Exhibit No.: Witness: Type of Exhibit: Issue: Sponsoring Party:

Michael Gorman Rebuttal Testimony Rate of Return, Depreciation Federal Executive Agencies, Sedalia Industrial Energy Users' Association and St. Joe Industrial Group ER-2007-0004

Case No.:

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 in the Aquila Networks-MPS and Aquila Networks-L&P service areas

Case No. ER-2007-0004

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



ST. LOUIS, MO 63141-2000

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Case No. ER-2007-0004

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

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.

CAROL SCHULZ Notary Public - Notary Sea STATE OF MISSOURI St. Louis County My Commission Expires: Feb. 26, 2008

Schul

My Commission Expires February 26, 2008.

BRUBAKER & ASSOCIATES, INC.

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 in the Aquila Networks-MPS and Aquila Networks-L&P service areas

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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.

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

of 11.25%, without the return on equity add-on of 0.25%, is based on unreasonable
 DCF and risk premium studies and significantly exceeds a fair return on equity for a
 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 gas utilities in the third guarter of 2006.¹ As such, it is evident that Dr. Hadaway's 6 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.

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

16 **RESPONSE TO AQUILA WITNESS SAMUEL HADAWAY**

17QWHAT RETURN ON COMMON EQUITY IS AQUILA PROPOSING FOR THIS18PROCEEDING?

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

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

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

Q DO YOU HAVE ANY GENERAL COMMENTS CONCERNING DR. HADAWAY'S OUTLOOK AND PRINCIPLES IN ESTABLISHING A FAIR RETURN ON EQUITY 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?

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- A No. This is unreasonable and a biased assessment for the following reasons.
- Dr. Hadaway has not provided any corroborating evidence that any market participant shares his expectation of increases in capital costs. Indeed, over the next two years, consensus economists' forecasts are for longterm Treasury bond yields to remain flat at about the current 5.0% level. The consensus longer-term growth projections for long-term Treasury bond yields indicate a yield of approximately 5.1%. See Exhibit MPG-1. Hence, consensus economists are not projecting increases in capital costs over the next two, five, and ten-year periods. Therefore, Dr. Hadaway is 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 are based on his own belief and risk assessment. He is not attempting to 4 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 equity based on the demands of the marketplace, not the individual 8 9 opinion of Dr. Hadaway.
- 10QON PAGE 4 OF HIS TESTIMONY, DR. HADAWAY ASSERTED THAT HE RELIED11ON CONSENSUS FORECASTS IN ARRIVING AT HIS BELIEF THAT INTEREST12RATES WILL INCREASE. PLEASE RESPOND.
- 13 Dr. Hadaway's consensus forecast is actually an individual forecast published by Α 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, including interest rates, GDP growth, and inflation. Attached as Rebuttal Schedule 18 19 MPG-1 is a copy of the Blue Chip Financial Forecast, which indicates a **consensus** forecast for interest rates to increase modestly over the two years. Despite this 20 21 modest increase, this consensus forecast nevertheless undermines the significant 22 increase projected by Dr. Hadaway.

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

A No. Dr. Hadaway's view that Aquila's Missouri utility construction risk is higher than those of his proxy group is inconsistent with S&P's specific assessment of Aquila's Missouri utility operations. As mentioned in my direct testimony, S&P noted Missouri
 utility operations' construction risk is moderate and declining, based on favorable
 regulatory treatment in Missouri.

Second, small company risk is part of a company's total risk. Hence, selecting companies with minimum investment grade bond ratings, and higher (more risky) than integrated electric utility average business profile scores of 6, as Aquila has done, reflects the higher operating risk attributable to small utility operations. It is redundant and unnecessary to add an equity risk premium to a proxy group that 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 No. Rather, I have selected companies that are similar in total investment risk to А 14 Aguila. Part of Aguila'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, Aguila'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?

- A Normally, a company's size would impact its operating risk in the following ways:
- 231.Small companies typically have less ability to attract qualified management24pools.

- 12.Small companies usually do not have the economies of scale to minimize2operating expenses by spreading expertise over a larger customer base and3buying materials and supplies in larger quantities.
- 4 5
- 3. Small companies do not have the geographic diversification to mitigate sales 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.

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

Since my proxy group and Dr. Hadaway's proxy group reasonably emulate an investment grade bond rating, with a higher than average integrated electric utility business profile, the proxy group reasonably captures Aquila's construction risk, small size risk, and all other risk factors. As such, there is no need to add an equity risk 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?

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

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

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

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

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

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

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

A Dr. Hadaway used a GDP growth rate of 6.6% as one of three growth rates. He states that the GDP growth rate is based on the achieved GDP growth over the last 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.

8 As is clearly evident in the table below, Dr. Hadaway's historical GDP reflects 9 historical inflation, which is much higher than, and not representative of, expected 10 forward-looking inflation.

	TABLE 2										
GDP Projections											
	GDP Inflation	Real GDP	Nominal <u>GDP</u>								
Hadaway	3.3%	3.2%	6.6%								
Current 5-Year Projection Current 10-Year Projection	2.1% 2.1%	3.0% 3.0%	5.1% 5.1%								
Source: Blue Chip Economic Forecast, October 10, 2006, and review of economic analyses. Exhibit MPG-1											

11 Dr. Hadaway's 6.6% nominal GDP growth is not reflective of consensus

12 market participant expectations.

13 Q HOW WOULD DR. HADAWAY'S DCF ANALYSES CHANGE IF A MARKET-

14 BASED GDP GROWTH RATE IS INCLUDED IN HIS ANALYSIS?

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

growth rate to the GDP. Using this consensus projected GDP growth rate reduces
 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.

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

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

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

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

2

analysis, up to 4.20%. He then adds this inflated equity risk premium to a projected "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 А 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 А As indicated above, the accuracy of projecting interest rates is highly No. 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.

In significant contrast, Dr. Hadaway has completely ignored current real interest rates observable today, and has relied only on his own estimate of a projected interest rate. Also importantly, Dr. Hadaway's projected interest rate is not transparently developed in his testimony, and the accuracy is highly questionable.
 Dr. Hadaway is projecting that interest rates on Baa-rated utility bonds will increase
 from approximately 6.12% to 6.85%. This dramatic increase in interest rates is not
 consistent with consensus economists' projected increases to interest rates as shown
 on my Rebuttal Schedule MPG-1, and likely does not reflect overall market
 expectations.

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

> Michael Gorman Rebuttal Page 12

capital market costs for utility companies, indicate a fair return on equity for Aquila in
 the range of 9.2% to 10.3%, with a midpoint of 9.8%. This range supports my
 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 Yes. Dr. Hadaway compared his utility risk premium analysis to studies performed by А 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 lbbotson 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).

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

19QDO THE INDICATED RISK PREMIUM RESULTS FROM THE IBBOTSON &20ASSOCIATES AND H&M STUDIES SUPPORT A RETURN ON COMMON EQUITY21FOR AQUILA OF 11.35% AND 11.98% AS ESTIMATED BY DR. HADAWAY?

A No. There are two flaws in this analysis. First, the lbbotson & Associates and H&M
 studies are based on common equity returns and equity risk premiums for the <u>overall</u>

<u>market</u>. Both of these studies are based on the returns for the S&P 500. Dr.
 Hadaway did not, and cannot, show that the S&P 500 is risk comparable to Aquila's
 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 lbbotson and H&M studies' equity risk premiums to produce 13 a return on common equity for Aguila is unreasonable and should be rejected.

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

Further, as noted above, Dr. Hadaway's projected bond yields are overstatedand 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?

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

1 5.13%, should be adjusted by a factor of approximately 80%. This 80% represents the current estimate of a utility beta as published by the Value Line Investment 2 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 H&M. Comparing a 3.6% and 4.1% equity risk premium to the current cost of "A" 6 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

Long-Range Consensus U.S. Economic Projections

II. For comparison, this table includes some of the long-range consensus projections found on the preceding page, plus the latest long-range projections from the Bush Administration¹ and the Congressional Budget Office $(CBO)^2$.

				Five-Year	· Averages								
		<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	2008-12	<u>2013-17</u>					
ECONOMIC VARIABLE		Percent Change, Full Year-Over-Prior Year											
I. Real GDP	CONSENSUS	3.1	3.1	3.0	2.9	3.0	3.0	3.0					
(chained, 2000 dollars)	Bush Admin. ^{1,3}	3.2	3.1	3.1	3.0	na	3.1	na					
	CBO ^{2,3}	3.1	3.2	3.0	2.8	2.7	3.0	2.6					
2. GDP Chained Price Index	CONSENSUS	2.1	2.1	2.1	2.1	2.1	2.1	2.1					
	Bush Admin. ^{1,3}	2.2	2.1	2.1	2.1	na	2.1	na					
	CBO ^{2,3}	1.8	1.8	1.8	1.8	1.8	1.8	1.8					
3. Nominal GDP	CONSENSUS	5.2	5.3	5.1	5.1	5.1	5.2	5.1					
(current dollars)	Bush Admin. ^{1,3}	5.5	5.3	5.3	5.2	na	5.3	na					
	CBO ^{2,3}	4.9	5.0	4.9	4.6	4.6	4.8	4.5					
Consumer Price Index	CONSENSUS	2.3	2.3	2.3	2.3	2.4	2.3	2.4					
(for all urban consumers)	Bush Admin. ^{1,3}	2.4	2.4	2.5	2.5	na	2.5	na					
	CBO ^{2,3}	2.2	2.2	2.2	2.2	2.2	2.2	2.2					
			•	Annual Average									
5. Treasury Bills, 3-Month	CONSENSUS	4.6	4.7	4.5	4.5	4.6	4.6	4.5					
(percent per annum)	Bush Admin. ^{1,3}	4.4	4.4	4.3	4.3	na	4.4	na					
	CBO ^{2,3}	4.8	4.5	4.4	4.4	4.4	4.5	4.4					
б. Treasury Notes, 10-Year	CONSENSUS	5.2	5.2	5.2	5.2	5.3	5.2	5.3					
(yield per annum)	Bush Admin. ^{1,3}	5.4	5.5	5.5	5.5	na	5.5	na					
	CBO ^{2,3}	5.3	5.2	5.2	5.2	5.2	5.2	5.2					
7. Unemployment Rate	CONSENSUS	4.9	4.9	4.9	4.9	4.9	4.9	4.9					
(% of civilian labor force)	Bush Admin. ^{1,3}	4.9	4.9	4.9	4.9	na	4.9	na					
	CBO ^{2,3}	4.9	5.0	5.0	5.0	5.0	5.0	5.0					

III. In this table, we compare the results of our most recent survey with those of our survey in March 2006⁴.

				Five-Year	Averages			
		<u>2008</u>	<u>2009</u>	<u>2010</u>	2011	<u>2012</u>	2008-12	2013-17
ECONOMIC VARIABLE		1999 (1999) 1999 (1999)	Pere	cent Change	e, Full Year	-Over-Prio	r Year	
1. Real GDP	October Consensus	3.1	3.1	3.0	2.9	3.0	3.0	3.0
(chained, 2000 dollars)	March Consensus	3.1	3.1	3.1	2.9	3.0	3.1	3.0
2. GDP Chained Price Index	October Consensus	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	March Consensus	2.1	2.1	2.1	2.1	2.1	2.1	2.1
3. Nominal GDP	October Consensus	5.2	5.3	5.1	5.1	5.1	5.2	5.1
(current dollars)	March Consensus	5.3	5.3	5.2	5.1	5.2	5.2	5.2
4. Consumer Price Index	October Consensus	2.3	2.3	2.3	2.3	2.4	2.3	2.4
(for all urban consumers)	March Consensus	2.3	2.3	2.3	2.3	2.3	2.3	2.4
	[Aı	inual Avei	rage		
5. Treasury Bills, 3-Month	October Consensus	4.6	4.7	4.5	4.5	4.6	4.6	4.5
(percent per annum)	March Consensus	4.7	4.7	4.7	4.5	4.6	4.6	4.6
6. Treasury Notes, 10-Year	October Consensus	5.2	5.2	5.2	5.2	5.3	5.2	5.3
(yield per annum)	March Consensus	5.4	5.5	5.5	5.4	5.5	5.5	5.5
7. Unemployment Rate	October Consensus	4.9	4.9	4.9	4.9	4.9	4,9	4.9
(% of civilian labor force)	March Consensus	4.8	4.8	4.9	4.9	5.0	4.9	4.9

¹*Mid-Session Review, Budget of the United States Government, Fiscal Year 2007,* Office of Management and Budget, July 2006. ²*The Budget and Economic Outlook: An Update;* Congressional Budget Office, August 2006. ³The Bush Administration's forecast only extends through 2011, so averages for the 2008-2012 period are based on the forecast for the four-year period 2008-2012. CBO's forecast only extends through 2016, so averages for the 2013-2017 period are based on the forecast for the four-year period 2013-2016. ⁴*Blue Chip Economic Indicators, March* 10, 2006.

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Discounted Cash Flow Analysis Traditional Constant Growth DCF Model

<u>ROE</u> (14)	8.4%	9.1%	8.3%	8.3%	0/0/1	10.6%	10.9%	10.1%	9.2%	8.6%	8.7%	%66	8.3%	11.4%	%66	10.5%	12.0%	8.9%	8%	%2.6	0.0%	% 2%	9.9%		9.7% 9.6%	
Average <u>Growth</u> (13)	4.56%	4.03%	3.62%	3.69%	3.67%	5.58%	4.94%	4.32%	4.11%	4.23%	4.08%	5.47%	3.85%	7.56%	5.36%	5.17%	7.98%	3.13%	5.05%	4 74%	4 89%	4.42%	4.86%		4.85%	
<u>GDP</u> (12)	5.10%	5.10%	5.10%	5.10% F 10%	5 10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5 10%	5.10%	5.10%		%01.c	
Value Line (11)	6.00%	2.50%	2.50%	3.UU%	3 00%	6.50%	5.00%	6.50%	4.00%	3.50%	3.00%	6.00%	3.50%	11.00%	6.00%	6.00%	9.50%	1.50%	5.00%	4.50%	5.00%	4.00%	6.00%		%1. 7 .c	
Zacks (10)	4.00%	6.00%	3.00%	AVA	4.20%	5.50%	N/A	N/A	4.50%	N/A	5.20%	N/A	3.30%	8.70%	5.00%	6.80%	8.30%	3.80%	7.00%	4.70%	4.80%	5.00%	4.20%	2000/	%,77°C	
BxR <u>Growth</u> (9)	3.15%	2.50%	3.89%	4 38%	2.39%	5.21%	4.72%	1.35%	2.82%	4.08%	3.00%	5.30%	3.49%	5.42%	5.33%	2.79%	9.01%	2.13%	3.10%	4.67%	4.68%	3.60%	4.13%	/000 6	0/ 76°C	
<u>ROE (R)</u> (8)	8.95%	9.49%	10.62%	9.22% 0 73%	9.33%	10.30%	14.15%	9.23%	9.41%	10.30%	10.29%	12.86%	8.14%	10.53%	13.33%	8.83%	18.31%	9.28%	8.33%	11.67%	14.78%	11.17%	11.11%	10 700/	0/ 6 / 01	
2009 <u>BVPS</u> (7)	25.70	36.35	28.25	18.95	34.30	41.25	10.60	16.25	21.25	24.75	17.00	19.05	21.50	19.00	18.75	40.20	17.75	36.65	21.00	30.00	18.60	18.35	15.75	~~~~~	t+:+-7	
Retention <u>Rate (B)</u> (6)	35.22%	26.38%	30.01%	47 43%	25.63%	50.59%	33.33%	14.67%	30.00%	39.61%	29.14%	41.22%	42.86%	51.50%	40.00%	31.55%	49.23%	22.94%	37.14%	40.00%	31.64%	32.20%	37.14%	35 77%		
2009 <u>EPS</u> (5)	2.30	3.45 000	3.UU	1.75	3.20	4.25	1.50	1.50	2.00	2.55	1.75	2.45	1.75	2.00	2.50	3.55	3.25	3.40	1.75	3.50	2.75	2.05	1.75	9 5 5	2	
2009 <u>DPS</u> (4)	1.49	2.54	08.1	0.92	2.38	2.10	1.00	1.28	1.40	1.54	1.24	1.44	1.00	0.97	1.50	2.43	1.65	2.62	1.10	2.10	1.88	1.39	1.10	163	2	
Dividend <u>Yield</u> (3)	3.84%	0/11/0 V CO0V	4.0370	4.61%	5.35%	5.07%	6.01%	5.75%	5.14%	4.35%	4.65%	4.42%	4.42%	3.86%	4.51%	5.36%	4.02%	5.79%	4.78%	4.59%	5.02%	4.82%	5.04%	4 82%	4.74%	
Next Year's <u>Div (D1)</u> (2)	1.25	4C.7	0 16 0 16	0.92	2.32	2.06	1.00	1.28	1.24	1.24	1.24	1.39	0.92	0.76	1.26	2.13	1.20	2.50	1.00	1.80	1.62	1.27	0.93	1.48		
Stock <u>Price (P0)</u> (1)	32.58	67.04 57.40	47.29	19.94	43.40	40.67	16.65	22.25	24.11	28.49	26.67	31.47	20.81	19.69	27.91	39.77	29.82	43.18	20.92	39.21	32.29	26.36	18.46	30.66		
Utility	Alliant Energy	American Electric Dowor	CH Fnerry	Cent. Vermount P.S.	Consolidated Edison	DTE Enrgy	Duquesne Light	Empire District	Energy East Corp.	Green Mountain	Hawaiian Electric	MGE Energy	ViSource Inc.	Vortheast Utilities	VSTAR	Pinnacle West Capital	PPL Corporation	Progress Energy	Puget Energy, Inc.	SCANA Corp.	Southern Co.	Vectren Corp.	Xcel Energy, Inc.	Group Average	Group Median	•
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Source: Schedule SCH-9 Page 2 of 5.

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Discounted Cash Flow Analysis Constant Growth DCF Model <u>Long-Term GDP Growth</u>

ROE <u>P</u> Col 17+18 8) (19)	9% 8.94%	·					10.17%										10.46%							% 10.14%	% 6.9%	9.8%	
<u>GDP</u> (18)	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%	5.10%		
Dividend <u>Yield</u> (17)	3.84%	5.11%	4.69%	4.57%	4.61%	5.35%	5.07%	6.01%	5.75%	5.14%	4.35%	4.65%	4.42%	4.42%	3.86%	4.51%	5.36%	4.02%	5.79%	4.78%	4.59%	5.02%	4.82%	5.04%	4.82%	4.74%	
Next Year's <u>Div (D1)</u> (16)	1.25	2.54	1.60	2.16	0.92	2.32	2.06	1.00	1.28	1.24	1.24	1.24	1.39	0.92	0.76	1.26	2.13	1.20	2.50	1.00	1.80	1.62	1.27	0.93	1.48		
Stock <u>Price (P0)</u> (15)	32.58	49.75	34.10	47.29	19.94	43.40	40.67	16.65	22.25	24.11	28.49	26.67	31.47	20.81	19.69	27.91	39.77	29.82	43.18	20.92	39.21	32.29	26.36	18.46	30.66		
Utility	Alliant Energy	Ameren Corp.	American Electric Power	CH Energy	Cent. Vermount P.S.	Consolidated Edison	DTE Enrgy	Duquesne Light	Empire District	Energy East Corp.	Green Mountain	Hawaiian Electric	MGE Energy	NiSource Inc.	Northeast Utilities	NSTAR	Pinnacle West Capital	PPL Corporation	Progress Energy	Puget Energy, Inc.	SCANA Corp.	Southern Co.	Vectren Corp.	Xcel Energy, Inc.	Group Average	Group Median	I
Line		2	ო	4	S	9	~	ω	თ :	9	÷	5	<u>5</u>	4	5	16	1	18	6	5	5	3		24	-	26	

Source: Schedule SCH-9 Page 3 of 5.

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Discounted Cash Flow Analysis Low Near-Term Growth <u>Two-Stage Growth DCF Model</u>

ROE <u>= IRR</u> (30)	9.5% 9.5% 9.1% 9.1% 9.1% 9.1% 9.1% 9.2% 9.2% 9.2% 9.2% 9.2% 9.2% 9.2% 9.2	
Year 5-150 <u>Growth</u> (29)	ດ. 10% ດ. 10% A. 10%	
Year 5 <u>Div</u> (28)	2.57 2.67 2.67 2.67 2.67 2.60 2.53 1.62 1.65 1.65 1.65 1.65 1.65 1.65 1.65 1.65	
Year 4 <u>Div</u> (27)	$\begin{array}{c} 1.49\\ 2.564\\ 2.564\\ 2.20\\ 2.38\\ 2.38\\ 2.38\\ 2.43\\ 1.40\\ 2.43\\ 2.56\\ 2.43\\ 2.56\\ 2.43\\ 2.56\\ 2.43\\ 2.56\\ 1.10\\ 2.56\\ 1.10\\ 1.28\\ 2.55\\ 1.10\\ 1.39\\ 1.10\\ 1.39\\ 1.10\\ 1.39\\ 1.10\\ 1.1$	
Year 3 <u>Div</u> (26)	1,41 2,54 1,41 2,19 2,19 2,19 2,19 2,23 2,19 2,23 2,25 2,23 2,25 2,25 2,23 2,25 2,25 2,25 2,25 2,25 2,26 2,27	
Year 2 Div (25)	$\begin{array}{c} 1.3\\ 2.54\\ 2.17\\ 2.17\\ 2.17\\ 2.17\\ 2.23\\ 1.29\\ 1.29\\ 2.54\\ 1.29\\ 2.55\\ 1.23\\ 2.55\\ 1.23\\ 2.53\\ 1.29\\ 0.95\\ 1.23\\ 1.29\\ 0.98\\ 0.92\\ 0.98\\ $	
Year 1 <u>Div</u> (24)	$\begin{array}{c} 1.25\\ 2.56\\ 2.16\\ 2.16\\ 2.32\\ 2.56\\ 1.24\\ 1.26\\$	
Stock <u>Price (P0)</u> (23)	-32.58 -49.75 -34.1 -34.1 -49.75 -40.94 -47.29 -43.4 -43.4 -43.4 -43.4 -22.25 -21.91 -21.91 -21.91 -21.91 -21.91 -21.91 -21.91 -22.29 -27.91 -21.91 -21.91 -21.91 -22.29 -21.91 -22.29 -22.29 -22.29 -22.29 -23.28 -26.36 -18.46 -26.36 -26.36 -26.36 -26.36 -26.36 -27.91 -26.36 -26.36 -26.36 -26.36 -27.91 -26.36 -27.91 -26.36 -27.91 -26.36 -26.36 -27.91 -26.36 -27.91 -26.36 -27.91 -	
Annual Change <u>to 2008</u> (22)	8.00% 0.00% 1.33% 2.00% 2.00% 0.00% 0.00% 1.67% 7.00% 1.67% 7.00% 1.67% 3.33% 10.00% 1.67% 5.67% 1.00% 1.67% 5.67% 5.67% 5.67%	
2010 DPS (21)	2.20 2.54 2.54 2.54 2.20 2.20 2.23 2.20 2.23 2.24 2.10 2.10 2.12 2.12 2.12 2.13 2.10 2.10 2.10 2.10 2.10 1.28 1.28 1.28 1.10 2.10 2.13 2.10 1.28 1.128	
Next Year's <u>Div (D,)</u> (20)	2.15 2.16 2.16 2.16 2.16 2.16 1.24 1.24 1.24 1.24 1.26 2.13 2.13 2.13 2.13 2.13 2.13 2.13 0.92 0.92 0.92 0.92 0.93 0.93	
Utility	Alliant Energy Ameren Corp. American Electric Power CH Energy Cent. Vermount P.S. Consolidated Edison Duquesne Light Empire District Energy East Corp. Green Mountain Hawaiian Electric MGE Energy NiSource Inc. Northeast Utilities NISTAR NIST	
Line	- 0 m 4 m 0 h 8 0 0 1 1 1 1 1 1 1 1 0 0 8 0 0 1 0 1 2 m 6 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0	

Source: Schedule SCH-9 Page 4 of 5.