

Exhibit No.:
Witness: Brian A. Janous
Type of Exhibit: Rebuttal Testimony
Issue: Cost of Capital
Sponsoring Parties: Missouri Industrial Energy Consumers
Case No.: WR-2008-0311

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Missouri-American Water	)	
Company's Request for Authority to Implement	)	
a General Rate Increase for Water and Sewer	)	Case No. WR-2008-0311
Service Provided in Missouri Service Areas	)	

Rebuttal Testimony and Schedules of

Brian A. Janous

On Behalf of

Missouri Industrial Energy Consumers

September 30, 2008
Project 8980



**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

**In the Matter of Missouri-American Water
Company's Request for Authority to Implement
a General Rate Increase for Water and Sewer
Service Provided in Missouri Service Areas**

Case No. WR-2008-0311

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

Affidavit of Brian A. Janous

Brian A. Janous, being first duly sworn, on his oath states:

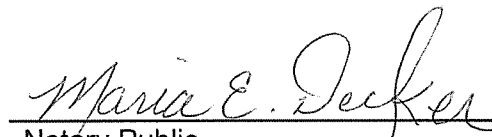
1. My name is Brian A. Janous. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony and schedules, which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. WR-2008-0311.
3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.



Brian A. Janous

Subscribed and sworn to before me this 30th day of September, 2008.





Notary Public

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Missouri-American Water	)	
Company's Request for Authority to Implement	)	
a General Rate Increase for Water and Sewer	)	Docket No. WR-2008-0311
Service Provided in Missouri Service Areas	)	
	)	

Rebuttal Testimony of Brian A. Janous

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

2 A My name is Brian A. Janous and my business address is 16690 Swingley Ridge
3 Road, Suite 140, Chesterfield, MO 63017.

4 **Q ARE YOU THE SAME BRIAN A. JANOUS WHO PREVIOUSLY FILED TESTIMONY**
5 **IN THIS PROCEEDING?**

6 A Yes.

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

8 A The subject of my rebuttal testimony is to respond to Missouri-American witness
9 Ms. Ahern and her return on equity recommendation.

10 **Response to Missouri-American Witness Pauline Ahern**

11 **Q WHAT RETURN ON COMMON EQUITY IS MISSOURI-AMERICAN PROPOSING**
12 **FOR THIS PROCEEDING?**

13 A Missouri-American's proposed return on equity is supported by its witness

1 Ms. Pauline Ahern. She recommends a return on equity of 11.25%, for
2 Missouri-American of which is at the midpoint of her proposed range of 11.075% to
3 11.425%.

4 **Q PLEASE DESCRIBE MS. AHERN'S METHODOLOGY SUPPORTING HER**
5 **RETURN ON COMMON EQUITY.**

6 A Ms. Ahern estimates a return on equity for Missouri-American based on the
7 Discounted Cash Flow (DCF) model, the Risk Premium (RP) model, the Capital Asset
8 Pricing Model (CAPM), and the Comparable Earnings Model (CEM) she applied
9 these models to two proxy groups. The first proxy group consists of six AUS Utility
10 Reports Water companies. The second proxy group consists of four Value Line
11 (Standard Edition) Water companies. Ms. Ahern attests that she interpreted the
12 results of her DCF, RP, CAPM, and CEM analyses, by evaluating the business and
13 financial risk factors that influence the determination of an appropriate return on
14 equity for Missouri-American.

15 **Q IS MS. AHERN'S ESTIMATED RETURN ON EQUITY FOR MISSOURI-AMERICAN**
16 **REASONABLE?**

17 A No. Ms. Ahern's recommended return on equity of 11.25% for Missouri American is
18 excessive and unreasonable for a low risk regulated water utility company. The
19 unreasonableness of Ms. Ahern's recommendation is evident from a comparison of
20 recent authorized returns on equity for water, electric and gas utilities, and from a
21 detailed assessment of Ms. Ahern's rate of return analyses supporting her
22 recommendation in this proceeding. Such evaluations clearly show that fair
23 compensation for Missouri-American in this proceeding is closer to the 10.03% return
24 on equity I recommended for Missouri-American.

Brian A. Janous
Page 2

1 **Q WHY DO YOU BELIEVE THAT RECENT AUTHORIZED RETURNS ON EQUITY**
2 **FOR WATER, ELECTRIC AND GAS UTILITIES SHOW THAT MS. AHERN'S**
3 **PROPOSED RETURN ON EQUITY IS EXCESSIVE?**

4 **A As shown on the attached Schedule BAJ-1 and discussed below, recent authorized**
5 **returns on equity for electric and gas utilities have averaged from 10.2% to 10.4%**
6 **over the last year.**

7 Further, Standard & Poor's business risk assessment clearly shows that
8 electric and gas utilities have greater operating risk than do water utilities.

9 Standard & Poor's Ratings Services views the overall business risk of
10 the highly rated water utility sector as generally being lower than that
11 of electric and gas utilities. This is mainly due to a mostly favorable
12 regulatory environment, a lack of competition from other water utilities,
13 and relatively low operating risk. (Standard & Poor's Ratings Direct,
14 July 17, 2006)

15 In a more recent publication S&P comments:

16 The ratings on U.S. investor-owned water utilities continue to show
17 stability, as a result of favorable regulation, lack of direct competition,
18 and relatively low operating risk. All rated investor-owned water
19 utilities currently have excellent business risk profiles. However,
20 significant nonregulated activities could result in a weaker business
21 risk profile score. (Standard & Poor's Ratings Direct, February 7, 2008)
22

23 **Q PLEASE DESCRIBE THE MARKET EVIDENCE THAT INDICATES A RETURN ON**
24 **EQUITY IN NEAR 10% FOR A UTILITY COMPANY IS FAIR AND REASONABLE.**

25 **A In a presentation to Standard & Poor's and a presentation to its investors, AWW**
26 **disclosed the authorized return on equity for many of its operating utility subsidiaries**
27 **around the country as shown in Table 1:**

Table 1	
<u>REGULATION & RATE SETTING PROCESS</u>	
<u>State</u>	<u>2007 Allowed ROE¹</u>
New Jersey	10.00%
Pennsylvania	10.60%
Illinois	10.27%
Missouri	10.00%
Indiana	9.25%
California	10.06%
West Virginia	9.85%
Average	10.00%
<u>State</u>	<u>2008 Allowed ROE²</u>
Michigan	10.00%
Iowa	10.40%
West Virginia	10.00%
Arizona (Sun City WW)	10.60%
Long Island	9.50%
California	10.15%
Arizona (Sun City Water)	10.80%
Arizona (Anther)	8.80%
Illinois	10.35%
Average	10.07%
Source:	
¹ MIEC 1-20, S0069-R2.pdf.	
² Investors Presentation, September 2, 2008.	

- 1 As shown above, the average authorized return on equity for AWW utility
- 2 subsidiaries around the country is 10.0% for 2007 and 10.07% for 2008.
- 3 Importantly, after being provided with this information from AWW, on
- 4 November 15, 2007, S&P made the following comments concerning AWW and its

operating utility affiliates' operating and financial risk:

AWW's excellent business risk profile of '2' (utility business profiles are categorized from '1' (excellent) to '10' (vulnerable)) is characterized by:

- An excellent competitive position with high barriers to entry;
- A supportive regulatory environment;
- An above-average service territory in terms of size and interconnections;
- A stable customer base that is predominantly residential and commercial; and
- The relatively low operating risk of regulated and nonregulated operations. (Emphasis added)

As noted above, based on disclosure of the authorized returns on equity for the operating utility affiliates of American Water Works, S&P concluded that these operating utility affiliates operated in "**a supportive regulatory environment.**" This is clear evidence that S&P believes that a return on equity near 10% is supportive of AWW and its utility affiliates' credit standing, and is reasonable in recognition of current market costs.

Q WHY DO YOU MAINTAIN THAT THE AUTHORIZED RETURNS ON EQUITY FOR THESE AFFILIATES HAVE BEEN ADEQUATE TO SUPPORT THE FINANCIAL INTEGRITY OF MISSOURI-AMERICAN AND ITS AFFILIATED UTILITY COMPANIES?

A This is apparent because of AWW's and American Water Capital Corporation's (AWCC) continued strong investment grade bond rating of "BBB+",¹ and low operating risk findings from S&P.

¹ American Water Works long-term rating was recently downloaded from "A-" to "BBB+".

1 **Q WHAT EVIDENCE DO YOU HAVE THAT THE MARKET HAS VIEWED THESE**
2 **AUTHORIZED RETURNS AS SUPPORTIVE?**

3 A This is evident from a review of trade organizations, which monitor credit standing
4 and stock price performance of electric utility companies, and from credit analysts
5 themselves.

6 Specifically, the Edison Electric Institute (EEI) has reviewed the stock price
7 performance and credit standing of electric utility companies over the last decade.
8 EEI tracks authorized returns on equity and it has found that publicly traded utility
9 companies have had robust stock price performance over this time-period. Note that
10 electric utility stock prices have actually outperformed the overall market. This is
11 significant because regulated electric utility companies are lower risk investments
12 relative to the market, and normally you would not expect a return on these
13 investments that is higher than the stock market. This indicates robust stock
14 performance, and also indicates electric utility companies are able to issue additional
15 stock at favorable terms and prices. This is an indication that electric utilities have
16 access to equity capital.²

17 Further, EEI has noted a positive trend in strengthening credit standing for
18 electric utility companies. As such, the authorized returns for electric companies near
19 10% have helped support robust stock price growth and improving credit.

20 **Q PLEASE DESCRIBE THE ISSUES YOU HAVE WITH MS. AHERN'S ANALYSES**
21 **SUPPORTING HER RETURN ON EQUITY RECOMMENDATION.**

22 A I have several major issues with Ms. Ahern's analyses. First, Ms. Ahern's DCF
23 analysis is based on growth rates that are not reasonable estimates for sustainable

² Edison Electric Institute, Stock Performance: Q4 2007 Financial Update.

1 growth rates in the long run. Second, Ms. Ahern's application of the empirical CAPM
2 and her historical market premium is severely flawed. Third, Ms. Ahern's
3 beta-derived equity risk premium is not supported by any academic research. Fourth,
4 the use of the accounting-based comparable earnings model is flawed and should be
5 rejected. Finally, Ms. Ahern's business risk ("size-premium") adjustment of 2.5 basis
6 points is without merit and should be rejected.

7 As set forth below, use of more reasonable market-based data in Ms. Ahern's
8 analysis and excluding her size-premium adjustment, will show a return on equity of
9 10.01%.

10 **Q PLEASE SUMMARIZE MS. AHERN'S RESULTS AS WELL AS YOUR PROPOSED**
11 **ADJUSTMENTS.**

12 **A** Ms. Ahern's results are summarized in the table below along with my proposed
13 adjustments.

TABLE 1 <u>Summary of Ms. Ahern's ROE Estimate</u>			
<u>Model</u>	<u>AUS Utility Water Group</u> (1)	<u>Value Line Water Group</u> (2)	<u>Adjusted Results</u> (3)
DCF	9.86%	10.23%	8.72%
RP	11.00%	11.31%	10.68%
CAPM	10.80%	11.42%	10.64%
CEM	14.13%	14.00%	Reject
Indicated Range	11.05%	11.40%	
Business Risk Adjustment	0.025%	0.025%	Reject
Adjusted ROE Range	11.075%	11.425%	
ROE		11.25%	10.01%
Source: Ahern Direct, Table 2 at 5.			

1 **Q DO THESE RESULTS SUPPORT MS. AHERN'S PROPOSED RETURN ON**
2 **COMMON EQUITY OF 11.25% FOR MISSOURI-AMERICAN?**

3 **A No.** A more prudent examination of Ms. Ahern's analyses will show that her results
4 are supportive for a return on equity of 10.01%.

5 **Q PLEASE DESCRIBE MS. AHERN'S DCF ANALYSIS.**

6 **A Ms. Ahern estimates a dividend yield for each company included in her two**
7 **comparable groups based on the average of the current dividend yield as of**
8 **February 20, 2008 and the average dividend yield for the three-month period ending**
9 **January 31, 2008. Then, the dividend yield component is adjusted to reflect one-half**
10 **the annual dividend growth rate.**

11 In addition, Ms. Ahern has reviewed analysts' projected earnings per share

1 growth estimates, as well as historical and projected five-year compounded growth
2 rate estimates of earnings per share (EPS), dividends per share (DPS), and the
3 sustainable growth rates (BR + SV), obtained from the data published by Value Line.
4 The analysts' projected growth rate estimates were obtained from Value Line and
5 Reuters. Based on her dividend yield and growth rate estimates, Ms. Ahern
6 calculates returns on equity of 9.86% and 10.23% for her AUS and VL comparable
7 groups, respectively.

8 **Q PLEASE SUMMARIZE THE ISSUES YOU HAVE WITH MS. AHERN'S DCF**
9 **ANALYSIS.**

10 A Ms. Ahern's analysts' projected growth rate estimates are not reasonable estimates
11 for sustainable long-term growth. The constant growth version of the DCF model,
12 which Ms. Ahern is relying on, requires a growth rate that is sustainable indefinitely.
13 However, as I indicated in my direct testimony, current three- to five-year growth rate
14 projections for water companies are abnormally high due to the large capital
15 expenditures utilities are making, thus driving abnormally high growth in rate base
16 and earnings growth. This three- to five-year earnings outlook is reasonable over that
17 time-period, but is not a reasonable estimate of long-term sustainable growth.

18 **Q WHY DO YOU BELIEVE MS. AHERN'S DCF GROWTH RATES ARE NOT**
19 **REASONABLE PROXIES FOR LONG-TERM SUSTAINABLE GROWTH AS**
20 **REQUIRED BY THE CONSTANT GROWTH DCF MODEL?**

21 A The median growth rate estimates used by Ms. Ahern to derive the return on equity
22 for Missouri-American range from 5.47% to 8.36%, with a midpoint of 6.91%
23 (Schedule PMA-7).

1 The results from her single-stage DCF model are unreasonable because they
2 reflect growth rate estimates that cannot be sustained in the long-run. As I mentioned
3 in my direct testimony, water utilities are going through a major construction cycle,
4 which significantly increases their net plant investment and drives the water utility
5 growth rate estimates higher. However, this cycle is not going to continue indefinitely,
6 which means that growth rate expectations will revert to their sustainable levels, not
7 exceeding the growth of the U.S. economy.

8 The GDP growth represents the maximum growth rate of the U.S. economy,
9 which serves as a ceiling, or high end, sustainable growth rate for a utility over an
10 indefinite period of time. The five- and ten-year consensus analysts' projected GDP
11 growth rate, based on the Blue Chip Economic Indicators, is 4.9%. Ms. Ahern's
12 range exceeds the GDP growth rate by 201 basis points and, as such, produces a
13 return on equity that is not based on a reasonable application of the constant growth
14 DCF model. Therefore, her results should be adjusted to reflect the expectations of a
15 rational investor.

 Even though consensus analysts' growth rate estimates reflect investors' expectations in the short-run (3 to 5 years), a rational investor would not expect these growth rates to remain in effect in the long-run. Therefore, using a non-constant growth DCF model will capture the value of these abnormal growth rate estimates over the next five years, followed by a period of a sustainable long-term growth rates thereafter.

1 **Q CAN THE DATA RELIED ON BY MS. AHERN BE USED IN THE DCF ANALYSIS**
2 **TO PRODUCE A MORE REASONABLE DCF RETURN ON EQUITY ESTIMATE**
3 **FOR HER WATER SAMPLE GROUPS?**

4 **A** Yes. That can be done by utilizing a non-constant growth DCF model. The initial
5 stage of growth reflects the abnormally high growth expectations for water utilities
6 that coincide with exceptionally large capital expenditure programs, followed by a
7 period where growth will subside to a more reasonable estimate of long-term
8 sustainable growth.

9 **Q HAVE YOU REPLICATED MS. AHERN'S MODEL TO REFLECT A**
10 **NON-CONSTANT DCF GROWTH OUTLOOK?**

11 **A** Yes. I have replicated Ms. Ahern's Schedule PMA-7 by applying the three-stage DCF
12 model, which consists of three growth rate periods. The short-term growth rate period
13 includes the first five years. For this period, I used Ms. Ahern's median analysts'
14 projected growth rate estimates. The intermediate-term growth rate transitions
15 between the short-term rate and the long-term rate, which starts in year ten and
16 continues through perpetuity. For the long-term period, I applied the consensus
17 projected GDP growth rate of 4.9%.

18 Applying the three-stage DCF model reduces Ms. Ahern's AUS and Value
19 Line return on equity estimates from 9.86% and 10.23% to 8.92% and 8.51%,
20 respectively, with a midpoint of 8.72%. These results are shown on Schedule BAJ-2.

1 **Q HAVE OTHER JURISDICTIONS RECOGNIZED THE NEED TO USE A**
2 **NON-CONSTANT GROWTH DCF GROWTH RATE METHODOLOGY WHEN THE**
3 **ANALYSTS' SHORT-TERM GROWTH PROJECTIONS ARE NOT SUSTAINABLE?**

4 **A**Yes. In a recent Illinois Commerce Commission case, in which Ms. Ahern was a
5 witness for an American Water Works utility affiliate, the Illinois Commerce
6 Commission rejected Ms. Ahern's sole reliance on a constant growth DCF model,
7 when the growth rates included in that model were not reasonable estimates of long-
8 term sustainable growth. Specifically, the Illinois Commission stated as follows:

9 It appears that the analysts' forecasted growth rates for water utilities
10 are appreciably higher than for other utilities and than the expected
11 long-term growth in the U.S. economy. IAWC [Illinois-American Water
12 Company] argues that water utilities will require higher than average
13 investment for the foreseeable future and that there is inadequate
14 evidence that the long-term growth in earnings per share of water
15 utilities, or any firm, is capped at the long-term growth rate of the U.S.
16 economy. The record seems to support a conclusion that, at least in
17 the near-term, growth in EPS for water utilities may be unusually high
18 as water utilities upgrade facilities and replace aging infrastructure.
19 The Commission, however, has a much more difficult time accepting
20 the proposition that EPS growth for water utilities will exceed the
21 growth rate for the U.S. economy into perpetuity. Instead, the
22 argument that the high growth for water companies will, at some point
23 in the future, slow to something approximating the growth rate for the
24 U.S. economy is simply more logical and convincing. (Illinois
25 Commerce Commission Docket No. 07-0507, Illinois-American Water
26 Company, July 30, 2008 Final Order at 90).

27 **Q PLEASE DESCRIBE MS. AHERN'S RISK PREMIUM MODEL.**

28 **A**Ms. Ahern's risk premium model is based on the expected A-rated utility yield and on
29 two equity risk premiums: (1) a beta-derived historical risk premium; and (2) mean
30 historical equity risk premium. Ms. Ahern derives the expected equity risk premium
31 from the average "Aaa" corporate bond yield of 5.32% for the period starting the first
32 quarter of 2008 and ending the second quarter of 2009 as published in Blue Chip

1 Financial Forecasts (February 1, 2008). She adjusts this yield for the “Aaa-A” spread
2 on public utility bonds of 0.63% to arrive at her expected A-rated utility yield of 5.95%.

3 Ms. Ahern estimates her beta-derived historical risk premium by relying on her
4 historical risk premium of 6.20% and ignoring her forecasted risk premium of 9.22%.
5 Applying the average beta for the AUS and Value Line comparable groups of 0.90
6 and 1.00, respectively, she estimates an equity risk premium for the two comparable
7 groups of 5.58% and 6.20%, respectively.

8 Her mean historical equity risk premium represents the difference of the
9 arithmetic mean holding period returns on the S&P Public Utility Index of 11.11% and
10 the arithmetic mean yield on A-rated public utility bonds of 6.60% over the period
11 1928-2006. The resulting equity risk premium for both comparable groups is 4.51%.

12 Ms. Ahern's beta-derived and mean historical equity risk premiums produce
13 an average equity-risk premium of 5.05% for her AUS comparable group and 5.36%
14 for her Value Line comparable group. She adds her expected A-rated utility yield of
15 5.95% to these estimates to produce a risk premium return on equity for the AUS and
16 Value Line comparable groups of 11.00% and 11.31%, respectively.

17 **Q PLEASE DESCRIBE THE ISSUES YOU HAVE WITH MS. AHERN'S RISK**
18 **PREMIUM ANALYSIS.**

19 **A** I have two major issues with Ms. Ahern's risk premium analysis. First, Ms. Ahern's
20 use of corporate bond yields as a risk-free rate and applying it to the group's average
21 beta is flawed and should be rejected. Second, the current beta estimates used by
22 Ms. Ahern are excessive and do not reflect reasonable market expectations.

1 **Q WHAT ARE YOUR CONCERNS REGARDING MS. AHERN'S BETA-DERIVED**
2 **EQUITY RISK PREMIUM?**

3 A To arrive at her beta-derived equity risk premium, Ms. Ahern applies her beta
4 estimates to her historical equity risk premium of 6.20%. The historical equity risk
5 premium represents the difference between the returns on the S&P 500 Index and
6 the arithmetic mean yield on "Aaa" and "Aa" corporate bonds.

7 First, the beta is a measure of a company's specific risk premium from the
8 market risk premium relative to a risk-free security. The group average beta should
9 be applied to a risk-free rate. As discussed in my direct testimony, the appropriate
10 risk-free rate is the long-term Treasury bond yield, which has negligible credit risk and
11 is backed by the United States government. Ms. Ahern implicitly used a corporate
12 bond yield as a risk-free proxy. This is flawed because corporate bonds do have
13 default risk.

14 Second, corporate bond yield can go into default and thus the market will
15 include a company-specific risk premium relative to the risk-free rate in a corporate
16 bond yield. Using a corporate bond yield as a proxy for the risk-free rate as
17 Ms. Ahern has implicitly done, results in an excessive risk premium estimate for the
18 underlying company, because the amount of risk premium included in the corporate
19 bond yield is not adjusted by the beta factor. As such, this analysis is severely flawed
20 and unreliable. Further, I am not aware of any academic research that supports the
21 use of a corporate bond yield as a risk-free rate proxy, or use of a beta estimate in
22 the manner proposed by Ms. Ahern in this proceeding.

23 Therefore, Ms. Ahern's historical beta derived-equity risk premium is flawed
24 and should be rejected.

1 **Q WHY DO YOU BELIEVE THAT THE BETA ESTIMATES FOR THE WATER**
2 **UTILITIES ARE EXCESSIVE?**

3 A Water utilities stock returns have been strong relative to market price performance.
4 This strong water utility stock performance has caused utility betas to increase.
5 However, this increasing utility beta is giving the false impression of increasing water
6 utility investment risk. Indeed, other risk factors, as I used to select comparable risk
7 proxy group companies, have been relatively stable for water utilities which indicate
8 stable risk. Further, the comments from independent credit analysts, such as S&P as
9 noted above, conclude that water utility investment risk is relatively low. This view
10 was supported by AWW in a presentation to S&P on August 22, 2007, which
11 indicated that water utility business risk is low relative to energy utilities (Schedule
12 BAJ-3).

13 As shown on Schedule BAJ-11 of my direct testimony, the historical beta
14 estimates are in the range of 0.75 over the last several years. Therefore, applying a
15 beta of 0.90 to 1.0 indicates that water utilities are about as risky as a general market
16 investment. This contradicts all investment risk indicators for water utilities and
17 suggests that these betas are not accurately measuring water utilities investment risk
18 at this time. Therefore, a beta in the range of 0.90 to 1.0 will produce an inflated
19 return on equity for the low risk utility operations of Missouri-American.

20 **Q HOW WOULD MS. AHERN'S RISK PREMIUM RESULTS CHANGE CORRECTING**
21 **FOR THE FLAWS DISCUSSED ABOVE?**

22 A Setting aside the issue I have with the current beta estimates and applying the
23 average beta of Ms. Ahern's AUS and Value Line comparable groups of 0.90 and 1.0,
24 respectively, to her risk-free rate of 4.32% will result in equity risk premiums of 3.89%

1 and 4.32%, respectively. Averaging these results with Ms. Ahern's mean historical
2 risk premium of 4.51% developed at page 8 of her Schedule PMA-11, results in an
3 equity risk premium of 4.20% and 4.42%, for the two comparable groups. Then,
4 adding the 13-week average A-rated utility bond yield of 6.37% (Schedule BAJ-4)
5 produces a risk premium return on equity for the AUS and Value Line comparable
6 groups of 10.57% and 10.79%, respectively. The midpoint for this adjusted risk
7 premium analyses is 10.68%.

8 **Q PLEASE DESCRIBE MS. AHERN'S CAPITAL ASSET PRICING MODEL.**

9 A Ms. Ahern applied two methods to estimate the cost of equity for Missouri-American
10 using the CAPM analysis. The first method is the traditional CAPM as discussed at
11 page 49 of her direct testimony, which produces a CAPM return on equity of 10.71%
12 for her AUS comparable group and 11.42% for her Value Line comparable group.
13 The second method is the empirical version of the CAPM (ECAPM) and it produces a
14 return on equity for the AUS and Value Line comparable groups of 10.89% and
15 11.42%, respectively. These results are shown on Schedule PMA-12 of Ms. Ahern's
16 direct testimony. Averaging the results of her two CAPM analyses, Ms. Ahern
17 concludes that her estimated return on equity based on her two models is 10.80% for
18 her AUS comparable group and 11.42% for her Value Line comparable group.

19 **Q PLEASE DESCRIBE THE ISSUES YOU HAVE WITH MS. AHERN'S CAPM**
20 **ANALYSIS.**

21 A I have two major issues with Ms. Ahern's CAPM analysis. First, her market risk
22 premium, which is based on the difference of the historical market return and the

Treasury bond income return, is overstated. Second, as discussed below, Ms. Ahern's reliance on the ECAPM model is flawed and should be rejected.

Q HOW DID MS. AHERN DEVELOP HER MARKET RISK PREMIUM ESTIMATES?

A Ms. Ahern develops two market risk premium estimates. The first one is based on the Value Line projected 3- to 5-year total market appreciation of, which produces an annual market return of 12.47%. Adding to this return the annual forecasted dividend yield of 2.07% results in a total market return of 14.54%. Ms. Ahern derives her market risk premium of 10.22% by subtracting the risk-free rate of 4.32% from the total market return of 14.54%.

The second market risk premium is derived from the Ibbotson & Associates 2008 Valuation Edition Yearbook, which identifies the historical market risk premium of 7.1% as the difference between the large company stock total returns (12.3%) and the long-term government bond income returns (5.2%).

Even though Ms. Ahern develops two market risk premium estimates, she only used her historical market risk premium of 7.1%.

Q IS MS. AHERN'S HISTORICAL MARKET RISK PREMIUM ESTIMATE OF 7.1% REASONABLE?

A Ms. Ahern's market risk premium estimate represents the high end of what might be considered reasonable. Her 7.1% equity risk premium represents the high end of, Morning Star's estimates of equity risk premiums, which range from 6.2% to 7.1% with a midpoint 6.65%. Ms. Ahern's reliance on the high-end estimate of this range is biased and should be moderated by using the midpoint of this range.

1 Q DO YOU HAVE ANY CONCERNS WITH MS. AHERN'S EMPIRICAL CAPM
2 ("ECAPM") ANALYSIS?

3 A The proposed ECAPM analysis should be rejected. The ECAPM increases the beta
4 estimate to reflect a more gradual increase in security risk across the risk spectrum.
5 In other words, the ECAPM will reduce a CAPM estimate for a beta estimate greater
6 than 1, and increase the CAPM estimate for a beta less than 1.

7 This flattening of the security market line, or the CAPM return estimate, is
8 redundant with the use of Value Line's adjusted betas and, therefore, is
9 unreasonable. The Value Line beta Ms. Ahern relied on to estimate a utility beta is
10 already adjusted for the tendencies of betas lower than 1 to increase toward the
11 market beta of 1 over time. That is, an adjusted beta will increase a CAPM return
12 estimate for companies with raw betas less than 1, and decrease CAPM return
13 estimates for companies with raw betas greater than 1. A raw beta is an unadjusted
14 beta. Value Line adjusts its raw beta by weighting the raw beta with a market beta
15 of 1. Specifically, Value Line's adjusted beta formula is to apply a weight as follows:

16
$$\text{Adjusted Beta} = \text{Raw Beta} \times 67\% + \text{Market Beta} \times 35\%.$$

17 The practical effect of Value Line's beta adjustment is that it flattens the
18 security market line in the same way that the ECAPM does. Consequently, Value
19 Line's beta adjustment formula accomplishes the same thing as the ECAPM analysis.
20 Hence, the use of Value Line adjusted betas in an ECAPM double-counts this return
21 adjustment.

22 Ms. Ahern's use of an adjusted beta in an ECAPM analysis double-counts the
23 increase to a CAPM return estimate for utility betas less than 1. I am not aware of

1 any academic support for use of an adjusted beta in an ECAPM analysis.³
2 Consequently, Ms. Ahern's application of an ECAPM analysis with an adjusted beta
3 distorts and erroneously increases the CAPM return estimate for her utility proxy
4 group.

5 Second, Value Line publishes beta estimates that are widely followed by the
6 investment market. These beta estimates reflect stock return estimates and are used
7 by investors to make stock purchase and sale decisions. In significant contrast, Ms.
8 Ahern's manipulation of the beta estimate in a CAPM analysis is not reflective of
9 market information used by investors to value stock. Therefore, Ms. Ahern's ECAPM
10 should be rejected.

11 **Q HOW WOULD MS. AHERN'S CAPM ANALYSIS CHANGE ONCE CORRECTED**
12 **FOR THE FLAWS DISCUSSED ABOVE?**

13 Disregarding the results derived from Ms. Ahern's ECAPM and correcting Ms. Ahern's
14 market risk premium to 6.65%, the median CAPM return on equity for Ms. Ahern's
15 AUS comparable group is 10.31%. Based on her Value Line comparable group the
16 CAPM return on equity is 10.97%. Averaging these results produces a return on
17 equity of 10.64%, as shown in my Schedule BAJ-5.

18 **Q PLEASE DESCRIBE MS. AHERN'S COMPARABLE EARNINGS MODEL (CEM).**

19 A Ms. Ahern used two comparable groups to develop her CEM estimates. The first
20 comparable group consists of 151 companies with similar risk to Ms. Ahern's AUS
21 comparable group. The second comparable group includes 203 companies, which

³ Ms. Ahern cites Roger A. Morin, from his book New Regulatory Finance to support the use of her ECAPM analysis. Support from a text, should not carry the same weight as academic sources that have been subject to peer review and scrutiny.

1 have comparable risk to Ms. Ahern's Value Line group. She used the Value Line
2 beta to determine the group systematic risk and the standard error to identify the
3 companies' unsystematic or specific risk. The AUS and the Value Line comparable
4 groups produced a return on equity of 14.13% and 14.0%, respectively.

5 **Q DOES MS. AHERN'S COMPARABLE EARNINGS MODEL PRODUCE**
6 **REASONABLE RESULTS FOR ESTIMATING MISSOURI-AMERICAN'S**
7 **AUTHORIZED RETURNS ON EQUITY?**

8 A No. Ms. Ahern's comparable earnings result of approximately 14.0%, which is well in
9 excess of her market-based results, is seriously flawed on its face. Importantly, this
10 accounting-based return on equity method produces returns that are significantly
11 higher than the market-based (DCF and risk premium) return on equity results. The
12 accounting-based return does not measure the current cost of capital necessary to
13 attract capital in the marketplace. An accounting return is not derived from the market
14 valuation of security prices. Consequently, it does not measure investors' return
15 requirements. This is an important distinction because if the accounting returns on
16 equity are lower than the market required return on equity, then the utility's ability to
17 attract capital could be impaired. Conversely, if the accounting return on equity
18 significantly exceeds the utility's market cost of capital, then utility rates would be
19 adjusted much higher than necessary to fairly compensate investors and maintain
20 their ability to attract capital. Hence, the methodology is flawed because it does not
21 estimate a fair risk adjusted return on equity that compensates Missouri-American for
22 making utility plant investments.

1 Because of the severe deficiencies in this methodology, and her failure to
2 accurately account for Missouri-American's lower operating risk, Ms. Ahern's
3 comparable earnings analysis should be rejected.

4 **Q PLEASE EXPLAIN HOW MS. AHERN DEVELOPS HER BUSINESS RISK**
5 **ADJUSTMENT OF 2.5 BASIS POINTS.**

6 A Ms. Ahern compares the average size of the companies included in her two
7 comparable groups and she concludes that, based on market capitalization, the AUS
8 and the Value Line comparable groups are 1.2 and 1.7 times greater than
9 Missouri-American, respectively. Then, Ms. Ahern calculates size adjustments of
10 0.53% and 0.00%, respectively (Ahern Direct at 13 and 66). To be conservative, she
11 concludes that the appropriate business risk or small size premium for
12 Missouri-American is 2.5 basis points.

13 **Q IS MS. AHERN'S PROPOSED SIZE PREMIUM ADJUSTMENT REASONABLE?**

14 A No. Small company risk is part of a company's total investment risk. By selecting
15 companies with similar total risk to Missouri-American, the proxy group can be used
16 to estimate a fair return to compensate investors with Missouri-American's investment
17 risk characteristics. Missouri-American's investment risk characteristics include the
18 increased risks that are attributable to the size of its operations. Therefore, my
19 recommended return on equity adequately reflects this investment risk.

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

21 A Normally, a company's size would impact its operating risk in the following ways:
22 1. Small companies typically have less ability to attract qualified management 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 MISSOURI-AMERICAN'S SMALL COMPANY RISK IN**
8 **ESTIMATING A FAIR RETURN FOR MISSOURI-AMERICAN 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 a size premium to
16 a proxy group return if that proxy group already reasonably captures
17 Missouri-American's total investment risk. For example, Missouri-American's small
18 company risk can be offset by differences in other risk elements. As such, focusing
19 on a single aspect of investment risk, rather than reviewing proxy groups on the basis
20 of total investment risk, is inappropriate and produces unreasonable results.

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

1 **Q ARE THERE OTHER FLAWS IN MS. AHERN'S PROPOSED SMALL COMPANY**
2 **RETURN ON EQUITY RISK PREMIUM?**

3 A Yes. Ms. Ahern appears to ignore the fact that Missouri-American is a wholly owned
4 subsidiary of American Water Company. American Water Company in turn is owned
5 by RWE, an international company. Missouri-American's small company risk is
6 significantly mitigated by its corporate structure. Specifically, American Water has a
7 subsidiary, American Capital Corp., which issues all debt on behalf of all subsidiaries
8 including Missouri-American. This affiliate, American Capital Corp., increases
9 Missouri-American's access to debt capital. Also, Missouri-American has access to
10 tax-free debt capital through various entities in the state of Missouri. This
11 government-sponsored low cost debt also mitigates Missouri-American's small
12 company operating risk. Also, American Water Company has service companies that
13 provide executive, engineering, treasury, legal and accounting expertise to
14 Missouri-American, which provides it a greater breadth of management experience
15 than small companies could typically support on their own. As such,
16 Missouri-American's access to capital and management expertise through its parent
17 company and regulated service territory, significantly mitigates if not completely
18 eliminates any small company risk for this affiliate. For these reasons, a small
19 company equity return add-on is wholly inappropriate and should be rejected.

20 **Q DO YOU HAVE ANY ADDITIONAL COMMENTS CONCERNING MS. AHERN'S**
21 **SIZE ADJUSTMENT?**

22 A Yes. At the beginning of this year, Illinois-American Water Company filed a rate case,
23 where Ms. Ahern proposed a size adjustment of 10 basis points. The Illinois

1 Commerce Commission rejected Ms. Ahern's proposed adjustment for the following
2 reasons:

3 In Docket Nos. 97-0351 and 03-0403, the Commission rejected size
4 based adjustments for water utilities. In the Commission's view,
5 IAWC's misrepresentation of its testimony suggests that it has not
6 presented evidence to justify a sized based adjustment in this
7 proceeding. Having reviewed the evidence, the Commission
8 concludes that theoretically, a size based premium might be
9 appropriate if the utility in question were so small that its access to
10 common equity was adversely affected. In this case, however, the
11 common stock of IAWC is owned by American Water and American
12 Water raises any necessary common equity for IAWC. In the
13 Commission's view, the proposition that ratepayers should pay a
14 "premium" due to IAWC's small size when there has been no showing,
15 or even suggestion, that the shareholders of American Water, who
16 essentially own the assets of IAWC, require a premium is unjustifiable.
17 (Illinois Commerce Commission Docket No. 07-0507, Illinois-American
18 Water Company, July 30, 2008 Final Order at 91 - 92).

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

20 **A Yes.**

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