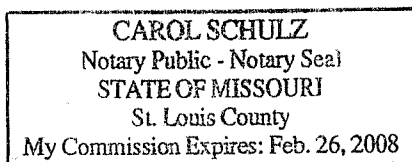
Michael Gorman, being first duly sworn, on his oath states:

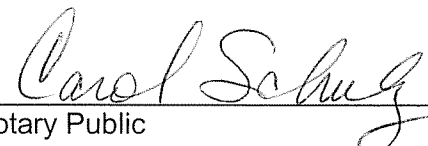
1. My name is Michael Gorman. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000. We have been retained by the Federal Executive Agencies, Sedalia Industrial Energy Users' Association and the St. Joe Industrial Group in this proceeding on their behalf.
2. Attached hereto and made a part hereof for all purposes are my rebuttal testimony and schedules 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 rebuttal testimony and schedules are true and correct and that they show the matters and things they purport to show.



Michael Gorman

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





Notary Public

My Commission Expires February 26, 2008.

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Rebuttal 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 THAT FILED DIRECT TESTIMONY IN**
5 **THIS PROCEEDING?**

6 A Yes, I am.

7 **Q WHAT IS THE SUBJECT OF YOUR REBUTTAL TESTIMONY?**

8 A I will respond to the rate of return testimony of Aquila witness Dr. Samuel Hadaway.

9 **Q PLEASE SUMMARIZE THE CONCLUSIONS IN YOUR REBUTTAL TESTIMONY.**

10 A Dr. Hadaway's proposed 11.5% return on equity for Aquila is excessive and
11 unnecessarily increases Aquila's claimed revenue requirement in this proceeding.
12 For the reasons set forth below, Dr. Hadaway's proposal for a 25 basis point return
13 on equity add-on to reflect his claim that Aquila is more risky than his proxy group is
14 without merit and should be rejected. Further, his return on equity estimate for Aquila

1 of 11.25%, without the return on equity add-on of 0.25%, is based on unreasonable
2 DCF and risk premium studies and significantly exceeds a fair return on equity for a
3 regulated utility company in today's very low capital cost market.

4 Indeed, Dr. Hadaway's 11.25% return on equity compares to industry average
5 authorized returns on equity of approximately 10% for electric utilities and 9.6% for
6 gas utilities in the third quarter of 2006.¹ As such, it is evident that Dr. Hadaway's
7 recommendations significantly exceed fair and reasonable returns on equity as
8 determined by other regulatory commissions around the country, and also exceed a
9 fair return based on reasonable applications of financial models, use of data that
10 reflects rational investment decisions, and the consensus of data published by
11 security analysts and economists.

12 As set forth below, use of more reasonable market-based data in Dr.
13 Hadaway's analysis, without his inappropriate return on equity add-on adjustments,
14 will show that a return on equity of 10%, as I recommended in my direct testimony, is
15 fair and reasonable.

16 **RESPONSE TO AQUILA WITNESS SAMUEL HADAWAY**

17 **Q WHAT RETURN ON COMMON EQUITY IS AQUILA PROPOSING FOR THIS**
18 **PROCEEDING?**

19 **A** Aquila is proposing to set rates based on a return on equity of 11.5%, which includes
20 an upward adjustment of 25 basis points. Dr. Hadaway estimates a fair return based
21 on his proxy group of electric utility companies of 11.25%. To that, he adds 25 basis
22 points to reflect his belief that Aquila has greater construction risk, and small
23 company risk adjustment. He notes that Aquila currently does not have a fuel

¹ Regulatory Research Focus, Regulatory Focus, October 5, 2006.

1 adjustment mechanism, which may expose it to greater risk associated with recovery
2 of fuel and purchased power energy charges. However, based on Missouri
3 legislation and the Company's proposal for an FAC in this proceeding, he states that
4 he has not included it in his return on equity increment. (Hadaway Direct Testimony
5 at 6)

6 **Q DO YOU HAVE ANY GENERAL COMMENTS CONCERNING DR. HADAWAY'S**
7 **OUTLOOK AND PRINCIPLES IN ESTABLISHING A FAIR RETURN ON EQUITY**
8 **FOR AQUILA IN THIS PROCEEDING?**

9 A Yes. At page 7 of his direct testimony, Dr. Hadaway takes issue with the constant
10 growth DCF model because he asserts that it depends on historically low dividend
11 levels and pessimistic growth forecasts. He believes that these near term
12 circumstances do not reasonably reflect his longer-term expectations for higher
13 capital costs. As such, he makes several adjustments to increase current capital
14 market estimates to reflect his belief that capital costs will increase in the long term.

15 **Q DO YOU BELIEVE IT IS REASONABLE FOR DR. HADAWAY TO INCREASE HIS**
16 **RETURN ON EQUITY ESTIMATES FOR HIS BELIEF THAT CAPITAL COSTS**
17 **WILL INCREASE OVER THE LONG-TERM?**

18 A No. This is unreasonable and a biased assessment for the following reasons.

- 19 1. Dr. Hadaway has not provided any corroborating evidence that any market
20 participant shares his expectation of increases in capital costs. Indeed,
21 over the next two years, consensus economists' forecasts are for long-
22 term Treasury bond yields to remain flat at about the current 5.0% level.
23 The consensus longer-term growth projections for long-term Treasury
24 bond yields indicate a yield of approximately 5.1%. See Exhibit MPG-1.
25 Hence, consensus economists are not projecting increases in capital costs
26 over the next two, five, and ten-year periods. Therefore, Dr. Hadaway is
27 alone in his belief that capital market costs will increase over time.

1 2. Return on equity estimates should be based on an assessment of the
2 market's capital cost requirements, not an assessment of the expected
3 return of the individual analyst. Dr. Hadaway's return on equity estimates
4 are based on his own belief and risk assessment. He is not attempting to
5 assess Aquila's cost of capital in the marketplace today. This is
6 significant, because Aquila will attract capital from the market, not from Dr.
7 Hadaway. Hence, it is appropriate to develop an authorized return on
8 equity based on the demands of the marketplace, not the individual
9 opinion of Dr. Hadaway.

10 **Q ON PAGE 4 OF HIS TESTIMONY, DR. HADAWAY ASSERTED THAT HE RELIED**
11 **ON CONSENSUS FORECASTS IN ARRIVING AT HIS BELIEF THAT INTEREST**
12 **RATES WILL INCREASE. PLEASE RESPOND.**

13 A Dr. Hadaway's consensus forecast is actually an individual forecast published by
14 S&P. S&P does not publish a consensus forecast, and it is incorrect for Dr. Hadaway
15 to assert otherwise. A true consensus forecast is published by the Blue Chip
16 Economic Forecast, which surveys economists, including those like S&P, and
17 publishes a consensus of economists projections of future economic indicators,
18 including interest rates, GDP growth, and inflation. Attached as Rebuttal Schedule
19 MPG-1 is a copy of the Blue Chip Financial Forecast, which indicates a consensus
20 forecast for interest rates to increase modestly over the two years. Despite this
21 modest increase, this consensus forecast nevertheless undermines the significant
22 increase projected by Dr. Hadaway.

23 **Q IS DR. HADAWAY'S PROPOSED 25 BASIS POINT RETURN ON EQUITY ADD-ON**
24 **FOR THE CONSTRUCTION RISK AND SMALL COMPANY SIZE RISK**
25 **REASONABLE?**

26 A No. Dr. Hadaway's view that Aquila's Missouri utility construction risk is higher than
27 those of his proxy group is inconsistent with S&P's specific assessment of Aquila's

1 Missouri utility operations. As mentioned in my direct testimony, S&P noted Missouri
2 utility operations' construction risk is moderate and declining, based on favorable
3 regulatory treatment in Missouri.

4 Second, small company risk is part of a company's total risk. Hence, selecting
5 companies with minimum investment grade bond ratings, and higher (more risky)
6 than integrated electric utility average business profile scores of 6, as Aquila has
7 done, reflects the higher operating risk attributable to small utility operations. It is
8 redundant and unnecessary to add an equity risk premium to a proxy group that
9 already reflects the higher operating risk associated with small company operations.

10 **Q ARE YOU SAYING THAT THE PROXY GROUP THAT YOU HAVE USED TO**
11 **ESTIMATE AQUILA'S RETURN ON EQUITY IN THIS CASE IS BASED ON**
12 **COMPANIES OF SIMILAR SIZE TO AQUILA?**

13 **A** No. Rather, I have selected companies that are similar in total investment risk to
14 Aquila. Part of Aquila's investment risk is its small size. By selecting companies that
15 have similar investment risk to Aquila, my proxy group can be used to estimate a fair
16 rate of return to compensate investors in utility companies with Aquila's investment
17 risk characteristics. Again, and importantly, Aquila's investment risk characteristics
18 include the increased risks that are attributable to the size of its operations, access to
19 capital, and therefore fairly reflects this investment risk in my recommended return on
20 equity.

21 **Q HOW WOULD A COMPANY'S SIZE IMPACT ITS RISK?**

22 **A** Normally, a company's size would impact its operating risk in the following ways:

- 23 1. Small companies typically have less ability to attract qualified management
24 pools.

1 2. Small companies usually do not have the economies of scale to minimize
2 operating expenses by spreading expertise over a larger customer base and
3 buying materials and supplies in larger quantities.

4 3. Small companies do not have the geographic diversification to mitigate sales
5 variations caused by weather and local economic cycles.

6 **Q HOW WERE YOU ABLE TO SELECT A COMPARABLE GROUP THAT**
7 **ENCAPSULATED AQUILA'S SMALL COMPANY RISK IN ESTIMATING A FAIR**
8 **RETURN FOR AQUILA IN THIS CASE?**

9 A These small company risk factors certainly are considered by credit rating analysts
10 and security analysts in assessing a utility's investment risk and valuation. Hence,
11 when selecting a group of comparable risk companies, if one relies on a group of
12 companies with bond ratings that are comparable to the proxy company and business
13 profile scores in particular, that reasonably compare to the utility's business profile
14 score, then the proxy group itself would reflect these risk factors.

15 As such it is unreasonable and would be redundant to add an equity risk
16 premium to a proxy group return if that proxy group already reasonably captures
17 Aquila's total investment risk. For example, Aquila's small company risk can be offset
18 by differences in other risk elements. As such, focusing on a single aspect of
19 investment risk as Dr. Hadaway proposes, rather than reviewing proxy groups on the
20 basis of total investment risk, is inappropriate and produces unreasonable results.

21 Since my proxy group and Dr. Hadaway's proxy group reasonably emulate an
22 investment grade bond rating, with a higher than average integrated electric utility
23 business profile, the proxy group reasonably captures Aquila's construction risk, small
24 size risk, and all other risk factors. As such, there is no need to add an equity risk
25 premium to the return on equity estimated from this proxy group.

1 **Q DO DR. HADAWAY'S METHODOLOGIES SUPPORT HIS 11.25% RETURN ON**
2 **EQUITY FOR HIS PROXY GROUP?**

3 A No. As discussed below, an appropriate reflection of current market data in Dr.
4 Hadaway's own analyses would produce model results that support a return on equity
5 of 10.0%. This is discussed in more detail below.

6 **Q PLEASE DESCRIBE DR. HADAWAY'S METHODOLOGY SUPPORTING HIS**
7 **RETURN ON COMMON EQUITY.**

8 A Dr. Hadaway develops his return on common equity by conducting three versions of
9 the Discounted Cash Flow analysis and a utility risk premium analysis, and evaluating
10 risk premium analyses conducted by Ibbotson & Associates and a study published by
11 Harris & Marston ("H&M"). The results of Dr. Hadaway's ROE analysis are shown at
12 Page 46 of his direct testimony. I have summarized Dr. Hadaway's results below in
13 Table 1 under Column 1. Under Column 2, I show the results of Dr. Hadaway's
14 analyses adjusted for updated data and more reasonable application of the models.

15 As shown below in Table 1, using updated information, more reasonable
16 estimates of gross domestic product growth, and a better proxy of estimates of a risk
17 adjusted equity risk premium appropriate for Aquila, Dr. Hadaway's analyses would
18 support a return on equity for Aquila in the range of 9.7% to 10.0%. Each of Dr.
19 Hadaway's cost of equity models will be discussed below.

TABLE 1		
<u>Summary of Hadaway's ROE Estimate</u>		
<u>Description</u>	<u>Hadaway Results</u> (1)	<u>Adjusted Hadaway Results</u> (2)
Constant Growth DCF (Traditional)	10.0% - 10.1%	9.7%
Constant Growth (GDP Growth)	11.3% - 11.4%	9.9%
Two-Stage Growth DCF	11.0%	9.7%
Estimated DCF	<u>11.0% - 11.4%</u>	<u>9.8%</u>
Risk Premium Utility	11.05%	9.8%
Ibbotson Risk Premium	11.35%	9.5%
Harris-Marston Risk Premium	11.98%	10.0%
Average		9.8%
Source: Hadaway Direct at 46.		

1 **Q PLEASE DESCRIBE DR. HADAWAY'S CONSTANT GROWTH DCF ANALYSIS.**

2 A Dr. Hadaway's constant growth DCF analysis is shown on his Schedule SCH-9, Page
3 2 of 5. As shown on that schedule, Dr. Hadaway's constant growth DCF analysis is
4 based on a recent price and an average of three growth rates: (1) Zacks; (2) Value
5 Line; and (3) Dr. Hadaway's estimate of GDP growth.

6 **Q IN WHAT WAY DID DR. HADAWAY OVERSTATE HIS CONSTANT GROWTH DCF**
7 **ANALYSIS?**

8 A Dr. Hadaway used a GDP growth rate of 6.6% as one of three growth rates. He
9 states that the GDP growth rate is based on the achieved GDP growth over the last
10 10, 20, 30 and 40-year periods. Dr. Hadaway's projected GDP growth rate is
11 unreasonable. Historical GDP growth over the last 20 and 40-year periods was
12 strongly influenced by the actual inflation rate experienced over that time period.

Projected GDP inflation is much lower than the historical inflation used by Dr. Hadaway in his GDP estimate. A comparison of Dr. Hadaway's historic and current economists' projections of GDP growth in the next five and ten years is shown below in Table 2. As evident in the table below, Dr. Hadaway's nominal GDP inflation factor of 6.6% reflects real GDP of 3.2% and an inflation GDP of 3.3%. Current economists' projections of nominal GDP include real GDP and GDP inflation expectations over the next five and ten years of 3.0%, and 2.1%, respectively.

As is clearly evident in the table below, Dr. Hadaway's historical GDP reflects historical inflation, which is much higher than, and not representative of, expected forward-looking inflation.

TABLE 2			
<u>GDP Projections</u>			
	<u>GDP Inflation</u>	<u>Real GDP</u>	<u>Nominal GDP</u>
Hadaway	3.3%	3.2%	6.6%
Current 5-Year Projection	2.1%	3.0%	5.1%
Current 10-Year Projection	2.1%	3.0%	5.1%

Source: Blue Chip Economic Forecast, October 10, 2006, and review of economic analyses. Exhibit MPG-1

Dr. Hadaway's 6.6% nominal GDP growth is not reflective of consensus market participant expectations.

Q HOW WOULD DR. HADAWAY'S DCF ANALYSES CHANGE IF A MARKET-BASED GDP GROWTH RATE IS INCLUDED IN HIS ANALYSIS?

A As shown on my Rebuttal Schedule MPG-2, Page 1, I updated Dr. Hadaway's DCF analyses using a GDP growth rate of 5.1%. This is the consensus five-year projected

1 growth rate to the GDP. Using this consensus projected GDP growth rate reduces
2 his constant growth DCF result from 10.1% to 9.7%.

3 Using a GDP growth rate of 5.1% would reduce his long-term GDP growth
4 rate from 11.4% to 9.9% as shown on Page 2 of my Rebuttal Schedule MPG-2, and
5 his two-stage growth DCF model from 11.0% to 9.7% as shown on Page 3 of my
6 Rebuttal Schedule MPG-2.

7 **Q WITH THESE ADJUSTMENTS, WHAT RETURN ON EQUITY WOULD DR.**
8 **HADAWAY'S DCF MODELS SUGGEST IS A FAIR RETURN ON EQUITY FOR**
9 **AQUILA IN THIS PROCEEDING?**

10 A Reflecting a consensus economists GDP growth forecast would produce an average
11 DCF result using Dr. Hadaway's models of 9.8%, which supports my recommended
12 return on equity for Aquila in this proceeding of 10.0%.

13 **Q PLEASE DESCRIBE DR. HADAWAY'S UTILITY RISK PREMIUM ANALYSIS.**

14 A Dr. Hadaway's utility bond yield versus authorized return on common equity risk
15 premium is shown on his Schedule SCH-10, Page 1. As shown on this schedule, Dr.
16 Hadaway compares the contemporary Moody's average bond yield for utility
17 companies and the authorized regulatory commission return on common equity over
18 the period 1980 through 2005. Based on this analysis, Dr. Hadaway estimates an
19 average indicated equity risk premium over contemporary utility bond yields of 3.09%.

20 Dr. Hadaway then adjusts this average equity risk premium using a regression
21 analysis based on an expectation that there is an ongoing inverse relationship
22 between interest rates and equity risk premiums. Based on this regression analysis,
23 Dr. Hadaway increases his equity risk premium from 3.09%, as reflected in his

1 analysis, up to 4.20%. He then adds this inflated equity risk premium to a projected
2 “Baa” bond yield of 6.85% to produce a return on equity of 11.05% for Aquila.

3 **Q IS DR. HADAWAY’S UTILITY BOND RISK PREMIUM ANALYSIS REASONABLE?**

4 A No. Dr. Hadaway has unreasonably attempted to create a forward-looking specific
5 risk premium point estimate using this historical data. This is not reasonable because
6 the data and model are not this precise. For example, interest rate volatility and
7 inflation uncertainty in the 1980s and early 1990s is not reasonably representative of
8 interest rate volatility and inflation outlooks currently and going forward. Inflation
9 volatility or uncertainty over this historical time period had an impact on utility bond
10 yields, valuations and equity risk premiums. This inflation volatility, however, is not
11 characteristic of the current economy or capital markets.

12 **Q IS IT APPROPRIATE TO USE ONLY FORECASTED INTEREST RATES IN A RISK**
13 **PREMIUM ANALYSIS AS DR. HADAWAY HAS DONE?**

14 A No. As indicated above, the accuracy of projecting interest rates is highly
15 problematic. Indeed, while interest rates have been projected to increase over the
16 last five years, those increased interest rate projections have turned out to be not only
17 wrong, but also significantly inflated. In actuality, despite these projections of
18 increased rates, interest rates have either stayed flat or have declined. Accordingly,
19 Dr. Hadaway’s analysis should be performed based on current interest rates, with
20 some consideration given to the possibility of increased interest rates.

21 In significant contrast, Dr. Hadaway has completely ignored current real
22 interest rates observable today, and has relied only on his own estimate of a
23 projected interest rate. Also importantly, Dr. Hadaway’s projected interest rate is not

1 transparently developed in his testimony, and the accuracy is highly questionable.
2 Dr. Hadaway is projecting that interest rates on Baa-rated utility bonds will increase
3 from approximately 6.12% to 6.85%. This dramatic increase in interest rates is not
4 consistent with consensus economists' projected increases to interest rates as shown
5 on my Rebuttal Schedule MPG-1, and likely does not reflect overall market
6 expectations.

7 Further, as noted above, Dr. Hadaway is wrong that consensus economists
8 were projecting an increase in interest rates over the next two to five years. Indeed,
9 consensus projections of Treasury interest rates over the next two, five and ten years
10 indicate a relatively flat interest rate environment relative to today's interest rates (see
11 Rebuttal Schedule MPG-1). Hence, it is inappropriate for Dr. Hadaway to reflect an
12 approximately 70 basis point increase in the yield on Baa utility bond yields to
13 develop Aquila's return on equity in this proceeding.

14 **Q DOES DR. HADAWAY'S RISK PREMIUM ANALYSIS SUPPORT A RETURN ON**
15 **EQUITY OF 11.5% IN THIS PROCEEDING?**

16 A No. His equity risk premium estimate of 4.20% is overstated and he applies this
17 inflated premium to an inflated "Baa" rated utility bond yield. If Dr. Hadaway's inflated
18 equity risk premium were applied to the current cost of a Baa-rated utility bond of
19 6.12%, it would produce an indicated return on equity for Aquila of less than 10.3%.
20 However, as discussed in my direct testimony, since the spread between utility bond
21 yields and Treasury bond yields is currently relatively low, an average equity risk
22 premium of 3.1% based on Dr. Hadaway's study applied to a current Baa bond yield
23 of 6.12% would indicate a fair return on equity for Aquila of 9.2%. In any case, the
24 reasonable application of Dr. Hadaway's model, and observation of current real

1 capital market costs for utility companies, indicate a fair return on equity for Aquila in
2 the range of 9.2% to 10.3%, with a midpoint of 9.8%. This range supports my
3 recommended 10% return on equity for Aquila in this proceeding.

4 **Q DID DR. HADAWAY PERFORM ANY TESTS OF HIS RISK PREMIUM ANALYSIS**
5 **RESULTS?**

6 A Yes. Dr. Hadaway compared his utility risk premium analysis to studies performed by
7 Ibbotson & Associates and H&M. Dr. Hadaway states that Ibbotson & Associates
8 studied the return on common stocks versus corporate bonds for the period 1926
9 through 2005. The Ibbotson study found that the arithmetic mean risk premium was
10 6.1%, and the geometric mean return was 4.5%. He states that using the geometric
11 mean return and a debt cost of 4.5%, and his projected 6.85% Baa utility bond yield
12 would produce an indicated equity return of 11.35% for Aquila. (Hadaway Direct at
13 44-45).

14 Dr. Hadaway discusses the H&M study stating that it looked at the equity
15 premium over U.S. Government bonds of 6.47%, and the equity risk premium of
16 common stocks over corporate bonds to be 5.13%. Dr. Hadaway finds that the H&M
17 study would support an equity risk premium over an A-rated corporate debt of 11.98%
18 (6.85% debt cost and 5.13% risk premium). (*Id.* at 45)

19 **Q DO THE INDICATED RISK PREMIUM RESULTS FROM THE IBBOTSON &**
20 **ASSOCIATES AND H&M STUDIES SUPPORT A RETURN ON COMMON EQUITY**
21 **FOR AQUILA OF 11.35% AND 11.98% AS ESTIMATED BY DR. HADAWAY?**

22 A No. There are two flaws in this analysis. First, the Ibbotson & Associates and H&M
23 studies are based on common equity returns and equity risk premiums for the overall

1 market. Both of these studies are based on the returns for the S&P 500. Dr.
2 Hadaway did not, and cannot, show that the S&P 500 is risk comparable to Aquila's
3 as a regulated electric utility.

4 In fact, it is widely recognized that electric utility risk is considerably lower than
5 that of the overall market. This is evident by a review of the beta coefficients
6 measured by Value Line for utility companies, as illustrated on my Schedule MPG-13,
7 Page 1, to my direct testimony. As I noted in my direct testimony with respect to my
8 CAPM analysis, utility company stock market risk is approximately 80% of that of the
9 overall market. Hence, while the equity risk premiums derived from these two studies
10 may be appropriate for the overall market, they overstate significantly a reasonable
11 equity risk premium for a low risk regulated electric utility such as Aquila. Therefore,
12 Dr. Hadaway's use of the Ibbotson and H&M studies' equity risk premiums to produce
13 a return on common equity for Aquila is unreasonable and should be rejected.

14 Second, Dr. Hadaway claims that he is producing these return on equity
15 estimates based on an "A" bond yield. However, the 6.85% bond yield is that for a
16 "Baa" bond yield (Dr. Hadaway's Schedule 10, page 1). A bond yield of "A" would be
17 a lower yield than that of a "Baa" bond yield, and hence his return on equity estimates
18 from this model are overstated because of his improper use of utility bond yields.

19 Further, as noted above, Dr. Hadaway's projected bond yields are overstated
20 and out of sync with market expectations.

21 **Q CAN THE RISK PREMIUM STUDIES PUBLISHED BY IBBOTSON AND H&M BE**
22 **USED TO DEVELOP A COMMON EQUITY ESTIMATE FOR AQUILA?**

23 **A Only generally. By recognizing Aquila's much lower risk than that of the overall**
24 **market, the equity risk premiums developed by Ibbotson and H&M, of 4.5%, and**

1 5.13%, should be adjusted by a factor of approximately 80%. This 80% represents
2 the current estimate of a utility beta as published by the Value Line Investment
3 Survey. Using an 80% adjustment factor to reflect Aquila's lower than market risk,
4 these studies' equity risk premiums adjusted for the lower risk would be reduced to
5 3.6% (4.5% * 80%) in the case of Ibbotson, and 4.1% (5.13% * 80%) in the case of
6 H&M. Comparing a 3.6% and 4.1% equity risk premium to the current cost of "A"
7 rated electric utility bond of 5.7% would indicate a return on common equity of 9.5%
8 to 10.0%.

9 **Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

10 **A Yes.**

MPG:cs/8629/10526

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)	2009 DPS (4)	2009 EPS (5)	Retention Rate (B) (6)	2009 BVPS (7)	ROE (R) (8)	BxR Growth (9)	Zacks (10)	Value Line (11)	GDP (12)	Average Growth (13)	ROE (14)
1	Alliant Energy	32.58	1.25	3.84%	1.49	2.30	35.22%	25.70	8.95%	3.15%	4.00%	6.00%	5.10%	4.56%	8.4%
2	Ameren Corp.	49.75	2.54	5.11%	2.54	3.45	26.38%	36.35	9.49%	2.50%	6.00%	2.50%	5.10%	4.03%	9.1%
3	American Electric Power	34.10	1.60	4.69%	1.90	3.00	36.67%	28.25	10.62%	3.89%	3.00%	2.50%	5.10%	3.62%	8.3%
4	CH Energy	47.29	2.16	4.57%	2.20	3.25	32.31%	35.25	9.22%	2.98%	N/A	3.00%	5.10%	3.69%	8.3%
5	Cent. Vermont P.S.	19.94	0.92	4.61%	0.92	1.75	47.43%	18.95	9.23%	4.38%	N/A	11.50%	5.10%	6.99%	11.6%
6	Consolidated Edison	43.40	2.32	5.35%	2.38	3.20	25.63%	34.30	9.33%	2.39%	4.20%	3.00%	5.10%	3.67%	9.0%
7	DTE Energy	40.67	2.06	5.07%	2.10	4.25	50.59%	41.25	10.30%	5.21%	5.50%	6.50%	5.10%	5.58%	10.6%
8	Duquesne Light	16.65	1.00	6.01%	1.00	1.50	33.33%	10.60	14.15%	4.72%	N/A	5.00%	5.10%	4.94%	10.9%
9	Empire District	22.25	1.28	5.75%	1.28	1.50	14.67%	16.25	9.23%	1.35%	N/A	6.50%	5.10%	4.32%	10.1%
10	Energy East Corp.	24.11	1.24	5.14%	1.40	2.00	30.00%	21.25	9.41%	2.82%	4.50%	4.00%	5.10%	4.11%	9.2%
11	Green Mountain	28.49	1.24	4.35%	1.54	2.55	39.61%	24.75	10.30%	4.08%	N/A	3.50%	5.10%	4.23%	8.6%
12	Hawaiian Electric	26.67	1.24	4.65%	1.24	1.75	29.14%	17.00	10.29%	3.00%	5.20%	3.00%	5.10%	4.08%	8.7%
13	MGE Energy	31.47	1.39	4.42%	1.44	2.45	41.22%	19.05	12.86%	5.30%	N/A	6.00%	5.10%	5.47%	9.9%
14	NISource Inc.	20.81	0.92	4.42%	1.00	1.75	42.86%	21.50	8.14%	3.49%	3.30%	3.50%	5.10%	3.85%	8.3%
15	Northeast Utilities	19.69	0.76	3.86%	0.97	2.00	51.50%	19.00	10.53%	5.42%	8.70%	11.00%	5.10%	7.56%	11.4%
16	NSTAR	27.91	1.26	4.51%	1.50	2.50	40.00%	18.75	13.33%	5.33%	5.00%	6.00%	5.10%	5.36%	9.9%
17	Pinnacle West Capital	39.77	2.13	5.36%	2.43	3.55	31.55%	40.20	8.83%	2.79%	6.80%	6.00%	5.10%	5.17%	10.5%
18	PPL Corporation	29.82	1.20	4.02%	1.65	3.25	49.23%	17.75	18.31%	9.01%	8.30%	9.50%	5.10%	7.98%	12.0%
19	Progress Energy	43.18	2.50	5.79%	2.62	3.40	22.94%	36.65	9.28%	2.13%	3.80%	1.50%	5.10%	3.13%	8.9%
20	Puget Energy, Inc.	20.92	1.00	4.78%	1.10	1.75	37.14%	21.00	8.33%	3.10%	7.00%	5.00%	5.10%	5.05%	9.8%
21	SCANA Corp.	39.21	1.80	4.59%	2.10	3.50	40.00%	30.00	11.67%	4.67%	4.70%	4.50%	5.10%	4.74%	9.3%
22	Southern Co.	32.29	1.62	5.02%	1.88	2.75	31.64%	18.60	14.78%	4.68%	4.80%	5.00%	5.10%	4.89%	9.9%
23	Vectren Corp.	26.36	1.27	4.82%	1.39	2.05	32.20%	18.35	11.17%	3.60%	5.00%	4.00%	5.10%	4.42%	9.2%
24	Xcel Energy, Inc.	18.46	0.93	5.04%	1.10	1.75	37.14%	15.75	11.11%	4.13%	4.20%	6.00%	5.10%	4.86%	9.9%
25	Group Average	30.66	1.48	4.82%	1.63	2.55	35.77%	24.44	10.79%	3.92%	5.22%	5.21%	5.10%	4.85%	9.7%
26	Group Median			4.74%											9.6%

Source:

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Aquila Networks

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

<u>Line</u>	<u>Utility</u>	<u>Stock Price (P0)</u> (15)	<u>Next Year's Div (D1)</u> (16)	<u>Dividend Yield</u> (17)	<u>GDP</u> (18)	<u>ROE</u> Col 17+18 (19)
1	Alliant Energy	32.58	1.25	3.84%	5.10%	8.94%
2	Ameren Corp.	49.75	2.54	5.11%	5.10%	10.21%
3	American Electric Power	34.10	1.60	4.69%	5.10%	9.79%
4	CH Energy	47.29	2.16	4.57%	5.10%	9.67%
5	Cent. Vermont P.S.	19.94	0.92	4.61%	5.10%	9.71%
6	Consolidated Edison	43.40	2.32	5.35%	5.10%	10.45%
7	DTE Energy	40.67	2.06	5.07%	5.10%	10.17%
8	Duquesne Light	16.65	1.00	6.01%	5.10%	11.11%
9	Empire District	22.25	1.28	5.75%	5.10%	10.85%
10	Energy East Corp.	24.11	1.24	5.14%	5.10%	10.24%
11	Green Mountain	28.49	1.24	4.35%	5.10%	9.45%
12	Hawaiian Electric	26.67	1.24	4.65%	5.10%	9.75%
13	MGE Energy	31.47	1.39	4.42%	5.10%	9.52%
14	NiSource Inc.	20.81	0.92	4.42%	5.10%	9.52%
15	Northeast Utilities	19.69	0.76	3.86%	5.10%	8.96%
16	NSTAR	27.91	1.26	4.51%	5.10%	9.61%
17	Pinnacle West Capital	39.77	2.13	5.36%	5.10%	10.46%
18	PPL Corporation	29.82	1.20	4.02%	5.10%	9.12%
19	Progress Energy	43.18	2.50	5.79%	5.10%	10.89%
20	Puget Energy, Inc.	20.92	1.00	4.78%	5.10%	9.88%
21	SCANA Corp.	39.21	1.80	4.59%	5.10%	9.69%
22	Southern Co.	32.29	1.62	5.02%	5.10%	10.12%
23	Vectren Corp.	26.36	1.27	4.82%	5.10%	9.92%
24	Xcel Energy, Inc.	18.46	0.93	5.04%	5.10%	10.14%
25	Group Average	30.66	1.48	4.82%	5.10%	9.9%
26	Group Median			4.74%		9.8%

Source:

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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 (P ₀) (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	1.25	1.49	8.00%	-32.58	1.25	1.33	1.41	1.49	1.57	5.10%	9.0%
2	Ameren Corp.	2.54	2.54	0.00%	-49.75	2.54	2.54	2.54	2.54	2.67	5.10%	9.5%
3	American Electric Power	1.6	1.90	10.00%	-34.1	1.60	1.70	1.80	1.90	2.00	5.10%	9.9%
4	CH Energy	2.16	2.20	1.33%	-47.29	2.16	2.17	2.19	2.20	2.31	5.10%	9.1%
5	Cent. Vermont P.S.	0.92	0.92	0.00%	-19.94	0.92	0.92	0.92	0.92	0.97	5.10%	9.1%
6	Consolidated Edison	2.32	2.38	2.00%	-43.4	2.32	2.34	2.36	2.38	2.50	5.10%	9.9%
7	DTE Energy	2.06	2.10	1.33%	-40.67	2.06	2.07	2.09	2.10	2.21	5.10%	9.6%
8	Duquesne Light	1	1.00	0.00%	-16.65	1.00	1.00	1.00	1.00	1.05	5.10%	10.3%
9	Empire District	1.28	1.28	0.00%	-22.25	1.28	1.28	1.28	1.28	1.35	5.10%	10.1%
10	Energy East Corp.	1.24	1.40	5.33%	-24.11	1.24	1.29	1.35	1.40	1.47	5.10%	10.1%
11	Green Mountain	1.24	1.54	10.00%	-28.49	1.24	1.34	1.44	1.54	1.62	5.10%	9.7%
12	Hawaiian Electric	1.24	1.24	0.00%	-26.67	1.24	1.24	1.24	1.24	1.30	5.10%	9.1%
13	MGE Energy	1.39	1.44	1.67%	-31.47	1.39	1.41	1.42	1.44	1.51	5.10%	9.1%
14	NiSource Inc.	0.92	1.00	2.67%	-20.81	0.92	0.95	0.97	1.00	1.05	5.10%	9.2%
15	Northeast Utilities	0.76	0.97	7.00%	-19.69	0.76	0.83	0.90	0.97	1.02	5.10%	9.3%
16	NSTAR	1.26	1.50	8.00%	-27.91	1.26	1.34	1.42	1.50	1.58	5.10%	9.7%
17	Pinnacle West Capital	2.13	2.43	10.00%	-39.77	2.13	2.23	2.33	2.43	2.55	5.10%	10.4%
18	PPL Corporation	1.2	1.65	15.00%	-29.82	1.20	1.35	1.50	1.65	1.73	5.10%	9.8%
19	Progress Energy	2.5	2.62	4.00%	-43.18	2.50	2.54	2.58	2.62	2.75	5.10%	10.4%
20	Puget Energy, Inc.	1	1.10	3.33%	-20.92	1.00	1.03	1.07	1.10	1.16	5.10%	9.6%
21	SCANA Corp.	1.8	2.10	10.00%	-39.21	1.80	1.90	2.00	2.10	2.21	5.10%	9.7%
22	Southern Co.	1.62	1.88	8.67%	-32.29	1.62	1.71	1.79	1.88	1.98	5.10%	10.1%
23	Vectren Corp.	1.27	1.39	4.00%	-26.36	1.27	1.31	1.35	1.39	1.46	5.10%	9.7%
24	Xcel Energy, Inc.	0.93	1.10	5.67%	-18.46	0.93	0.99	1.04	1.10	1.16	5.10%	10.2%
25	Group Average											9.7%
26	Group Median											9.7%

Source:

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