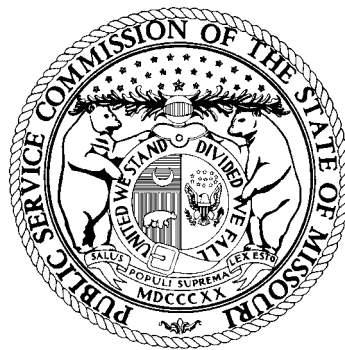


# MISSOURI PUBLIC SERVICE COMMISSION

## STAFF REPORT

### COST OF SERVICE



**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2010-0131**

*Jefferson City, Missouri  
March 9, 2010*

# COST OF SERVICE REPORT

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# COST OF SERVICE REPORT

## I. Executive Summary

The Staff has conducted a review in Case No. WR-2010-0131 of all cost of service components (capital structure and return on rate base, rate base, depreciation expense and operating expenses) which comprise Missouri-American Water Company's (Missouri-American, MAWC or Company) Missouri jurisdictional revenue requirement. This audit was in response to Missouri-American's application to increase its gross annual water revenues in the amount of \$48,558,667 and its gross annual sewer revenues in the amount of \$143,595, filed on October 30, 2010.

The Staff's recommended increase in revenue requirement is based upon a test year of the twelve months ending June 30, 2009, with a test year update period ending October 31, 2009. Major elements of the revenue requirement calculation for Missouri-American were measured in the Staff's case through October 31, 2009. The Staff's recommended revenue requirement for MAWC at the midpoint of its return on equity range (ROE) of 9.25% is approximately \$20.8 million; this includes an estimated true-up allowance amount of \$5.1 million.

The impact of the Staff's recommended revenue requirement for each retail rate customer class will be proposed in the Staff's rate design testimony that is to be filed on March 26, 2010.

*Staff Expert: Kimberly K. Bolin*

## II. Background of Missouri-American

Missouri-American Water Company is a Missouri corporation providing water service in and around the cities of Brunswick, Jefferson City, Joplin, Mexico, Parkville, St. Charles, St. Louis, St. Joseph, Warrensburg and in Warren County, Missouri. MAWC also provides sewer service in and around the cities of Cedar Hill, Parkville and in Warren County, Missouri. MAWC provides water service to approximately 456,415 customers and sewer service to approximately 1,094 customers.

Missouri-American is a wholly owned subsidiary of American Water Works Company, Inc. (American Water or AWW), which is the largest investor-owned U.S. water

1 and wastewater utility company. American Water is headquartered in Voorhees, New Jersey  
2 and provides water and sewer service in 32 states and Ontario, Canada.

3 Missouri-American last sought to change its water and sewer rates in  
4 Case No. WR-2008-0311, et al. In its Order dated November 14, 2008 in that proceeding,  
5 the Commission granted MAWC a total increase in rates of \$34,471,092.

6 On April 21, 2009, Missouri-American filed an application to adjust its infrastructure  
7 system replacement surcharge (ISRS) water rates. The Commission issued an order on  
8 July 8, 2009 approving the new ISRS rates in the amount of \$2,652,705. The Company also  
9 filed for a subsequent ISRS on December 23, 2009. This ISRS filing is still before the  
10 Commission, but will be finalized before rates are ordered in this rate case proceeding. As a  
11 result of this current rate case, the ISRS will be reset to zero. The net change in rates for  
12 MAWC recommended in the Staff's direct filing in this proceeding is the difference between  
13 the Staff's revenue requirement recommendation at the midpoint return on equity and the  
14 ISRS amount already reflected in rates (\$2,652,705).

15 *Staff Expert: Kimberly K. Bolin*

### 16 **III. Test Year/Update Period/True-Up Recommendation**

17 The purpose of a test year update period is to establish a cut-off point to which major  
18 elements of a utility's revenue requirement are to be updated, beyond the test year, for  
19 inclusion in the Staff's and other parties' direct cases. In contrast, a true-up is a re-audit and  
20 update of major elements of a utility's revenue requirement beyond the end of the ordered test  
21 year and test year update period. When ordered, true-ups involve the filing of additional sets  
22 of testimony and the scheduling of additional evidentiary hearings ordered by the  
23 Commission. While test year update periods are ordered by the Commission in almost all  
24 general rate proceedings, true-ups are used on a selective basis only.

25 Missouri-American filed its case based upon a June 30, 2009 test year. The  
26 Commission ordered a test year based upon twelve months ending June 30, 2009 with an  
27 update period to reflect the impact of several material events the Company expected to occur  
28 by October 31, 2009. Missouri-American requested in its "Recommendation Concerning Test  
29 Year and Request for True-Up Audit and Hearing" a true-up audit for consideration of  
30 financial data through April 30, 2010. MAWC anticipates that approximately \$57.7 million

1 of plant will be placed into service between July 1, 2009 and April 30, 2010. As of  
2 October 31, 2009, Missouri-American has placed approximately \$20.6 million of plant into  
3 service above its July 1, 2009 level.

4 The Staff, in its filing, "Staff's Test Year and True-Up and Consolidation  
5 Recommendations," agreed with MAWC's proposed test year of the twelve months ending  
6 June 30, 2009, and in addition proposed a test year update period in this case for known and  
7 measurable changes through December 31, 2009. Staff also stated that it would make its  
8 recommendation to the Commission concerning the need for a true-up audit in the proceeding  
9 as part of its direct filing.

10 A test year update period reflects material changes to the Staff's case through a date  
11 near the conclusion of the Staff's audit. In contrast, true-ups are re-audits and updates of  
12 major elements of a utility's revenue requirement beyond the end of the ordered test year and  
13 test year update period. True-ups are not required for every rate proceeding, and typically are  
14 only ordered when a utility can demonstrate they expect to incur material changes to their  
15 revenue requirement after the end of the ordered test year period but prior to the  
16 operation-of-law date in the case.

17 The Staff believes that Missouri-American has adequately justified the need for a  
18 true-up audit in this proceeding, and accordingly recommends that the Commission order such  
19 an audit through April 30, 2010 in this proceeding. If a true-up is authorized by the  
20 Commission, the Staff intends to true-up the following components of MAWC's revenue  
21 requirement.

22 **RATE BASE:**

23 Plant in service  
24 Depreciation reserve  
25 Deferred taxes  
26 Related cash working capital effects  
27 Materials and Supplies  
28 Prepayments  
29 Customer advance for construction  
30 Pension and OPEB trackers  
31 Tank Painting tracker

1                   **CAPITAL STUCTURE:**

2                   Rate of return

3                   Capital Structure

4                   **INCOME STATEMENT:**

5                   Revenues for customer growth

6                   Payroll – employee levels and wage rates

7                   Rate case expense

8                   Bad debt expense

9                   Depreciation and amortization expense

10                  Related income tax effects

11                  Pensions and OPEBs

12                  Injuries and damages

13                  Property taxes

14                  *Staff Expert: Kimberly K. Bolin*

15                  **IV. Major Issues**

16                  The following are the major issues that exist between the Staff and the Company as a  
17                  result of their respective direct filings. These issues are discussed here because of their  
18                  estimated dollar value. A brief explanation for each issue follows, with an estimate of its  
19                  dollar value.

20                  **Return on Equity (ROE) – Issue Value – (\$16.6 million)** The Staff has recommended  
21                  a 9.25% ROE at the midpoint. MAWC is recommending an 11.6 % ROE. This issue is  
22                  addressed in detail in the Section V of this Report.

23                  **Plant in Service – (\$4.7 million)** The Company’s direct filing utilizes an estimated  
24                  plant in service as of April 30, 2010. The Staff’s direct filing is based upon plant in service as  
25                  of October 31, 2009. Much of this difference will no longer exist after the true-up audit.

26                  **Revenue – (\$2.1 million)** The Staff annualized and normalized revenues based upon  
27                  the number of customers as of October 31, 2009. This issue is addressed in detail in  
28                  Section VIII of this Report.

29                  **Payroll – (\$3.7 million)** The Staff’s annualized payroll is based upon employee levels  
30                  and wages as of October 31, 2009. The Company used a planned employee level through

1 April 30, 2010, which included current vacancies. Much of this difference will no longer  
2 exist after the True-up audit.

3 There are various other issues between the Staff and the Company based upon their  
4 respective direct filings which are of lower dollar magnitude. These issues are discussed as  
5 well in this Report.

6 *Staff Expert: Kimberly K. Bolin*

## 7 **V. Rate of Return**

### 8 **A. Summary**

9 The Financial Analysis Department Staff (Staff) recommends that the Commission  
10 authorize an overall rate of return (ROR) of 7.42 percent to 7.70 percent for  
11 Missouri-American Water Company (MAWC or the Company). Staff's ROR  
12 recommendation is based upon a recommended return on common equity (ROE) of  
13 8.95 percent to 9.55 percent (midpoint 9.25 percent) applied to American Water Works  
14 Company, Inc.'s (American Water) September 30, 2009, common equity ratio of  
15 46.21 percent. Staff's recommended ROE is driven by its comparable company analysis  
16 using a constant-growth, single-stage discounted cash flow (DCF) analysis  
17 (hereinafter referred to as the "constant-growth DCF") and a multiple-stage DCF analysis.  
18 Staff continues to believe that the DCF methodology is the most reliable method available for  
19 estimating a utility company's cost of common equity. Although Staff has not performed a  
20 multi-stage DCF analysis in large water and sewer rate cases in the recent past, after  
21 considering the relatively high near-term level of equity analysts' projected 5-year earnings  
22 per share forecasts, which are higher than the expected long-term nominal GDP growth rates  
23 for the U.S. economy, Staff considers the multi-stage DCF to be an appropriate and insightful  
24 tool in estimating the cost of common equity in this case.

25 Staff also employed a Capital Asset Pricing Model ("CAPM") analysis, using  
26 historical earned risk premiums and current U.S. Treasury bond yields, as a test of the  
27 reasonableness of Staff's DCF estimate. Although Staff's CAPM analysis resulted in lower  
28 estimated costs of common equity than those derived using DCF methodologies, Staff did not



1 adjust its ROE recommendation downward due to Staff's concerns about the current  
2 reliability of the CAPM using traditional inputs.

3 To determine an appropriate capital structure to which to apply Staff's recommend  
4 ROE, Staff used the actual, consolidated capital structure of American Water, MAWC's  
5 parent company, as of September 30, 2009, as the basis for Staff's capital structure  
6 recommendation for MAWC. The Staff's resulting capital structure recommendation consists  
7 of 46.21 percent common equity, 0.32 percent preferred stock, 52.59 percent long-term debt,  
8 and 0.89 percent short-term debt. Schedule 7, attached as Appendix 2 to this Report and  
9 incorporated by reference herein, presents MAWC's rate making capital structure and  
10 associated capital ratios. Staff's calculation of the embedded cost of long-term debt is  
11 6.18 percent, based on the cost of long-term debt outstanding at  
12 American Water Capital Corporation (AWCC) and MAWC as of September 30, 2009. This  
13 embedded cost of long-term debt does not include any debt held at American Water's other  
14 subsidiaries, a practice which is consistent with the Commission's decision in the MGE rate  
15 case, Case No. GR-2004-0209, upheld by the Missouri Court of Appeals. See *MGE v.*  
16 *Public Service Commission of the State of Missouri*, 186 S.W.3d 376 (Mo. App. 2005). Staff  
17 eliminated any debt that MAWC received from AWCC since this debt is already reflected in  
18 AWCC's embedded cost of long-term debt and any inclusion of this debt would result in  
19 double counting.

20 Staff has prepared two (9) attachments (denoted Attachments A through I) and  
21 twenty two (22) schedules (numbered Schedules 1-22) that support Staff's findings and  
22 recommendations in the cost-of-capital area. The attachments contain explanations of the  
23 DCF and CAPM methodologies and also provide copies of certain reports/articles Staff cites  
24 in this section of the report. The attachments and schedules can be found in Appendix 2 to  
25 this Report, and are incorporated by reference herein.

## 26 **B. Legal Principles of Rate of Return**

27 Rate of return witnesses are mindful of the constitutional parameters that guide the  
28 determination of a fair and reasonable rate of return. These parameters were announced by  
29 the United States Supreme Court in two seminal cases, *Bluefield Water Works and*  
30 *Improvement Company v. Public Service Commission of West Virginia* (1923) (*Bluefield*)

1 and Federal Power Commission v. Hope Natural Gas Company (1944) (Hope).<sup>1</sup> The Court in  
2 *Bluefield* specifically stated:

3 A public utility is entitled to such rates as will permit it to earn a return  
4 on the value of the property which it employs for the convenience of  
5 the public equal to that generally being made at the same time and in  
6 the same general part of the country on investments in other business  
7 undertakings which are attended by corresponding risks and  
8 uncertainties; but it has no constitutional right to profits such as are  
9 realized or anticipated in highly profitable enterprises or speculative  
10 ventures. The return should be reasonably sufficient to assure  
11 confidence in the financial soundness of the utility and should be  
12 adequate, under efficient and economical management, to maintain and  
13 support its credit and enable it to raise the money necessary for the  
14 proper discharge of its public duties. A rate of return may be  
15 reasonable at one time and become too high or too low by changes  
16 affecting opportunities for investment, the money market and business  
17 conditions generally.<sup>2</sup>

18 Similarly, the Court in *Hope* stated:

19 The rate-making process, i.e., the fixing of “just and reasonable” rates,  
20 involves a balancing of the investor and the consumer interests. Thus  
21 we stated . . . that “regulation does not insure that the business shall  
22 produce net revenues.” But such considerations aside, the investor  
23 interest has a legitimate concern with the financial integrity of the  
24 company whose rates are being regulated. From the investor or  
25 company point of view it is important that there be enough revenue not  
26 only for operating expenses but also for the capital costs of the  
27 business. These include service on the debt and dividends on the stock.  
28 By that standard the return to the equity owner should be  
29 commensurate with returns on investments in other enterprises having  
30 corresponding risks. That return, moreover, should be sufficient to  
31 assure confidence in the financial integrity of the enterprise, so as to  
32 maintain its credit and to attract capital.<sup>3</sup>

33 From these decisions, Staff derives the following principles to be considered in Staff’s  
34 recommendation of an appropriate rate of return:

- 35 1. A return consistent with comparable companies;
- 36 2. A return sufficient to assure confidence in the utility’s financial integrity;

---

<sup>1</sup> *Bluefield Water Works & Improv. Co. v. Pub. Serv. Comm'n of West Virginia*, 262 U.S. 679, 43 S.Ct. 675, 67 L.Ed. 1176 (1923); *Fed. Power Comm'n v. Hope Nat. Gas Co.*, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333 (1943).

<sup>2</sup> *Bluefield*, *supra*, 262 U.S. at 692-93, 43 S.Ct. at 679, 67 L.Ed. at 1182-1183.

<sup>3</sup> *Hope*, *supra*, at 603 (citations omitted).

- 1 3. A return that allows the utility to attract capital; and,
- 2 4. A return consistent with current opportunity costs of investment.

3 While the legal requirements announced in the *Hope* and *Bluefield* cases have not  
4 changed, it is important to recognize that the methodology used to estimate a reasonable rate  
5 of return has evolved considerably since these cases were decided over 60 years ago. In fact,  
6 two of the most commonly used models in formulating recommendations, the DCF model  
7 (as used in utility regulatory ratemaking proceedings) and the CAPM, did not become a part  
8 of mainstream finance until the 1960's. Likewise, the capital markets of today are not  
9 confined to regional boundaries when determining the most efficient use of capital, but rather  
10 are quite global in nature.

11 In mainstream finance literature, the DCF model, as used in utility ratemaking, is  
12 alternatively referred to as the dividend growth, Gordon growth, and/or dividend discount  
13 model (DDM). In 1962, Myron J. Gordon reintroduced and expanded the model for the  
14 purpose of estimating the cost of common equity.<sup>4</sup> Prior to this date, the model had primarily  
15 been used for stock valuation purposes.

16 The basis for the CAPM was provided in 1964 by William F. Sharpe, who received  
17 the Nobel Prize in 1990 for much of his work in producing the CAPM model.<sup>5</sup> The CAPM is  
18 frequently used by investment bankers to estimate the cost of capital for purposes of  
19 discounting future cash flows in order to estimate the present value of an enterprise.

20 It is generally recognized that authorizing an allowed return on common equity based  
21 on a utility's cost of common equity is consistent with a fair rate of return. It is for this very  
22 reason that the DCF method is widely recognized as an appropriate methodology to use in  
23 arriving at a reasonable recommended ROE for a utility. The concept underlying the DCF  
24 method is the ability to determine the cost-of-common-equity capital to the utility, which  
25 reflects the current economic and capital market environment. For example, a company may  
26 achieve an earned return on common equity that is higher than its cost of common equity.  
27 This situation will tend to increase the share price. However, this does not mean that this past

---

<sup>4</sup> Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management*, Fifth Edition, The Dryden Press, 1997, p. 438.

<sup>5</sup> Zvie Bodie, Alex Kane and Alan J. Marcus, *Essentials of Investments*, Richard D. Irwin, Inc. 1992, p. 11.

1 achieved return is the barometer for what would be a fair authorized return in the context of a  
2 rate case. It is the lower cost of capital that should be recognized as a fair authorized return.

3 The authorized return should provide a fair and reasonable return to the investors of  
4 the company, while ensuring that ratepayers do not support excessive earnings that could  
5 result from the utility's monopolistic powers. However, this fair and reasonable rate does not  
6 guarantee any particular level of return to the utility's shareholders.

7 Although neither the DCF model nor the CAPM were used for making  
8 rate-of-return-recommendations during the period in which the *Hope* and *Bluefield* decisions  
9 were made, state commissions (including the Missouri Public Service Commission)  
10 throughout the United States have accepted these methodologies for purposes of estimating  
11 rates of return for utility ratemaking.

## 12 **C. Economic Information**

13 The world and the U.S. economies are slowly recovering from a deep recession. Such  
14 transitional periods can make the estimation of a fair and reasonable cost of capital a tougher  
15 task than usual. Similarly, it is difficult given such conditions for utility commissions to  
16 determine a fair and reasonable allowed return. However, as more time passes since the  
17 height of the financial crisis that occurred during the fall of 2008 and spring of 2009, the  
18 capital markets have continued to stabilize, even if there is still uncertainty about the strength  
19 of a recovery in economic growth. Despite these conditions, the purpose of this testimony is  
20 to provide this Commission with what I believe to be a reasonable estimate of the current cost  
21 of capital for a regulated water utility company of at least investment grade credit quality.

### 22 *1. Monetary Policy*

23 On December 16, 2008, the Federal Reserve Bank ("Fed") cut the Fed Funds Rate to  
24 between zero and 0.25 percent, a level well below the historic low of 1.00 percent, previously  
25 established under former Fed Chairman Alan Greenspan. This cut was clearly due to the  
26 Fed's concern about the state of the U.S. economy. The Fed normally reserves such  
27 aggressive actions for times in which it is concerned about the possibility of a deflationary  
28 price environment due to a severe contraction in the economy.

1           Although the current economic and capital market slump worsened during the fall of  
2 2008, the Fed began to react to concerns about the economy in the fall of 2007.<sup>6</sup> Until  
3 September 18, 2007, the Fed held the Fed Funds rate steady at 5.25 percent. However, in  
4 response to concerns about a tightening credit market (due in part to problems in the  
5 sub-prime market at the time) the Fed reduced the Fed Funds rate by a full 50 basis points  
6 (0.50%) on that date. Over the remainder of 2007, the Fed lowered the Fed Funds Rate in two  
7 additional 25 basis point (0.25%) increments, on October 31, 2007, and December 11, 2007,  
8 respectively. The Fed continued to lower the Fed Funds rate through most of the winter and  
9 spring of 2008 until reaching the rate of 2.25 percent on April 30, 2008. The Fed appeared to  
10 not want to lower the Fed Funds rate any further due to concerns about sparking inflation  
11 during a period in which certain commodity prices, such as gasoline, were sky-rocketing.  
12 However, shortly thereafter came the financial meltdown in which the Fed and the U.S.  
13 Treasury began to play a large role in orchestrating bailouts, mergers, acquisitions and  
14 allowing some financial institutions, such as Lehman Brothers, to go into bankruptcy. The  
15 Fed continued to lower the Fed Funds rate by two 50-basis point increments on  
16 October 8, 2008, and October 29, 2008, before making its last cut on December 16, 2008, to  
17 arrive at the current rate of zero to 0.25 percent.

18           The following comments were made in a recent article in the  
19 *Wall Street Journal (WSJ)*,<sup>7</sup> concerning Federal Reserve Chairman’s Ben Bernanke’s  
20 semi-annual testimony to Congress on February 24, 2010, regarding the status of the  
21 economy and monetary policy:

22           In his semi-annual testimony to Congress on the economy and  
23 monetary policy, Mr. Bernanke said that short-term interest rates, now  
24 near zero, were likely to remain there for at least several more  
25 months...

26  
27           He highlighted worries about what he called the “nascent recovery”—  
28 marked by high unemployment, wobbly real-estate markets, weak  
29 lending and large budget deficits. Mr. Bernanke said slack in the  
30 economy meant the benchmark federal-funds rate would remain near  
31 zero for an “extended period”...

---

<sup>6</sup> The National Bureau of Economic Research declared in December 2008 that the U.S. has been in a recession since December 2007 and has yet to declare an end date to the recession.

<sup>7</sup> Jon Hilsenrath, “Bernanke Stressed Needs for Low Rates,” *The Wall Street Journal*, February 25, 2010, p. A2.

1           Although U.S. economic growth increased at an annualized rate of 5.7 percent in the  
2 fourth quarter of 2009, the Fed still has concerns about the sustainability of such growth  
3 without some continued economic stimulus. This would support the belief that the Fed will  
4 continue to keep the Fed Funds rate at a relatively low level.

5           Although the Fed tries to influence long-term capital costs through its adjustments to  
6 the Fed Funds rate, it does not have the same ability to set long-term rates as it does the  
7 Fed Funds rate. Long-term capital costs are market-based rates, which change based on a  
8 variety of market factors, with monetary policy being just one factor investors consider.  
9 Because long-term capital costs are the primary consideration in estimating a fair and  
10 reasonable rate of return, it is important to evaluate the long-term interest rate environment  
11 and understand factors that affect long-term rates.

## 12           2. *Interest Rates, Bond Yields and Spreads*

13           Long-term interest rates, as measured by Thirty-year Treasury bonds  
14 (30-year T-bonds), dropped to historically low levels at the end of 2008 and the early part  
15 of 2009. However, these rates have since started to return to levels more consistent with  
16 recent years. As of February 2010, the yield on 30-year T-bonds averaged 4.62 percent  
17 (see Schedule 4-2), representing an increase from an all-time low in December 2008 of  
18 2.87 percent. However, because of investors' concerns about the economy during the last  
19 quarter of 2008, the average utility bond yield increased to as high as 7.80 percent. The  
20 spread between the utility bond yields and 30-year T-bond yields hit an historical high of  
21 400 basis points in December 2008 (see Schedule 4-4). As of January 2010, the average  
22 utility bond yield had dropped considerably from this high to an average of 5.83 percent. As a  
23 result, the spread between the utility bond yields and 30-year T-bond yields decreased to  
24 123 basis points in January 2010, approximately 30.75% of the spread reached in  
25 December 2008. The current 123 basis point spread is actually below the average spread of  
26 155 basis points over the period 1980 through 2009 (see Schedule 4-4), which illustrates the  
27 stability that has returned to the capital markets. The decrease in utility bond yields to  
28 5.83 percent represents a decrease of 197 basis points since its recent peak in November 2008.

29           Although average utility bond yields (inclusive of bonds rated from "Aa" to "Baa" by  
30 Moody's) have dropped back to levels experienced before the credit crisis in the fall of 2008,  
31 the spread between higher credit quality utility bonds and lower credit quality utility bonds

1 remains higher than recent historical averages. Whereas, during economic environments  
2 before the credit crisis the spread between “A” rated utilities and “Baa” rated utilities was  
3 typically around 30 basis points, as of January 2010, this spread was 39 basis points according  
4 to the February 2010 *Mergent Bond Record*. The spread tends to be even smaller when  
5 evaluating the difference between “Aa” rated utility bonds and “A” rated utility bonds. While  
6 this spread is typically around 15 basis points, as of January 2010 this spread was 27 basis  
7 points. This results in a spread of 66 basis points between an “Aa” rated utility and a  
8 “Baa” rated utility. While this “Aa” to “Baa” bond spread comparison represents a  
9 47 percent increase over the spread during the economic periods prior to the credit crisis, the  
10 spread is still much lower than the percentage increase in spreads that occurred in the fall of  
11 2008, which approached an almost 400 percent increase over the traditional 45 basis point  
12 spread. Consequently, although the cost differential associated with being less creditworthy is  
13 still higher than before the credit crisis, this differential has declined significantly since the  
14 fall of 2008. It is important to understand changes in the spreads between debt-rating  
15 categories because this provides insight on the additional return investors require for incurring  
16 additional risk. Based on the declining spread since the fall of 2008, it appears that investors  
17 are becoming less risk averse. Only time will tell as to whether the spreads will return back to  
18 pre-credit crisis levels.

19 Because the monthly utility bond yield data available from Staff’s subscription to  
20 *Mergent Bond Record* usually has about a one month lag, Staff reviewed more recent  
21 spot-yield information from Value Line. According to the February 26, 2010, issue of the  
22 *Value Line Selection and Opinion*, the yield on “BBB” rated utility bonds was 6.44 percent as  
23 of February 17, 2010. Based on the 30-year T-bond yield of 4.70 percent as of the same day,  
24 the spot-yield spread was 174 basis points. The spread has dropped by 352 basis points from  
25 a spread of 526 basis points between the average yield for “BBB” rated utility bonds and the  
26 30-year T-bond for the month of December 2008. Although Staff is providing information on  
27 spot yields for sake of providing current data, Staff does not recommend using spot yields  
28 when making cost-of-capital determinations, as it is important to evaluate yields over a longer  
29 period for purposes of making a responsible rate of return recommendation.

1           3. *Equity Performance*

2           Although changes in interest rates heavily influence the cost of debt and equity to  
3 utility companies, it is important to reflect on recent results of the major stock market indices.  
4 Although changes in the broader markets can provide insight on investors' confidence, or lack  
5 thereof, in economic conditions, a comparison of sector specific indices, such as the  
6 Dow Jones Utility Index, to the broader markets can provide a feel for investor sentiment.

7           According to the January 15, 2010, issue of The Value Line Investment Survey:  
8 Selection & Opinion, for the fourth quarter of 2009 the Dow Jones Industrial Average (DJIA)  
9 increased by 7.4 percent, the Standard & Poor's (S&P) 500 increased by 5.5 percent, the  
10 NASDAQ Composite Index (NASDAQ) increased by 6.9 percent, and the  
11 Dow Jones Utility Average (DJUA) increased by 5.5 percent. According to the  
12 same publication, for the twelve months ending December 31, 2009, the DJIA increased  
13 by 18.8 percent, the S&P 500 increased by 23.5 percent, the NASDAQ composite increased  
14 by 43.9 percent, and the DJUA increased by 7.3 percent.

15           It is noteworthy that the DJUA has generally lagged the other indices over the past  
16 year. It is not surprising that other indices have generally outperformed the DJUA over the  
17 past year considering that investors may have been expecting an improvement in the  
18 economy. However, comparing the indices over the fourth quarter indicates that investors  
19 may be becoming more defensive again. Stocks of industries that tend to be more reactive to  
20 economic cycles -- so-called "cyclical stocks" -- tend to outperform industries that are less  
21 reactive to economic cycles during periods in which the economy begins to improve.  
22 However, it is also important to understand that the changes in the indices mentioned above  
23 do not include dividend returns, which tend to be a majority of the return component for  
24 regulated utility companies.

25           Although the DJUA is one of the more widely published utility indices, it should be  
26 used with caution for purposes of drawing inferences about possible trends in regulated  
27 utilities' cost of capital because many of the companies in the DJUA have non-regulated  
28 operations that contribute to their performance. None of Staff's comparable companies are  
29 included in the fifteen companies that comprise the DJUA. Therefore, Staff does not consider  
30 the DJUA to be a good proxy group for MAWC. However, comparing utility index results to



1 the rest of the stock market can provide insight on the value being placed on utility stocks in  
2 general.

3 In addition to the major stock market indices listed above, utility indices can also vary  
4 in their results. For example, the Value Line Utilities Group, which contains companies  
5 ranging from water utility companies, such as American States Water Company (a company  
6 in Staff's proxy group), to diversified natural gas companies, such as  
7 Devon Energy Corporation, increased by 3.4 percent for the fourth quarter of 2009, which is  
8 less than the 5.5 percent increase for the DJUA. The Value Line Utilities Group increased by  
9 5.3 percent for the twelve months ended December 31, 2009, compared to the DJUA's  
10 increase of 7.3 percent.

#### 11 4. *Macroeconomic Environment*

12 It is also worthwhile to review some economic indicators for purposes of evaluating  
13 the reasonableness of a rate of return recommendation in this case. Although a reasonable  
14 DCF analysis captures investors' expectations about future economic conditions, investors  
15 will review much of this same information to arrive at their own conclusions about a fair price  
16 to pay for utility stocks in today's environment.

17 Indicators of the macroeconomic environment include estimates of inflation, short and  
18 long term interest rates, and GDP projections. *The Value Line Investment Survey: Selection &*  
19 *Opinion*, February 26, 2010, estimates inflation to be 1.70 percent for 2010, 2.30 percent for  
20 2011 and 2.40 percent for 2012. In addition, the Congressional Budget Office,  
21 *The Budget and Economic Outlook: Fiscal Years 2010-2020*, January 2010, forecasts an  
22 inflation rate of 2.40 percent for 2010, 1.30 percent for 2011, and 1.20 percent for 2012  
23 (see Schedule 5).

24 The most recent weekly rate for three-month U.S. Treasury bills (a general measure of  
25 short term interest rates) was 0.12 percent (see Schedule 5) and are estimated to be  
26 0.50 percent in 2010, 2.10 percent in 2011, and 3.00 percent in 2012 according to  
27 Value Line's predictions. The most recent weekly rate for long-term Treasury bonds was  
28 4.62 percent (see Schedule 5). Value Line expects long-term Treasury bond rates to average  
29 4.60 percent in 2010, 4.90 percent in 2011, and 5.30 percent in 2012.

30 Gross domestic product (GDP) is a benchmark utilized by the Commerce Department  
31 to measure economic growth within the U.S. borders. Real GDP is measured by the actual

1 GDP, adjusted for inflation. Value Line stated that real GDP growth is expected to increase  
2 by 2.90 percent in 2010, by 3.00 percent in 2011, and by 3.20 percent in 2012.  
3 The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal*  
4 *Years 2010-2020*, published January 2010, stated that real GDP is forecasted to increase by  
5 2.20 percent in 2010, by 1.90 percent in 2011, and by 4.60 percent in 2012 (see Schedule 5).

6 *The Value Line Investment Survey: Selection & Opinion*, February 26, 2010, stated the  
7 following in its Economic and Stock Market Commentary:

8 **A business recovery is under way.** Three months ago, in our last  
9 “Quarterly Economic Review,” we noted that the recession had faded  
10 into history, having been brought to an apparent end in the third quarter  
11 of 2009, when the U.S. gross domestic product posted its first gain  
12 (2.2%) in over a year. In the several months since then, the recession’s  
13 demise has become more evident, with GDP surging ahead by 5.7% in  
14 the fourth quarter. (Note: The group that determines when a recession  
15 begins and ends—The National Bureau of Economic Research—has  
16 yet to affirm that this downturn has concluded. However, we think that  
17 it will do so shortly.) In any event, the recession, which began in late  
18 2007, proved long and painful, and its effects may linger for years to  
19 come, especially in the areas of housing, employment, credit  
20 availability, and fiscal and monetary policy.

21 **The strength and sustainability of the economic recovery are open**  
22 **questions at this time.** The business upturn seemed to initially get  
23 under way with a flourish, with GDP at first reported to have risen by  
24 3.5% during the third quarter of 2009. However, that gain was pared to  
25 2.8% and then 2.2% in revisions that were issued in late November and  
26 late December, respectively. Now, as we peer out into 2010, the  
27 economy’s outlook is uncertain, following the historically lackluster  
28 showing in the third quarter of 2009 and the stronger outcome in the  
29 final three months of the year. (However, it should be noted that the  
30 late-year surge was helped materially by a positive swing in  
31 inventories, as businesses moved to slow their pace of inventory  
32 liquidations, because demand for goods and services rose selectively.)  
33 We believe the economy will extend its winning ways in the current  
34 quarter, although probably at a slower pace—perhaps 2.5%-2.8%. This  
35 likely deceleration reflects our expectation that help from inventories  
36 will be less appreciable; the impact of fiscal stimulus on growth will  
37 fade; the housing and employment trends will be no better than neutral;  
38 and credit availability will be limited as before. Consumers could well  
39 be reticent to spend aggressively in such a setting. All told, the current  
40 period could more closely resemble the third quarter of 2009, in  
41 aggregate strength, than the final three months of last year. That said,

1 the evolving economic up cycle still looks to be durable, if initially  
2 uninspiring. Indeed . . .

3 **The business recovery may well be an understated affair for at**  
4 **least a year**, with the prospective showing in the first quarter probably  
5 being the rule throughout 2010. Note, however, that our revised  
6 business forecast is more upbeat than it was three months ago.  
7 However, we do not envision a prototypical V-shaped recovery. Tight  
8 credit, lackluster trends in housing and employment, and uneven retail  
9 activity (the consumer remains the weak link in the recovery chain)  
10 aren't consistent with a booming up cycle. However, a swing in GDP  
11 from last year's decline of 2.4% to a possible increase of 2.9% in 2010  
12 certainly would qualify as meaningful.

13 **There are risks to our forecast.** Economic modeling always contains  
14 some conjecture. In this case, our principal assumptions are that the  
15 coming 3 to 5 years will bring no new extended military crises, as well  
16 as no pandemic, drought, or major terrorist incident. Our forecast also  
17 presumes sustained expansions in housing and employment, few  
18 missteps in fiscal or monetary policy, no serious flareups of inflation,  
19 and no bouts of deflation, such as took place in the 1930s.

## 20 5. *Summary*

21 The economic and capital market environment since the fall of 2008 has left a lasting  
22 impact on investors. However, the impact on the cost of capital depends on the risk profile of  
23 the company in which an investor may invest. While even less risky companies experienced a  
24 spike in their cost of capital in the fall of 2008 and early 2009, it appears that much of this  
25 fear, at least for companies with stable cash flows, has subsided. Utility bond yields have  
26 returned to levels not seen since approximately 2006, a time before credit markets began to  
27 tighten due to the credit events associated with sub-prime loan concerns and before the  
28 "credit collapse" of late 2008. Spreads between lower quality, investment grade public utility  
29 debt ("Baa" as rated by Moody's, which is the equivalent to a "BBB" credit rating from S&P)  
30 and higher quality, investment grade public utility debt continue to be higher than before the  
31 credit crisis, although the spreads have continued to decline. In fact, for the most recent  
32 month in which Staff had access to data on BBB-rated utility bond yields, the spread between  
33 BBB-rated utility bond yields and A-rated utility bond yields was near the average monthly  
34 spread for the period 1996 to the current period.

1           **D. Overview of American Water’s and MAWC’s Operations, Financing**  
2           **and Staff’s Proposed Approach for Estimating MAWC’s Cost of**  
3           **Capital**

4           Estimating a fair and reasonable cost of capital requires an understanding of the  
5           business operations, credit quality, and capitalization of a subject entity, as well as those of  
6           any applicable parent company.

7           1. *Business operations.*

8           The following excerpt from American Water’s 2008 SEC Form 10-K Filing provides  
9           an accurate description of American Water’s current business operations:

10           American Water Works Company, Inc., a Delaware Corporation, is the  
11           most geographically diversified as well as the largest, as measured both  
12           by operating revenue and population served, investor-owned  
13           United States water and wastewater utility company. Our  
14           approximately 7,300 employees provide approximately 15 million  
15           people with drinking water, wastewater and other water-related services  
16           in 32 states and Ontario, Canada.

17           In 2008, we generated \$2,336.9 million in total operating revenue and  
18           \$186.9 million in operating loss, which includes \$750.0 million of  
19           impairment charges relating to continuing operations, and a net loss of  
20           \$562.4 million. In 2007, we generated \$2,214.2 million in total  
21           operating revenue, representing approximately four times the operating  
22           revenue of the next largest investor-owned company in the  
23           United States water and wastewater business, and \$15.1 million in  
24           operating income which includes \$509.3 million of impairment charges  
25           relating to continuing operations.

26           We have two operating segments which are also the Company’s two  
27           reportable segments, which we refer to as the Regulated Businesses and  
28           Non-Regulated Businesses segments. For further details on our  
29           segments, see Note 22 of the Consolidated Financial Statements.

30           For 2008, our Regulated Businesses generated \$2,082.7 million in  
31           operating revenue, which accounted for 89.1% of total operating  
32           revenue. For the same period, our Non-Regulated Businesses generated  
33           \$272.2 million, in operating revenue, which accounted for 11.6% of  
34           total consolidated operating revenue.

35           American Water provided the following description of its operations in Missouri in its  
36           SEC Form 10-K Filing:

1 Missouri-American Water Company, which we refer to as MOAWC,  
2 serves a population of over 1 million and generated approximately  
3 \$181.1 million of operating revenue in 2008, representing  
4 approximately 8.7% of operating revenue of our Regulated Businesses  
5 for that period.

6 In Missouri, our infrastructure and assets are designed to collect, treat  
7 and distribute water from a variety of surface water sources  
8 (including rivers, streams, lakes and reservoirs) and groundwater  
9 sources. In 2008, we obtained 83% of our water supply from surface  
10 water sources and 17% from groundwater sources.

11 MOAWC currently operates six surface water treatment plants and  
12 approximately 15 groundwater treatment plants, which process water  
13 extracted from over 35 groundwater wells. We maintain one dam,  
14 approximately 70 treated water storage facilities, 40 pumping stations  
15 and our water and wastewater collection and distribution systems  
16 comprise nearly 5,700 miles of mains and collection pipes. We  
17 currently operate four wastewater treatment facilities in Missouri.

18 Our ability to ensure adequate supply of water in Missouri is enhanced  
19 by our comprehensive planning process. In that process, we project  
20 future water demands based on historical growth patterns. Source of  
21 supply improvement projects are planned well in advance of actual  
22 need.

23 Our operating districts in Missouri enjoy abundant water resources with  
24 limitation only in our Joplin service area where the source of water  
25 supply is unable to meet peak demands under drought conditions. To  
26 manage this issue on the demand side, the water use of a large  
27 industrial customer has been restricted under an interruptible tariff.  
28 Additional wells have been and will be developed to address short-term  
29 supply deficiencies. MOAWC is working with a consortium of  
30 agencies to determine a long-term supply solution for the  
31 Joplin, Missouri region.

## 32 *2. Credit Quality*

33 It is Staff's understanding that MAWC does not receive an individual credit rating as a  
34 stand-alone entity. This seems logical considering the fact that MAWC relies on  
35 American Water Capital Corporation (AWCC) to issue debt financing for American Water's  
36 subsidiaries, which in turn loans these proceeds to the subsidiaries through internal loan  
37 agreements.

38 Therefore, it is important for American Water's access to the debt markets to have its  
39 debt rated so potential debt investors can evaluate rating agencies opinions' in determining a

1 fair price to pay for American Water’s debt. Staff understands the credit quality of AWCC to  
2 be based on American Water’s consolidated credit quality. AWCC is a wholly-owned  
3 subsidiary of American Water that was created for the special purpose of serving as the  
4 primary funding vehicle for American Water and its subsidiaries. Although AWCC and  
5 American Water are assigned S&P credit ratings, because AWCC’s purpose is to manage and  
6 issue financing for American Water, the credit ratings for each entity are based on  
7 American Water’s consolidated operations.

8 S&P currently assigns a long-term corporate credit rating of BBB+ with a “Stable”  
9 Outlook for both AWCC and American Water. This rating currently reflects the stand-alone  
10 credit quality of American Water. Portions of S&P’s recent December 21, 2009, Research  
11 Report on American Water Works Co., Inc. follow:

12 **Rationale**

13 The ratings on American Water Works Co. Inc. (AWW) and its funding  
14 subsidiary American Water Capital Corp. (AWCC) reflect the  
15 consolidated credit quality of AWW. A favorable competitive position,  
16 a diverse and supportive regulatory environment, and a stable,  
17 above-average service territory support AWW's 'excellent' business risk  
18 profile. AWW's regulatory framework includes reasonably allowed  
19 returns on equity and various cost-recovery mechanisms, including  
20 incentives for infrastructure improvements. The company's geographic  
21 diversity provides it with some market, cash flow, and regulatory  
22 diversification. We view AWW's operating risks associated with its  
23 nonregulated operations as fairly low. AWW's aggressive financial  
24 profile, elevated capital-spending requirements for infrastructure  
25 replacement, increased compliance costs with water-quality standards,  
26 and the company's reliance on acquisitions to provide growth partly  
27 offset these strengths.

28 AWW provides regulated water and wastewater services to more than  
29 3.3 million customers in 20 states. The company's regulated utility  
30 subsidiaries represent almost 90% of total revenues, but have provided  
31 almost 100% of adjusted EBIT for the past three years. The company's  
32 non-regulated subsidiaries engage in water and wastewater facility  
33 management and maintenance, as well as design and construction  
34 consulting services related to water and wastewater plants. We view  
35 these non-regulated segments as having modest incremental risk for  
36 AWW due to their lack of cash flow contribution and modest expected  
37 capital requirements.

38 A state commission regulates each of AWW's regulated subsidiaries,  
39 which supports revenue and cash flow stability. The average allowed

1 return on equity (ROE) in AWW's six largest jurisdictions, which  
2 account for about 75% of consolidated revenues, is about 10.3%. This  
3 is about the average allowed ROE in the water sector. In a number of  
4 jurisdictions, which represent about 50% of consolidated revenues, the  
5 utility recovers replacement capital spending between rate cases up to a  
6 stated percentage. The importance of infrastructure surcharge  
7 mechanisms has increased given AWW's capital program of up to  
8 \$1 billion per year. Certain states also allow for surcharges related to  
9 the cost of power, chemicals, and purchased water. For the next few  
10 years, we expect AWW to file additional rate cases and request  
11 additional recovery mechanisms to cover rising operating costs, capital  
12 expenditures, and pension and other postretirement obligations...

### 13 **Outlook**

14 The stable outlook on AWW and AWCC reflects our expectation that  
15 the company will receive supportive rate increases over the next three  
16 years to address rising costs and increased capital spending plans. The  
17 current rating can accommodate some acquisitions, assuming  
18 management funds the acquisitions in a balanced manner. We could  
19 lower the rating if financial performance stalls or deteriorates, which  
20 could result from substantial debt-financing of capital expenditures or  
21 acquisitions, such that FFO to debt falls below 9% and debt to capital  
22 rises above 65%. We could also lower the rating if rate increases or  
23 allowed returns are set at levels substantially below the requested  
24 figures and rate case filings take significantly longer to be resolved than  
25 currently expected. We could raise the rating if higher-than-expected  
26 rate increases or favorable cost recovery mechanisms allow for a  
27 sustained adjusted FFO to total debt ratio of 12% and adjusted leverage  
28 between 50% and 55%.

29 Staff would note that there are two comments in S&P's research report that are  
30 especially noteworthy for the Commission to consider in the context of this rate case. The  
31 first is that the allowed ROE for American Water's six largest jurisdictions was about  
32 10.3 percent, which, according to S&P, is considered about average for the water sector as a  
33 whole.<sup>8</sup> The other comment that Staff found to be interesting is that made in the "Outlook"  
34 section above, which indicates that the credit rating could be lowered if allowed returns are  
35 set at levels substantially below those requested. While Staff certainly understands that  
36 investment analysts will factor in expected outcomes of rate cases when estimating a fair price  
37 for a share of stock in a utility company, Staff is uncertain why the credit rating analyst would

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<sup>8</sup> Staff is not sure what source S&P relied on for this information, but Staff has since requested this information from an S&P analyst.

1 compare the outcome to the request from a company. For example, if MAWC had requested  
2 a 15 percent allowed ROE rather than its request of 11.60 percent, Staff is not sure how a  
3 10 percent allowed ROE would be more damaging to the credit quality based merely on the  
4 fact that MAWC was allowed something “substantially” lower.

5 According to American Water’s 2009 SEC Form 10-K Filing, American Water and  
6 AWCC currently has a “Baa2” issuer credit rating. This is equivalent to an S&P BBB  
7 credit rating.

### 8 **E. Determination of the Cost of Capital**

9 A utility company’s actual cost of capital at any point in time depends, in part, on the  
10 types of capital supporting the utility company’s assets. The usual capital components are:  
11 common equity, long-term debt, preferred stock, and short-term debt. A weighted cost for  
12 each capital component is determined by multiplying each capital component ratio by the  
13 appropriate embedded cost (in the case of debt) or by the estimated cost of common equity  
14 component (in the case of common equity). The individual weighted costs are then summed  
15 to arrive at a total weighted average cost of capital (WACC). This total weighted average cost  
16 of capital (WACC) is synonymous with the fair rate of return for the utility company.

17 A company’s authorized WACC is considered a just and reasonable rate of return  
18 under normal circumstances. From a financial viewpoint, a company employs different forms  
19 of capital to support, or fund, the assets of the company. Each different form of capital has a  
20 cost, and these costs are weighted proportionately to fund each dollar invested in the assets.  
21 Assuming that the various forms of capital are reasonably balanced and are valued correctly,  
22 the resulting total WACC, when applied to rate base, will provide the funds necessary to  
23 service the various forms of capital. Thus, the total WACC corresponds to a fair rate of return  
24 for the utility company.

### 25 **F. Capital Structure and Embedded Costs**

26 The capital structure Staff used for this case is American Water’s capital structure on a  
27 consolidated basis, as of September 30, 2009. Staff was not able to use American Water’s  
28 consolidated capital structure as of the update period, October 31, 2009, because according to  
29 MAWC’s response to Staff Data Request No. 0103, American Water can only provide



1 information on a quarterly basis. Schedule 7, attached as Appendix 2 to this Report and  
2 incorporated by reference herein, presents American Water's capital structure and associated  
3 capital ratios. The resulting capital structure consists of 46.21 percent common stock equity,  
4 52.59 percent long-term debt, 0.32 percent preferred stock and 0.89 percent short-term debt.

5 The amount of long-term debt outstanding on September 30, 2009, includes current  
6 maturities due within one year and has been reduced by the net balance associated with the  
7 unamortized premiums, discounts and expenses as reported in MAWC's response to Staff  
8 Data Request No. 0104.

9 The amount of preferred stock outstanding on September 30, 2009, was reduced for  
10 the net balance associated with the unamortized issuance expense as reported in MAWC's  
11 response to Staff Data Request No. 0104.

12 American Water's September 30, 2009 Balance Sheet indicates that American Water  
13 had \$76,556,000 of short-term debt outstanding. American Water does not specify the  
14 amount of construction work in progress (CWIP) outstanding on its September 30, 2009  
15 Balance Sheet. Therefore, Staff included the entire amount of short-term debt outstanding in  
16 its recommended capital structure. Staff has requested more detailed information on  
17 American Water's short-term debt and CWIP balances. If this information should justify a  
18 need for Staff to reconsider its recommended capital structure, Staff will do so at a later time.

19 Staff chose to use American Water's capital structure for MAWC's ratemaking capital  
20 structure for several reasons. First, MAWC is not operating as an independent entity, at least  
21 when considering MAWC's procurement of financing and the cost of that financing. For  
22 example, MAWC has a Financial Services Agreement<sup>9</sup> with AWCC through which AWCC  
23 arranges short-term borrowings and performs cash management for MAWC. Under the cash  
24 management program, operating cash surpluses and deficits of each participating affiliate are  
25 lent to or borrowed from AWCC on a *daily* basis, showing heavy integration of MAWC's  
26 financial management with American Water's other operations. While MAWC has accessed  
27 the capital markets directly in the recent past by issuing tax-advantaged bonds through the  
28 State Environmental Improvement and Energy Resources Authority, MAWC has represented  
29 to Staff in the past that AWCC is the primary source of long-term and short-term debt

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<sup>9</sup> See Financial Service Agreement, attached as Appendix 2 to MAWC's Application filed in Case No. WF-2002-1096.

1 financing for MAWC and this appears to continue to be the case currently. As of  
2 September 30, 2009, approximately 48 percent of the debt shown on MAWC's balance sheet  
3 was received by means of debt issuances by AWCC.

4 Second, the debt issued by AWCC is rated by credit rating agencies based on the  
5 consolidated credit quality of American Water. Therefore, the cost of any debt that MAWC  
6 receives from AWCC is and will be based on the consolidated creditworthiness of  
7 American Water, (i.e. the business risk and financial risk associated with American Water's  
8 consolidated operations).

9 Third, American Water is primarily a regulated water distribution utility, meaning that  
10 the business risks of American Water are similar to that of Missouri-American. If the  
11 business risks of the parent company are similar to that of the subsidiary, then each entity  
12 should be able to incur similar amounts of financial risk. Presumably this should cause their  
13 capital structures to be fairly similar. Because it is the parent company's consolidated  
14 operations that drive the cost of debt capital and equity capital, the parent company's capital  
15 structure is the capital structure that will be analyzed by investors when determining the  
16 required rate of return for debt issued by AWCC and equity issued by American Water. Staff  
17 would note that it is not always appropriate to use the parent company's cost of common  
18 equity if the parent company's business risk profile is significantly different than that of its  
19 regulated subsidiaries.

20 Fourth, American Water employs double leverage, a term used to describe a situation  
21 in which the parent company uses financing other than equity financing, usually debt, raised  
22 at the parent company level to infuse equity in its subsidiaries. Usually this situation results  
23 in the parent company's capital structure being more leveraged than the subsidiaries, but this  
24 is currently not the case for MAWC. However, because American Water currently has over  
25 \$1 billion<sup>10</sup> in debt outstanding at the holding company level and its only assets are its stock  
26 ownership in its water utility subsidiaries, then the funds from this debt financing are  
27 apparently being used to invest in American Water's subsidiaries as equity infusions.<sup>11</sup>

28 Finally, it appears that all debt issued by AWCC and loaned to MAWC is essentially  
29 guaranteed by American Water. In American Water's 2002 Annual Report, the Company

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<sup>10</sup> MAWC's Response to Staff Data Request No. 0104.

<sup>11</sup> Because American Water does not produce stand-alone holding company financial statements, Staff could not directly confirm this, but this is consistent with Staff's understanding of American Water's operations.

1 indicated that American Water has “fully and unconditionally guaranteed the securities of  
2 AWCC.” Therefore, although there are internal loan documents between MAWC and  
3 AWCC, the ultimate responsibility for the payment of the debt service on the debt through  
4 AWCC rests with American Water. This calls into question whether it is appropriate to  
5 consider the debt received by MAWC from AWCC as truly MAWC debt. The subsidiary’s  
6 use of debt financing that is backed by the parent, supports the Staff’s recommendation to use  
7 American Water’s consolidated capital structure.

8 Schedules 6-1 and 6-2 show MAWC’s and American Water’s historical capital  
9 structures. Although this information demonstrates American Water’s more leveraged capital  
10 structure as compared to MAWC through 2006, it should be noted that  
11 RWE Aktiengesellschaft (RWE) began preparations to divest its 100 percent equity interest in  
12 American Water beginning in 2007 by redeeming preferred stock and debt that  
13 American Water had issued to RWE. This explains the reduction of the balance of  
14 American Water preferred stock by \$1.75 billion in 2007 compared to 2006. RWE began the  
15 process of divesting its equity ownership interest in American Water in April 2008 through an  
16 initial public offering (IPO) of common stock. As of November 24, 2009, RWE had  
17 completely divested all equity ownership interest it had in American Water. Although  
18 American Water still issues debt at the parent company level for purposes of investments in  
19 its subsidiaries, Staff does not anticipate that American Water will have as much preferred  
20 stock in its capital structure as it had while owned by RWE.

21 It is interesting to note that American Water actually has a less leveraged capital  
22 structure than MAWC at this time. This is not consistent with the capitalization of  
23 American Water in past MAWC rate cases. In this instance, because Staff still does not  
24 consider MAWC as a stand-alone entity from a financial perspective, Staff believes it is  
25 appropriate to use American Water’s consolidated capital structure along with the costs of  
26 debt issued by AWCC, which are based on the consolidated creditworthiness of  
27 American Water.

### 28 **G. Cost of Common Equity**

29 Staff estimated MAWC’s cost of common equity by applying cost of equity  
30 methodologies to a proxy group. Staff primarily relied on the DCF methodology

1 (both constant-growth and multi-stage) to estimate the cost of equity, but Staff also tested the  
2 reasonableness of its DCF estimate by performing a CAPM analysis.

3 Staff's first DCF-estimated cost of common equity was based on the traditional  
4 constant-growth DCF analysis (explained in detail in Attachment A). This model consists of  
5 adding an estimated dividend yield ( $D_1/P_0$ ) with a projected constant growth rate (G) to arrive  
6 at an estimated cost of equity.

7 Staff decided to supplement its constant-growth DCF analysis in this case with  
8 multi-stage DCF analysis primarily due Staff's concerns about the sustainability of projected  
9 growth rates. Staff explains its multi-stage DCF analysis in more detail later in the  
10 ROR Section of the Cost of Service Report.

11 Staff tested the reasonableness of its DCF analysis using the CAPM (explained in  
12 detail in Attachment B). The CAPM Formula can be expressed by the following equation:  
13  $k = R_f + \beta (R_m - R_f)$ , where  $R_m - R_f$  is the market risk premium ( $R_m - R_f$ ) is adjusted by  
14 beta ( $\beta$ ) and added to a risk-free rate ( $R_f$ ) to estimate the cost of equity. To further test the  
15 reasonableness of its estimated cost of equity Staff also reviewed other information, such as  
16 Goldman Sachs' cost of equity estimates used to value water utility stocks and capital market  
17 expectations from the Missouri State Employee Retirement System (MOSERs).

#### 18 1. *Proxy Group*

19 The Staff started with a list of 10 publicly-traded water utility companies monitored by  
20 the financial-services firm of Edward Jones. This list was reviewed to ensure that the  
21 companies meet the following criteria:

- 22 1. Classified as a water utility company by Edward Jones;
- 23 2. Stock publicly traded: this criterion did not eliminate any companies;
- 24 3. Information printed in Value Line: this criterion eliminated two  
25 companies;
- 26 4. Five years of data available: this criterion eliminated one company;
- 27 5. At least investment grade credit rating: this criterion eliminated two  
28 additional companies because of lack of rating information;
- 29 6. Projected growth rate available from Value Line or Reuters:  
30 this criterion eliminated two additional companies; and,
- 31 7. Greater than 75 percent of revenues from water operations:  
32 this criterion did not eliminate any companies.

1           This final group of four publicly-traded water utility companies was used to estimate a  
2 proxy group cost of common equity to be applied to MAWC's operations. The resulting  
3 comparable companies are listed on Schedule 11.

4           Staff would note that the above-listed criteria are slightly different from those used by  
5 Staff in recent MAWC rate cases. In fact, Staff used slightly more lenient criteria for two  
6 criteria, the amount of historical data available and the percentage of revenues from water  
7 utility operations, because if Staff had not done so, Staff's proxy group would have consisted  
8 of only three companies. However, if the relaxing of criteria comes at the expense of  
9 selecting companies that are not comparable in risk to the subject company, then such action  
10 should not be taken, even if this results in a smaller proxy group. Due to lack of analyst  
11 coverage of Middlesex Water Company, this company no longer met the applicable criterion  
12 for inclusion in Staff's comparable group. Although it is important to judge the  
13 reasonableness of analysts' 5-year earnings per share (EPS) growth rate projections, one  
14 cannot do so unless analysts provide them. Because Staff believes it is important to consider  
15 this third-party information, Staff decided it should not relax this criterion.

16           Staff does not believe lowering the threshold for percentage of revenues from water  
17 operations by 5 percent should cause significant bias in estimating the cost of equity for a  
18 regulated water utility. Although Staff notes that if there is any bias in this selection, it would  
19 most likely be an upward bias to the cost of equity estimation due to a slightly increased  
20 business risk profile. Considering the lowering of this threshold allowed  
21 American States Water Company to be included in Staff's proxy group and this company had  
22 historically been included in Staff's comparable group in past MAWC rate cases, this also  
23 eased Staff's concerns about this decision.

24           Also, Staff decided to reduce the requirement for historical information to at least  
25 5 years of data. This allowed one additional company, York Water Company, which had not  
26 been included in Staff's past comparable groups. Although Staff prefers to select companies  
27 that have up to 10-years of data to be able to assess the possible sustainability of shorter-term  
28 growth rates, Staff can consider this data with the other companies in its comparable group.

29           Even with Staff's less stringent criteria, Staff's comparable group of four companies  
30 was still no larger than the Staff's comparable groups in past MAWC rate cases. Although it

1 is preferable to have a larger proxy group, the state of the water utility industry, in which there  
2 has been considerable consolidation, simply does not make this practical.

### 3 2. *Constant-growth DCF*

4 In this case Staff initially estimated the proxy group's cost of common equity using  
5 the traditional constant-growth DCF analysis. Due to the maturity of the regulated utility  
6 industry the constant-growth DCF in most situations is considered to be ideal for estimating  
7 the cost of common equity. However, due to unsustainable 5-year equity analysts' EPS  
8 growth expectations for the water utility industry, Staff believes the multi-stage DCF analysis  
9 should be considered for the water industry. This type of analysis allows for inclusion of  
10 higher near-term growth rates in estimating the cost of common equity, while recognizing the  
11 fact that these growth rates are not sustainable in perpetuity. However, because Staff's proxy  
12 group's average historical growth rates and at least the analysts' projected EPS growth rates  
13 obtained from *Reuters* are not widely divergent (difference of 71 basis points), Staff believes  
14 it can place some confidence in estimating a constant-growth rate from this data and therefore,  
15 give weight to its constant-growth DCF methodology in estimating MAWC's cost of  
16 common equity.

17 The first step Staff performed in its constant-growth DCF analysis was to estimate a  
18 growth rate (G). In doing this, Staff reviewed the actual dividends per share (DPS), earnings  
19 per share (EPS), and book values per share (BVPS) as well as projected DPS, EPS and BVPS  
20 growth rates for the comparables. Schedule 12-1 lists the annual compound growth rates for  
21 DPS, EPS, and BVPS for the past ten years. Schedule 12-2 lists the annual compound growth  
22 rates for DPS, EPS, and BVPS for the past five years. Schedule 12-3 presents the averages of  
23 the growth rates shown in Schedules 12-1 and 12-2. Schedule 14 presents the average  
24 historical growth rates and the projected growth rates for the comparables. The projected EPS  
25 growth rates were obtained from two sources: *Reuters.com* and *The Value Line Investment*  
26 *Survey: Ratings and Reports*.

27 The two projected EPS growth rates were averaged to develop an average projected  
28 growth rate of 7.33 percent, which was then averaged with the historical EPS, DPS and BVPS  
29 growth rates to produce an average historical and projected growth rate of 6.38 percent.  
30 I estimated a range of growth of 5.40 percent to 6.40 percent, which gives consideration to  
31 both historical growth rate indications and projected growth rate indications.

1           Although Staff decided to use a constant-growth rate range of 5.40 percent to  
2 6.40 percent, Staff notes that assuming that water utility companies' dividends can grow in  
3 perpetuity at a growth rate that is higher than expected growth in the overall economy should  
4 result in an upwardly biased estimated cost of common equity. According to many financial  
5 textbooks, when estimating a final perpetual growth rate for a growth industry, an appropriate  
6 perpetual growth rate would be based on expected long-term economic growth if this growth  
7 rate is consistent with the expected sustainable growth.<sup>12</sup> Consequently, Staff chose to  
8 perform a multi-stage DCF analysis as well. However, due to the fact that even the average  
9 historical growth rates were above 5 percent, Staff decided weight should still be afforded to  
10 the constant-growth DCF in this case.

11           Staff's next step in estimating the cost of common equity using the constant-growth  
12 DCF was to estimate the dividend yield ( $D_1/P_0$ ) for the proxy group. The yield term of the  
13 DCF model is calculated by dividing the amount of DPS expected to be paid over the next  
14 twelve months ( $D_1$ ) by the market price per share of the firm's stock. ( $P_0$ ). It is important to  
15 ensure the selection of stock prices that reflect investors' current expectations of the business  
16 and economic climate. Staff believes the use of stock prices for the most recent three months  
17 (through the end of February 2010) to be reasonable, as this period reflects investors' analysis  
18 of the current economic conditions over a quarterly period. It should be noted that Staff's use  
19 of three months of average stock prices for the comparable group is different from its past  
20 practice of using four months of stock prices. Staff decided to make this change because most  
21 financial data is reported based on three months of data, i.e. quarterly.

22           Staff decided to use a technique that averages monthly high/low stock prices over a  
23 period of three months to estimate the dividend yield. The monthly high/low averaging  
24 technique minimizes the effects on the dividend yield that can occur due to short-term  
25 volatility in the stock market. Schedule 16 presents the average high/low stock price for each  
26 comparable for the period of December 1, 2009, through February 26, 2010.

27           Column 1 of Schedule 17 indicates the expected dividend for each comparable over  
28 the next 12 months as projected in the most recent Value Line report. Column 3 of

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<sup>12</sup> John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, 2002, Association for Investment Management and Research.  
Aswath Damodaran, *Investment Valuation: Tools and techniques for determining the value of any asset*, 1996, John Wiley & Sons, Inc.

1 Schedule 17 shows the projected dividend yield for each of the comparables. The dividend  
2 yield for each comparable was averaged to estimate the projected average dividend yield for  
3 the comparables of 3.35 percent. Considering the Commission's decision in its  
4 *Report and Order* in the most recent final Union Electric rate case, Case No. ER-2008-0318,  
5 in which the Commission supported quarterly-compounding of dividends, it is important to  
6 note that Staff did not adjust the dividend yield for quarterly compounding. Staff is  
7 attempting to estimate investors' expectations and because the Value Line dividend yield does  
8 not reflect quarterly compounding, Staff does not believe that investors' analyze the expected  
9 dividend yield on a quarterly-compounded basis.

10 As shown on Schedule 17, Staff's estimate of the proxy group's cost of common  
11 equity based on the projected dividend yield and a growth rate range of 5.40 to 6.40 percent is  
12 8.75 percent to 9.75 percent, midpoint 9.25 percent.

### 13 *3. Multiple-Stage DCF*

14 Multiple-stage DCF methodologies are usually intended for industries and/or  
15 companies that are in the early stages of their growth cycles. While Staff does not consider  
16 the water utility industry to be a growth industry, Staff is generally aware of investor  
17 expectations for continued consolidation within the industry, which is driving growth  
18 expectations for the industry in general. While this is not a "natural" growth driver, such as  
19 an industry that is in the early stages of its growth cycle, it is a growth factor nonetheless and  
20 to the extent these are the proxy companies available for the cost of common equity  
21 estimation for water utility operations, then this becomes a practical matter. In fact, due to  
22 consolidation that has occurred in the water utility industry over the years, the number of  
23 water utility companies available for cost of equity estimation has dwindled.

24 Because of the factors discussed above, Staff believes it is appropriate to perform a  
25 multi-stage DCF analysis on its water utility proxy group. As with all estimation  
26 methodologies, it is not the models alone that allow for reliable results, it is the  
27 reasonableness of the inputs into such models that provide reliable results. Although the  
28 reasonableness of early-stage estimated growth rates are important in a multi-stage DCF  
29 analysis, the perpetual growth rate used will be the primary driver of the final cost of common  
30 equity estimate. While in recent electric rate cases, Staff considered a multi-stage DCF  
31 analysis using a perpetual growth rate based on expected long-term GDP growth to be



1 inappropriate due to Staff's understanding of the fundamentals driving the growth of the  
2 electric utility industry, which seemed to explain investors' perpetual growth expectations,  
3 this is not as clear for the water utility industry.

4 Staff's multi-stage DCF assumes three (3) different stages of growth in dividends:  
5 years 1-5, years 6-10 and year 11 through infinity. Although it is impossible to discount  
6 expected dividends through infinity, it is possible to extend the period long enough to where  
7 the discounting of additional dividends does not have a meaningful impact on the cost of  
8 equity estimate. Staff extended its third stage to 200 years. Although this methodology may  
9 seem complex on its face, the multi-stage DCF is simply used to determine the discount rate  
10 that causes current stock prices to equal the present value of future expected dividends. In  
11 fact, the constant-growth DCF was derived from the formula used for discounting dividends  
12 over multiple periods. The constant-growth DCF simplified the equation to assume one  
13 constant growth rate in perpetuity.

14 Although Staff has not used this methodology in past MAWC rate cases, Staff does  
15 not believe consistency should come at the cost of accuracy and reliability in estimating the  
16 cost of common equity. Staff has in fact used this approach in the last several electric utility  
17 rate cases in which it has filed testimony and considers this approach to be appropriate in  
18 situations in which it is difficult to estimate a sustainable growth rate with much confidence  
19 and/or when in Staff's opinion 5-year projected growth rates are not sustainable due to the  
20 fact that such rates are higher than expected economic or industry sustainable growth rates.

21 Although Staff had confidence in estimating a growth rate base on analyzing historical  
22 and projected growth rates in this case, Staff believes the growth rate it estimated for its  
23 constant-growth DCF may not be sustainable because it is higher than expected growth in the  
24 U.S. economy. Staff believes this justifies the use of a multiple-stage DCF analysis to  
25 provide another estimate of the cost of common equity using growth rate inputs that are  
26 allowed to vary and fall to a sustainable level in perpetuity.

27 While it would seem logical to believe that investors would use a lower perpetual  
28 growth rate for the water utility industry than for the electric utility industry when discounting  
29 expected cash flows because of the longevity of the water industry, Staff cannot find

1 consistent evidence that this is the case. For example, in various Goldman Sachs reports<sup>13</sup>  
2 that Staff received from MAWC in response to Staff Data Request No. 0107, Staff discovered  
3 that Goldman Sachs used a long-term dividend growth rate of 5 percent in its dividend  
4 discount model (DDM) analysis and discounted these dividends based on a 9 percent cost of  
5 equity. This compares to a 2.5 percent perpetual growth rate used by Goldman Sachs when  
6 discounting electric utility company cash flows.

7 Although Staff will continue to research water utility industry data to determine if  
8 Staff can provide a reliable generic perpetual growth rate for a multi-stage DCF analysis of  
9 the water utility industry, out of conservatism, Staff decided to use expected nominal GDP  
10 growth for the perpetual growth rate.

11 For purposes of Staff's multi-stage DCF analysis Staff chose to give full weight to the  
12 analysts' earning growth estimates for the first five years of its DCF analysis, which is  
13 consistent with the intended term of the 5-year EPS forecasts (Stage 1). Staff then reduced  
14 the 5-year EPS forecasted growth rate linearly over years six through ten (Stage 2) to arrive at  
15 the growth rate assumed for perpetuity, which in this case Staff assumed to be based on  
16 expected long-term GDP growth. Staff relied on the estimates of long-term nominal GDP  
17 growth from both the Congressional Budget Office (CBO)<sup>14</sup> and the Federal Reserve<sup>15</sup> for a  
18 projected long-term nominal GDP growth rate. Staff considered an estimate of approximately  
19 4.50 percent to be reasonable.

20 Instead of reducing the 5-year analyst growth rate estimates down to the perpetual  
21 growth rate in year six (this is the assumption in most 2-stage DCF analyses, which results in  
22 a lower cost of equity estimate), Staff decided to allow for a gradual decline from years six  
23 through ten and then applied the perpetual growth rate starting in year eleven because  
24 projecting company-specific growth rates past this time is futile.

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<sup>13</sup> American Water Works Co., Inc, *Narrowing the ROE gap with rate case filings*, November 11, 2009, Maria Karahalidis, CFA and Gabriela Bis; American Water Works Co., Inc, *2Q09 earnings in line; weather hurts volume*, August 9, 2009, Maria Karahalidis, CFA and Gabriela Bis; American Water Works Co., Inc, *Lowering estimates due to higher anticipate O&M expenses*, June 1, 2009, Maria Karahalidis, CFA and Gabriela Bis; and American Water Works Co., Inc, *Raising 2009/2010 estimates to reflect stronger operating margins*, May 11, 2009, Maria Karahalidis, CFA and Gabriela Bis

<sup>14</sup> "The Budget and Economic Outlook: Fiscal Years 2010 to 2020" January 2010, *Congressional Budget Office*.

<sup>15</sup> <http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20100127.pdf>

1           When performing its constant-growth DCF analysis, Staff does not traditionally make  
2 the assumption that next year's dividend will grow at the rate of projected earnings growth  
3 because investors rarely expected the dividend to grow at this rate in the short-term.  
4 However, for purposes of performing its multi-stage DCF analysis in this case, Staff did make  
5 this simplifying assumption because the dividend yield is not one of the explicit components  
6 of a multi-stage formula.

7           The multi-stage DCF analysis is equivalent to determining the internal rate of return  
8 (IRR) for a possible investment. The IRR is the discount rate that makes the present value of  
9 all future cash flows equal to the cost of the initial investment. In most cases, if the IRR is  
10 higher than the cost of capital, then the company will make the investment. As with many of  
11 the methodologies used to estimate the cost of common equity for utility companies in rate  
12 case proceedings, this model was adapted to solve for the equity investors' required rate of  
13 return. There are many situations in which cash flows are discounted to determine a current  
14 value of a proposed investment. For example, investment advisors discount expected future  
15 cash flows of a possible investment by the cost of common equity of the operation in order to  
16 provide an opinion on the "fair value" of a proposed investment.

17           Staff provides its multi-stage DCF analysis recommendation on Schedule 19.  
18 Schedule 19 shows the proxy group's overall average cost of common equity and Staff's  
19 recommended range based on this average. Staff's initial findings using a multi-stage DCF  
20 analysis is an estimated of cost of common equity in the range of 8.15 percent to 9.15, with a  
21 midpoint of 8.65 percent. While this main seem low relative to allowed ROE's for the water  
22 utility industry, the high end of this cost of equity estimate is actually consistent with the  
23 9 percent cost of equity Goldman Sachs used in its DDM, i.e. DCF in regulatory terminology,  
24 when discounting American Water's expected dividends.

25           Staff estimates a cost of common equity range for its proxy group of 8.65 percent to  
26 9.25 percent, which is based on the mid-point of its multi-stage DCF analysis and the  
27 mid-point of its constant-growth DCF analysis. However, considering the fact that  
28 American Water is rated BBB+ by S&P and the average S&P credit rating for the  
29 comparables is A, Staff made an upward adjustment to its cost of common estimate for  
30 MAWC. Staff increased the lower end and the upper end of the range by 30 basis points to  
31 reflect the higher risk implied by this credit rating differential. The spreads between A-rated

1 utility bonds and BBB-rated utility bonds averaged approximately 45 basis points during the  
2 last three months in which Staff had data available (November and December 2009 and  
3 January 2010). However, spreads before the credit crisis occurred were closer to 30 basis  
4 points. Although Staff is hopeful that the spreads between A-rated utility bonds and  
5 BBB-rated utility bonds will continue to narrow back to the spreads realized before the credit  
6 crisis, Staff decided it should base its adjustment on more recent spreads since additional risk  
7 aversion is still implied in recent spreads. This approximately equates into a 15 ( $45/3 = 15$ )  
8 basis point differential for each notch within the credit rating and because American Water's  
9 credit rating is two notches below the average credit rating of the comparable companies, the  
10 Staff believes it is appropriate to adjust the proxy group cost of common equity estimate up  
11 by 30 basis points. Therefore, the Staff recommends a return on common equity in the range  
12 of 8.95 percent to 9.55 percent, mid-point 9.25 based on the results of its comparable  
13 company constant-growth and multi-stage DCF analysis.

14 Staff does not believe its multi-stage DCF analysis should be adjusted upward for  
15 quarterly compounding as the Commission requested in its recent *Report and Order* in  
16 Case No. ER-2008-0318. Estimating the cost of common equity necessarily involves making  
17 certain simplifying assumptions. In this case, Staff assumed that investors would receive  
18 dividends in the near future at the rate of earnings growth when in reality this will not likely  
19 happen. Because this results in the assumption that investors will receive a higher amount of  
20 dividends than they actually receive, this biases the estimated cost of equity upwards to  
21 discount these higher estimated cash flows back to the present. According to Value Line, the  
22 projected growth rate in dividends for the three companies in the Staff's proxy group in which  
23 such data is available is approximately 6.67 percent over the next 5 years. However, Staff's  
24 multi-stage DCF analysis assumed that this dividend would grow from years one through five  
25 at a rate of 7.67 percent per year. If Staff discounted the total dividends Value Line expects  
26 the proxy group to pay through 2013 by Staff's recommended cost of equity of 9.25 percent,  
27 this would result in an average present value for these dividends of \$10.76. However, when  
28 Staff discounts the dividends assumed in its multi-stage DCF analysis using the same discount  
29 rate, the result is a present value of \$10.77 for these dividends. Because Staff's multi-stage  
30 DCF analysis assumes investors will receive a penny more in dividends (at least in the early  
31 stages) than they are likely to receive, this methodology requires a slightly higher discount

1 rate (and therefore a higher indicated cost of equity than appropriate) to cancel out the  
2 assumption of receiving a higher amount of dividends sooner rather than later. Over this  
3 5-year period, the discount rate (cost of common equity) would have to be increased by  
4 5 basis points in order to achieve a present value of dividends equivalent to the present value  
5 of the Value Line predicted dividends. Because Staff's calculation for estimating the cost of  
6 equity already has an upward bias, as explained above, Staff does not believe its multi-stage  
7 DCF analysis should be adjusted upward for quarterly compounding.

#### 8 *4. Capital Asset Pricing Model*

9 Staff also performed its traditional CAPM cost of common equity analysis on the  
10 comparable companies. Staff relied on historical capital market return information through  
11 the end of the 2008 calendar year for its analysis. Staff anticipates receiving updated capital  
12 market return information through the end of the 2009 calendar year before it files its rebuttal  
13 testimony in this case. Staff will provide this updated analysis at that time.

14 Due to significant stock market declines through the end of 2008, Staff's CAPM  
15 results using data through 2008 should not be given much consideration in this case, at least at  
16 the low end of Staff's estimates. However, due to recent increases in U.S. Treasury bond  
17 rates, a CAPM estimate using arithmetic averages is roughly in line with Staff's mid-point of  
18 its multi-stage DCF analysis.

19 Before the significant market contraction that occurred from the fall of 2008 through  
20 the spring of 2009, Staff had previously indicated that it believed the risk premium estimates  
21 based on the differences in earned returns between stocks and risk-free bonds may be too high  
22 considering higher stock valuation levels. Now, Staff believes estimates using earned return  
23 spreads through the end of 2008 may be too low considering the significant decreases in  
24 equity returns that occurred at the end of 2008. Consequently, the reliability of cost of  
25 common equity results obtained from performing a CAPM analysis or risk premium analysis  
26 is heavily dependent on the estimated risk premium used to determine the cost of  
27 common equity.

28 Therefore, if the inputs in the CAPM analysis are not vigorously tested to determine if  
29 they are consistent with current implied market risk premiums, then a CAPM analysis will not  
30 yield reliable results. However, because the estimation of implied equity risk premiums is  
31 often done by using some variation of the DCF methodology, Staff believes any such attempt

1 in this case to estimate the equity risk premium for purposes of the using the CAPM model  
2 will only be as reliable as the DCF analysis used to estimate this equity risk premium. If the  
3 DCF analysis does not appear to be reliable, then any risk premiums estimated using a  
4 DCF analysis will be unreliable.

5 The CAPM requires estimates of three main inputs: the risk-free rate, the beta and the  
6 market risk premium. For purposes of this analysis, Staff used an average yield on  
7 Thirty-year U.S. Treasury Bonds (T-bonds) for its risk-free rate. In this case, the Staff  
8 decided to use an average monthly yield for the most recent three months (December 2009,  
9 January 2010 and February 2010). This is a slight variation from Staff's traditional approach  
10 of using the most recent average monthly yield available, which in this case would have been  
11 January 2010. However, as discussed during the recent evidentiary hearing in the MGE rate  
12 case, Case No. GR-2009-0355, because yields fluctuate just as stocks do, it seems both logical  
13 and appropriate in this case for Staff to average this yield for a three month period, as is done  
14 for stock prices in Staff's DCF analysis to determine the dividend yield. The three-month  
15 average yield was approximately 4.57 percent.<sup>16</sup> If Staff had continued to use the most recent  
16 monthly yield in this analysis, its CAPM cost of common equity estimate would have been  
17 5 basis points higher.

18 For the second variable, beta, Staff used Value Line's betas for the comparable group  
19 of companies. Schedule 18 contains the Value Line betas for the comparables. The average  
20 beta for the comparables was 0.71, implying that the comparables are 29% less risky than the  
21 market as a whole.

22 The final term of the CAPM is the market risk premium ( $R_m - R_f$ ). The market risk  
23 premium represents the expected return from holding the entire market portfolio, less the  
24 expected return from holding a risk-free investment. The Staff relied on risk premium  
25 estimates based on historical differences between earned returns on stocks and earned returns  
26 on bonds.

27 The first risk premium Staff used was based on the long-term, arithmetic average of  
28 historical return differences from 1926 to 2008, which was 5.60 percent. The second risk  
29 premium used was based on the long-term, geometric average of historical return differences

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<sup>16</sup> <http://research.stlouisfed.org/fred2/series/GS30?cid=115>

1 from 1926 to 2008, which was determined to be 3.90 percent. These risk premiums were  
2 taken from Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2009 Yearbook.<sup>17</sup>

3 Schedule 18 presents the CAPM analysis of the comparables using historical actual  
4 return spreads to estimate the required equity risk premium. The CAPM analysis using the  
5 long-term arithmetic average risk premium and the long-term geometric average risk premium  
6 produces estimated costs of common equity of 8.56 percent and 7.35 percent; respectively.

## 7 **H. Further Tests of Reasonableness**

8 In order to further test the reasonableness of Staff's estimated cost of common equity  
9 for MAWC's operations, Staff reviewed expected returns for various asset classes provided  
10 by the Missouri State Employees' Retirement System (MOSER's).<sup>18</sup> According to this  
11 information, the expected returns for large capitalization domestic equities is 8.50 percent.  
12 Because regulated water utility companies exhibit less risk than the broader market  
13 (as measured by betas), this demonstrates the reasonableness of an estimated cost of common  
14 equity in the 8 to 9 percent range.

15 Another test of reasonableness is a "rule of thumb" estimate of the cost of common  
16 equity based on current costs of debt being incurred by utility companies. According to the  
17 textbook Analysis of Equity Investments: Valuation (2002) by John D. Stowe,  
18 Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey (used as part of the  
19 curriculum in the Chartered Financial Analyst Program), a typical risk premium added to the  
20 yield-to-maturity (YTM) of a company's long-term debt is in the 3 to 4 percent range.  
21 Because utility stocks behave much like bonds, I would not add more than a 3 percent risk  
22 premium to arrive at a rough estimate of the cost of common equity. As of January 2010,  
23 Moody's "A" rated bonds and "Baa" rated bonds were yielding 5.77 percent to 6.16 percent  
24 respectively. If you add 3 percent risk premium to these yields, the indicated cost of common  
25 equity is 8.77 percent to 9.16 percent.

26 Although the Staff recommends that the Commission rely primarily on the Staff's  
27 cost-of-common-equity recommendation in this case when authorizing a fair rate of return,  
28 the Staff recognizes that the Commission has expressed a preference in past cases to at least

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<sup>17</sup> The 2010 Yearbook is not yet available.

<sup>18</sup> See <http://www.mosers.org/About-MOSERS/Reports-Research/Summit-Strategies-Capital-Markets-Assumptions.aspx>.

1 consider the average authorized returns allowed in other states, which in the case of electric  
2 and gas utilities is published by the Regulatory Research Associates (RRA). However, RRA  
3 does not publish this information for water utilities.

4 In order to obtain at least some information on authorized returns for water utilities,  
5 Staff issued Data Request No. 115 to MAWC to provide at least an indication of the allowed  
6 returns for American Water's other water utility subsidiaries. MAWC's response provided  
7 information for 2008, but not for 2009. Additionally, the 2008 "allowed" ROE information  
8 included ROEs that were backed into due to settlements. While Staff does not consider the  
9 grouping of truly authorized ROEs from commissions with those assumed through  
10 settlements to be a fair gauge of authorized ROEs, nevertheless, this is the information  
11 MAWC provided and because the settled cases were not identified, Staff simply averaged all  
12 ROEs provided, which resulted in a 10.31 percent average "allowed" ROE for 2008. Staff  
13 will continue to pursue 2009 information and seek to identify which cases were settled and  
14 which were litigated.

15 Because Staff has not researched the specifics of any of the cases that make up S&P's  
16 indicated average allowed ROE of 10.3 percent or those provided by MAWC, Staff cannot  
17 inform the Commission with any certainty as to why its recommendation is below this  
18 average authorized ROE. To the extent that the Commission develops parameters for a  
19 certain zone of reasonableness and the Commission needs to consider the upper end of Staff's  
20 recommended ROE range to consider Staff's recommendation, Staff encourages the  
21 Commission to consider this upper end.

## 22 **I. Conclusion**

23 Based on all of Staff's cost of equity analyses and consideration of all of the other  
24 independent information Staff reviewed to test the reasonableness of its analyses, Staff  
25 believes a fair cost of common equity estimate in this case is in the range of 8.95 percent to  
26 9.55 percent, with a mid-point of 9.25 percent. Staff may adjust its recommended cost of  
27 common equity based on any changes in American Water's capital structure as of the true-up  
28 period in this case.

29 Under the cost of service ratemaking approach, a WACC in the range of 7.42 percent  
30 to 7.70 percent was developed for MAWC (see Schedule 22). This rate was calculated by



1 applying an embedded cost of long-term debt of 6.18 percent and a cost of common equity  
2 range of 8.95 percent to 9.55 percent to a capital structure consisting of 46.21 percent  
3 common equity, 52.59 percent long-term debt, 0.32 percent preferred stock and 0.89 percent  
4 short-term debt. Therefore, from a financial risk/return prospective, as Staff suggested earlier,  
5 Staff recommends that MAWC be allowed to earn a return on its rate base in the range of  
6 7.42 percent to 7.70 percent, with a midpoint recommendation of 7.56 percent.

7 Through Staff's analysis, Staff believes that it has developed a fair and reasonable  
8 return. Staff's estimate of the cost of common equity is consistent with discount rates and  
9 expected returns used by those in the investment community. Because these are sources with  
10 no connection to the utility rate setting process, Staff believes this is the type of information  
11 that should be reviewed to test the fairness and reasonableness of a recommended return  
12 on equity.

13 *Staff Expert: David Murray*

## 14 **VI. Rate Base**

### 15 **A. Plant in Service and Depreciation Reserve**

#### 16 **1. Plant in Service as of October 31, 2009**

17 Accounting Schedule 3, Plant in Service, reflects the rate base value of  
18 Missouri-American's plant in service for each district as of October 31, 2009, by account.  
19 The plant in service for each district includes allocated Corporate plant as discussed in  
20 Section VII. Corporate plant was allocated across the districts according to the Labor  
21 Composite Corporate Allocation Factor (the corporate allocation factors are discussed in  
22 Section VII item B and listed in the attached Appendix 3).

23 *Staff Expert: Paula Mapeka*

#### 24 **2. Cedar Hill Plant Capacity Adjustment**

25 In its sewer plant-in-service accounts, Missouri-American Water Company (MAWC)  
26 included an expansion project at its Cedar Hill Sand Creek treatment facility that was  
27 undertaken several years ago to provide sufficient treatment capacity for a proposed  
28 subdivision. That subdivision has not developed as was anticipated. The Staff proposes a

1 disallowance of a portion of this expansion project. This expansion project increased the  
2 treatment capacity of the Cedar Hill Sand Creek Plant from 75,000 gallons per day to  
3 150,000 gallons per day. Although the Staff agrees that a plant should be built with enough  
4 capacity for anticipated growth due to new customers and new housing development, the Staff  
5 believes that it is unreasonable for current customers to pay for the entire capital cost of this  
6 plant expansion project. Instead, the Staff recommends that the cost of the additional capacity  
7 should be recovered when new customers connect to the system through a  
8 Contribution-in-aid-of-Construction (CIAC) charge that was created in  
9 Case No. WR-2007-0216 and recovery of rate base on a “per new customer” basis. The CIAC  
10 charge is \$1,500 per residential customer. The Staff’s recommended disallowance is designed  
11 such that the Company would realize full recovery when the plant reaches 85% capacity. In  
12 this proceeding, Staff proposes to disallow \$2,179,908. This amount is \$12,719 less than the  
13 \$2,192,626 that MAWC included in its rate base calculation. Staff determined the  
14 disallowance in the following manner. At the time of the expansion, there were 185 customers  
15 connected to the system. Based on flow information that the Staff determined through visiting  
16 the plant at that time, each customer uses approximately 357 gallons per day. This number  
17 was derived by taking a measured flow of 66,000 gallons per day (gpd) and dividing it by 185  
18 customers. Based on the Staff’s belief that a 15% excess in plant capacity is reasonable to  
19 allow for planning and constructing expansions, the capacity limit used for the Staff’s  
20 disallowance would be 127,500 gallons per day. This is 85% of the new capacity limit of  
21 150,000 gpd, and dividing the 127,500 by 357 gallons per day per customer means there  
22 would be 357 customers on the system at this capacity level. Considering there were 185  
23 customers on the system at the time of the expansion, this plant could serve an additional 172  
24 customers. Taking the cost of the expansion, \$2,192,626 and dividing that by 172, results in a  
25 cost per additional customer of \$12,748. There was one new customer in this area prior to the  
26 Company’s previous rate case, therefore, the Staff believes that the cost per one new customer  
27 is a reasonable amount to add to rate base. Thus, multiplying the cost per new customer of  
28 \$12,748 times 171 future customers results in the Staff’s recommended disallowance of  
29 \$2,179,908.

30 *Staff Expert: James Merciel*



1 The components of the Staff's CWC calculation found on Accounting Schedule 8 on  
2 the EMS run are as follows:

- 3 1) Column A (Account Description): lists the types of cash expenses, which  
4 MAWC pays on a day to day basis.
- 5 2) Column B (Test Year Expenses): provides the amount of annualized  
6 expense included in MAWC's cost of service. Column B basis the dollars  
7 associated with those items on an adjusted jurisdictional basis in  
8 Column A.
- 9 3) Column C (Revenue Lag): indicates the number of days between the  
10 midpoint of the provision of service by MAWC and the payment by the  
11 ratepayer for such service. Further explanation of the Revenue Lag can be  
12 found later in this Report.
- 13 4) Column D (Expense Lag): indicates the number of days between the  
14 receipt of, and payment for the goods and services (i.e., cash expenditures)  
15 used to provide service to the ratepayer. Further explanation of the  
16 Expense Lag can be found later in this Report.
- 17 5) Column E (Net Lag): results from the subtraction of the Expense Lag  
18 (Column D) from the Revenue Lag (Column C).
- 19 6) Column F (Factor): expresses the CWC lag in days as a fraction of the total  
20 days in the test year. This is accomplished by dividing the Net Lags in  
21 Column E by 365.
- 22 7) Column G is the CWC Requirement needed for each expense listed. The  
23 amounts in this Column are calculated by multiplying the test  
24 year/annualized balances with the CWC Factor (Column F).

25 Revenue Lag (Column C) - The revenue lag is the amount of time between the day the  
26 Company provides the utility service, and the day it receives payment from the ratepayers for  
27 that service. The Staff's overall revenue lag in this case is the sum of three (3)  
28 subcomponents. They are as follows:

- 29 1) Usage Lag: The midpoint of average time elapsed from the beginning of  
30 the first day of a service period through the last day of that service period;
- 31 2) Billing Lag: The period of time between the last day of the service period  
32 and the day the bill for that service period is placed in the mail by the  
33 Company; and,
- 34 3) Collection Lag: The period of time between the day the bill is placed in the  
35 mail by the Company and the day the Company receives payment from the  
36 ratepayer for the services provided.

1           The usage lag was determined by dividing the number of days in a typical year (365)  
2 by the number of months in a year (12) to yield the average number of days in a month  
3 (30.42). The 30.42 was then divided by two (2), to yield an average usage lag of 15.21 days.  
4 This further calculation using two (2) as the divisor is necessary since the Company bills  
5 monthly and it is assumed that service is delivered to the customer evenly throughout the  
6 month. This method was applied to all twelve (12) of Missouri-American's districts.

7           The billing lag is the time it takes between when the Company reads the meter and  
8 when the bills are subsequently mailed to customers.

9           The collection lag is the average number of days that elapse between the day the bill is  
10 mailed and the day the Company receives payment for that bill.

11           The Staff's revenue lag calculation is based upon the time lapse between when a  
12 customer receives service from Missouri-American and when Missouri-American receives the  
13 customer payment for that service in the mail. The sum of the Staff's usage, billing and  
14 collection lags for Missouri-American varies across all twelve (12) districts as each have  
15 different revenue collection and billing patterns.

16           Expense Lag (Column D) - The Staff reviewed and adopted most of Missouri-  
17 American's expense lags, except the miscellaneous expenses, management fees and customer  
18 accounting.

19           The Staff removed the miscellaneous lag that was calculated by the company and  
20 replaced it with an average of all twelve districts, which was then used as the cash vouchers  
21 lag. The miscellaneous lag used by the company consisted of a sample of expenses related to  
22 lab supplies, telephone expense, and other miscellaneous operating expenses, which are  
23 considered cash voucher items by Staff. The Staff calculated the average cash vouchers lag by  
24 adding the different miscellaneous lags calculated by the company and dividing it by  
25 twelve (12). The Staff used this method to fluctuations

26           The Staff used the cash vouchers lag for the company's management fee lag, as was  
27 done in prior Missouri-American rate cases. In WR-2003-0500, the Staff disputed the billing  
28 of management fees to the districts prior to the costs being incurred, as well as the  
29 requirement of payment prior to the districts' receipt of the services' benefits. Consequently  
30 in that case, the expense lag for the management fees was set equal to the total expense lag  
31 utilized for general cash vouchers. That same practice was adopted for this case.

1 The Staff disallowed the company's lag on customer accounting as this lag was being  
2 duplicated in the company's miscellaneous lag calculation.

3 In conclusion, the results of the study performed by Staff resulted in a positive  
4 CWC requirement for all the districts. This means that in the aggregate, the shareholders have  
5 provided the CWC to the Company during the test year. Therefore, the shareholders should  
6 be compensated for the CWC that they provide, through an increase to rate base in the amount  
7 of the CWC.

8 *Staff Expert: Jermaine Green*

### 9 **C. Prepayments, and Materials and Supplies**

10 The Company has utilized shareholder funds for prepaid items such as insurance  
11 premiums. The Staff has included these prepayments in rate base at the 13-month average  
12 level ending October 2009. The Company also holds a variety of materials and supplies in  
13 inventory so as to be readily available in performing its utility operations. The Staff has  
14 included in rate base the 13-month average value ending October 2009 of Missouri-  
15 American's materials and supplies inventory to all the districts, with the exception of  
16 Parkville Sewer. Staff's analysis of the 13 months ending October 2009 showed a downward  
17 trend in materials and supplies. Therefore, Staff included in rate base the annualized amount  
18 ending October 2009.

19 *Staff Expert: Paula Mapeka*

### 20 **D. Other Post Employment Benefit Costs (OPEB's)**

#### 21 **1. Pension/OPEB Tracker**

22 The Staff, MAWC and other parties entered into a Stipulation and Agreement in  
23 Case No. WR-2007-0216 titled, "Non-unanimous Stipulation and Agreement", which  
24 addressed the ratemaking treatment for annual pension and OPEB costs under Financial  
25 Accounting Standards (FAS) 87 (Employer's Accounting for Pension) and 106 (Employer's  
26 Accounting for Postretirement Benefits Other than Pensions), respectively. As a result of this  
27 Stipulation and Agreement, MAWC was authorized to use an accounting mechanism that  
28 would "track" the difference between the ongoing allocated FAS 87 and FAS 106 expense, as

1 calculated by the Company's actuary, and the allocated FAS 87 and 106 expense included in  
2 the case. After MAWC's 2008 rate case, Case No. WR-2008-0311, MAWC booked a  
3 regulatory liability for the excess of its Case No. WR-2007-0316 pension rate allowance over  
4 its actual pension expense, and booked an asset for the excess of its actual OPEB expense  
5 over its WR-2007-0216 OPEB rate allowance. Both amounts were to be amortized over a  
6 five year period, with the unamortized tracker balances to be included in rate base as  
7 regulatory assets or regulatory liabilities as appropriate.

8 Since its last rate case, WR-2008-0311, MAWC has continued to track its pension and  
9 OPEB expense levels in rates against its incurred expense. Along with the previous  
10 unamortized balance for the 2007 rate case trackers, Staff has included the new 2008  
11 regulatory asset/liability in rate base and amortized to expense over five years. The Staff has  
12 calculated the balance of the current 2008 tracker, as of October 31, 2009, to be \$205,773 for  
13 FAS 87 costs. This amount is a regulatory asset, which means that the Company has under-  
14 recovered its pension expense in rates since its last Missouri rate case. The Staff is  
15 recommending that 1/5 of this amount, or \$41,155, be amortized and added to the pension  
16 cost calculated by the Company's actuary. The addition of the 2008 tracker to the  
17 unamortized amount in the 2007 tracker results in a tracker liability of \$120,643.

18 Along with the previous unamortized balance for the 2007 rate cast trackers, Staff has  
19 included the new 2008 regulatory asset/liability in rate base and amortized to expense over  
20 five years. The Staff has calculated the balance of the current 2008 tracker, as of October 31,  
21 2009, to be \$(412,368) for FAS 106 costs. This amount is a regulatory liability, which means  
22 that the Company has over-recovered its pension expense in rates since its last Missouri case.  
23 The Staff is recommending that 1/5 of this amount (\$82,474) be amortized and subtracted  
24 from the FAS 106 expense calculated by the Company's actuary. The addition of the 2008  
25 OPEB tracker to the unamortized balance in the previous tracker results in a net OPEB tracker  
26 asset of \$1,210,638.

27 *Staff Expert: Kimberly K. Bolin*

## 28 **2. Pension Liability**

29 The Company reports an accrual pension liability as of October 31, 2009, in the  
30 amount of \$5,636,417. This liability results from MAWC receiving more cash in rates for

1 pension expense than it had to contribute to its pension trust fund during the 1990s and the  
2 first years of this decade. Over time, this regulatory liability should be reduced to zero on  
3 account of MAWC's trust fund contributions exceeding its cash recovery for pensions in  
4 rates.

5 *Staff Expert: Kimberly K. Bolin*

## 6 **E Customer Advances**

7 Customer advances are funds provided by individual customers of the Company to  
8 assist in the costs of the provision of water and/or sewer service to them. These funds  
9 represent interest-free money to the Company. Therefore, it is appropriate to include these  
10 funds as an offset to rate base. No interest is paid to customers for the use of their money,  
11 unlike customer deposits. The amount of customer advances reflected on Accounting  
12 Schedule 2, Rate Base, represents the balance as of October 31, 2009, the end of the Staff's  
13 update period.

14 *Staff Expert: Paula Mapeka*

## 15 **F. Contributions in Aid of Construction**

16 Contributions in Aid of Construction (CIAC) are similar to customer advances in that  
17 CIAC are funds provided by individual customers of the Company to assist in the costs of the  
18 provision of water and/or sewer service to them. The difference between customer advances  
19 and CIAC is, that in the case of CIAC, no obligation exists for the utility to repay or refund  
20 the money. The amount of CIAC reflected on Accounting Schedule 2, Rate Base, represents  
21 the balance as of October 31, 2009, the end of the Staff's update period.

22 *Staff Expert: Paula Mapeka*

## 23 **G. Tank Painting Tracker**

24 In a previous Missouri-American rate case, Case No. WR-2007-0216, a tank painting  
25 tracker was established in the Non-unanimous Stipulation and Agreement. In the next rate  
26 case, Case No. WR-2008-0311, the tank painting tracker was continued in the Non-unanimous  
27 Stipulation and Agreement filed in that case. The tracker was to be maintained through the



1 effective date of the rates established in the next regulatory proceeding, (which is this case)  
2 with the continuation of the tracker to be addressed and evaluated in such subsequent  
3 proceeding. The tracker established a regulatory asset or liability for tank painting and  
4 inspection expense which would increase or decrease every year by the same amount that the  
5 actual tank painting and inspection expense is either greater than or less than \$1,000,000. As  
6 of October 31, 2009, the tracker has produced a regulatory liability of \$833,333 since it  
7 officially began in November 2007. Staff proposes to discontinue the tank painting tracker  
8 and amortize the amount of the liability over a three year period. Staff does not believe that  
9 tank painting expense is an expense that needs a tracker, because with proper planning the  
10 Company should be able to keep tank painting costs at a constant level from year to year.

11 *Staff Expert: Kimberly K. Bolin*

## 12 **H. Deferred Income Taxes**

13 Missouri-American's deferred tax reserve represents, in effect, a prepayment of  
14 income taxes by MAWC's customers before payment by MAWC. As an example, because  
15 MAWC is allowed to deduct depreciation expense on an accelerated basis for income tax  
16 purposes, depreciation expense used for income taxes paid by MAWC is considerably higher  
17 than depreciation expense used for ratemaking purposes. This results in what is referred to as  
18 a "book-tax timing difference," and creates a deferral of income taxes to the future. The net  
19 credit balance in the deferred tax reserve represents a source of cost-free funds to MAWC.  
20 Therefore, Missouri-American's rate base is reduced by the deferred tax reserve balance to  
21 avoid having customers pay a return on funds that are provided cost-free to the Company.  
22 Generally, deferred income taxes associated with all book-tax timing differences that are  
23 created through the ratemaking process should be reflected in rate base. The Staff has taken  
24 this approach in calculating the deferred income tax rate base offset amount in this case.

25 Besides accelerated depreciation, the Staff has also included deferred taxes  
26 specifically associated with the rate base inclusion of the pension liability, which was  
27 discussed previously in Section D, item 2.

28 Beginning in 1971, the Internal Revenue Code imposed restrictions that prevented the  
29 use of Investment Tax Credit (ITC) as a reduction to Rate Base. Since the restrictions do not

1 apply to Pre-71 ITC, it is being provided the same treatment by the Staff as other deferred  
2 income taxes that have been funded by the ratepayer.

3 *Staff Expert: Kimberly K. Bolin*

## 4 **VII. Allocations and Service Company Costs**

### 5 **A. Corporate Allocations**

#### 6 **1. Introduction**

7 American Water Works Company, Inc., (American Water), is headquartered in  
8 Voorhees, New Jersey, and its subsidiaries serve approximately 15 million customers in  
9 32 states and in Ontario, Canada. American Water performs many functions and activities on  
10 a consolidated or centralized basis for many of its regulated and unregulated subsidiaries.  
11 These consolidated or centralized functions are carried out for the American Water owned  
12 subsidiaries by American Water's wholly-owned subsidiary American Water Service  
13 Company (Service Company). Through a process of direct assignment and allocation,  
14 Service Company employees' time and all other related costs are ultimately charged to the  
15 American Water owned utility subsidiaries receiving service. In addition to the Service  
16 Company, in 2000, American Water Capital Corporation (AWCC) was created to provide a  
17 single source of long and short term debt capital for American Water and its utility  
18 subsidiaries. Service agreements exists between MAWC and both the Service Company and  
19 AWCC.

20 The following subsidiaries or affiliated entities currently receive direct or allocated  
21 charges from the Service Company:

#### 22 **Regulated Entities**

23 Arizona-American Water	Missouri-American Water
24 California-American Water	New Jersey-American Water
25 Hawaii-American Water	New Mexico-American Water
26 Illinois-American Water	Ohio-American Water
27 Indiana-American Water	Pennsylvania-American Water
28 Iowa-American Water	Tennessee American Water
29 Kentucky-American Water	Texas-American Water

1	Long Island Water Corporation	Virginia-American Water
2	Maryland-American Water	Virginia-American Eastern District
3	Michigan-American Water	West Virginia-American Water

4 **Unregulated Entities**

5	American Water Enterprises (AWE)	Edison Water Company
6	American Water Capital Corporation (AWCC)	Elizabethtown Properties, Inc.
7	American Water Resources, Inc. (AWR)	Elizabethtown Services LLC
8	American Water Works (AWK)	Liberty Water Company

9 Services performed by the Service Company are grouped into the following cost  
10 centers, each with its own list of services provided: corporate, shared services center, call  
11 centers, Belleville lab, regional offices and information technology service centers.

12 Expenses incurred by the service company are allocated to the subsidiaries of  
13 American Water. Pursuant to the Company's Cost Allocation Manual (CAM), Service  
14 Company expenses are categorized as follows: labor, support, labor-related overheads and  
15 vouchers/journal entries. The Service Company employees charge their time and expenses to  
16 each one of the affiliate companies either directly or indirectly. According to  
17 Missouri-American's CAM, Service Company transactions are assigned with certain  
18 information so that proper accounting for the service can take place. This information  
19 includes the affiliate company number (if a direct charge), or a formula number (if a  
20 transaction is allocated), the number of hours the employee worked, and the appropriate  
21 account number for non-labor items. This method allows for direct charges to both regulated  
22 and non-regulated entities when the employee can clearly identify the hours spent providing  
23 service to a specific affiliate.

24 American Water uses a methodology in which both its regulated and non-regulated  
25 companies are allocated costs. This methodology utilizes a time reporting system, in which  
26 each employee has the ability to charge hours on their time sheet to billing formula numbers  
27 that allocate those hours (or portions of hours) among the group of companies  
28 (including regulated and non-regulated) receiving those services when it is not practicable to  
29 determine the actual time spent performing that task for each of the companies.

30 When a Service Company employee provides services that benefit both regulated and  
31 non-regulated entities, the employee will choose one of the Tier-One allocation factors to use.

1 An employee who only performs services for regulated companies will utilize a  
2 Regulated Formula based on customer counts. An employee providing services to  
3 non-regulated companies will use a Non-Regulated Formula based on a combination of  
4 revenues, amount of plant and number of employees.

5 Tier-One Formulas are based on different criteria, such as revenues, employees, plant  
6 investment, and others. Some of the formulas are a composite of these criteria, while others  
7 are based on only one criterion such as employee numbers. The employee will choose the  
8 formula that matches with the service provided. For example, an employee in payroll will  
9 most likely choose a formula based on employee numbers.

10 Regional cost centers can charge other affiliates for costs incurred. This type of charge  
11 would occur if a particular regional office has the expertise in a certain area, such as  
12 engineering, that is lacking in another region. An employee from that regional office may  
13 perform tasks for other regional offices, and directly charge his or her time to the region  
14 receiving the expertise. For example, if a certain type of plant project is under construction  
15 by California-American Water Company, but the only engineer that is familiar with the  
16 specifics of that type of plant is located in the Southeast region office, he will provide services  
17 to California-American Water Company and can charge his time directly.

18 *Staff Expert: Amanda C. McMellen*

## 19 **2. Service Company Management Fees**

20 The Service Company maintains several types of offices from which it provides  
21 services to American Water operating companies. These offices are described in detail above.  
22 A portion of the Service Company charges are identified as management fees. The Company  
23 identified several adjustments that it made for its management fees during its direct filing of  
24 this case. The Staff's analysis of the Service Company management fees and the adjustments  
25 that were made are identified below.

26 *Staff Expert: Amanda C. McMellen*

### 27 **a. Line 13 Reconciliation**

28 The Company made an adjustment to reconcile the amounts in their system that were  
29 billed for the service company. There was a difference of around \$5,000 that should have

1 been included in the total costs. The Staff included this amount in the annualized level of  
2 costs to be allocated.

3 *Staff Expert: Amanda C. McMellen*

4 **b. Penalty & Other**

5 MAWC removed an allocated total of \$213,111 related to membership dues,  
6 donations, lobbying, and other miscellaneous items it felt should not be considered as part of  
7 the rate case. Since the Staff was not provided with the detail for these items to make its own  
8 determination, the Staff has disallowed these amounts.

9 *Staff Expert: Amanda C. McMellen*

10 **c. Elimination of One-time Costs**

11 The Company identified costs that passed through the Service Company that were  
12 considered to be one-time costs. Included in this amount were costs related to RWE's  
13 (American Water's former parent company) divestiture of American Water and costs related  
14 to complying with the Sarbanes-Oxley Act (SOX). The Staff has eliminated these non-  
15 recurring allocated costs from MAWC's expenses.

16 *Staff Expert: Amanda C. McMellen*

17 **d. Annualization of Service Company Payroll**

18 The Staff included an annualized amount of the Service Company's employee wages,  
19 as of October 31, 2010.

20 *Staff Expert: Amanda C. McMellen*

21 **e. Shift of Service Company Employees**

22 During the test year, two employees were transferred from the service company to  
23 MAWC. The Staff included these employees labor and benefits costs in its MAWC cost of  
24 service through its payroll annualizations. Therefore, the Staff removed the test year costs  
25 associated with these service employees from its service company payroll.

26 *Staff Expert: Amanda C. McMellen*

1 **f. Incentive Compensation**

2 The Staff removed a portion of the amount of annual incentive (AIP) amounts  
3 included in the Service Company costs. After reviewing the AIP plan, the Staff eliminated all  
4 incentives related to financial goals (corporate and division), individual goals and operational  
5 goals related to the customer satisfaction survey and service quality. The Staff made these  
6 adjustments at the Service Company level to stay consistent with the adjustments that were  
7 made at the MAWC level for the financial and operational goals. The Staff removed the  
8 individual goal component due to the fact that the Staff could not evaluate prior to filing its  
9 direct testimony if this component provided any ratepayer benefit. The Staff will continue to  
10 review the issue and update its findings if necessary in future filings.

11 *Staff Expert: Amanda C. McMellen*

12 **B. District Allocations**

13 MAWC is composed of nine different water operating districts and three different  
14 sewer operating districts. All corporate rate base, revenues and expenses must be allocated  
15 between these districts. The Company proposes allocating most of its corporate costs between  
16 these districts based upon the number of customers in each district. In the last several rate  
17 cases, the Staff has proposed basing the allocated corporate costs upon different allocation  
18 factors depending upon the causes that required the costs to be incurred. For example, the  
19 Staff proposes that payroll and payroll related benefits should be allocated among the districts  
20 based upon a labor allocation factor. Another example would be the Belleville Lab costs; the  
21 Staff proposes that these costs be allocated based upon the average number of analyses per  
22 district. Attached as Appendix 3 is a list of all of the corporate allocation factors that were  
23 used in Staff's cost of service and the percentages allocated to each district for each factor.

24 *Staff Expert: Amanda C. McMellen*

1 **VIII. Income Statement**

2 **A. Revenues**

3 **1. Introduction**

4 Since the largest component of operating revenues results from the rates charged to  
5 Missouri-American’s metered and unmetered water service and sewer service customers, a  
6 comparison of operating revenues with cost of service is fundamentally a test of the adequacy  
7 of the currently effective rates. If the overall cost of providing service to customers exceeds  
8 operating revenues, an increase in the current rates Missouri-American charges its metered  
9 and unmetered customers for water or sewer service is required.

10 One of the major tasks in a rate case is to not merely determine whether a deficiency  
11 (or excess) between cost of service and operating revenues exists, but to determine the  
12 magnitude of any deficiency (or excess) between cost of service and operating revenues.  
13 Once determined, the deficiency (or excess) can only be made up (or otherwise addressed) by  
14 adjusting rates (i.e., rate revenues) prospectively.

15 **2. The Development of Rate Revenue in this Case**

16 The objective of this section is to determine annualized, normalized test year sales and  
17 revenues by rate classes.

18 The intent of the Staff’s adjustments to test year revenues is to determine the level  
19 of revenue that the Company would have collected on an annual and normal basis, based on  
20 information “known and measurable” at the end of the update period.

21 The two major categories of revenue adjustments are known as “normalizations” and  
22 “annualizations.” Normalizations deal with test year events that are unusual and unlikely to  
23 be repeated in the years when the new rates from this case are in effect. Test year weather is  
24 an example. Annualizations are adjustments that re-state test year results as if conditions  
25 known at the end of the update period had existed throughout the entire test year.

26 *Staff Expert: Paula Mapeka*





1 Averaging the actual usage from the current decade accounts for any possible affect  
2 due to weather variables for each district and is therefore a reliable prediction method to use.  
3 Furthermore, trends in water usage due to conservation practices or lawn size/irrigation  
4 practices may be unique to any given service area, and would also be accounted for in an  
5 average of actual usages.

6 Staff's recommended usage per customer for residential and commercial classes for  
7 each service area is included in this report in Appendix 4.

8 *Staff Expert: Jerry Scheible*

9 **b. Revenues Annualization**

10 Staff's method of computing annualized revenues for each rate class for each of the  
11 operating districts was to multiply the current billing units by current rates. In other words,  
12 Staff's annualized revenues for the Company's operating districts is the sum of the minimum  
13 charge revenues and the volumetric charge revenues at current rates. The difference between  
14 these revenues and those billed during the test year (partly under the current rates and prior  
15 rates) provided the amount for the revenue adjustments.

16 The minimum charge revenues were developed by first, multiplying the number of  
17 customers or meters as of October 31, 2009, each meter class by the applicable minimum  
18 charge as ordered in Case No. WR-2008-0311. The product of the number of customers or  
19 meters multiplied by the applicable minimum charge was then multiplied by the number of  
20 billing periods in a year (four (4) for quarterly billed customers or meters and twelve (12) for  
21 monthly billed customers), to produce the annualized minimum charge revenues for each  
22 customer class.

23 The annualized and normalized volumetric (consumption) charge revenues were  
24 developed based on a normalized usage applied at current volumetric rate per gallons. Staff  
25 Witness Jerry Scheible, of the Commission's Water & Sewer Department, developed and  
26 provided the normalized average gallon usage per customer per day for residential and  
27 commercial customers. For Industrial, Other Public Authority (OPA) and Other Water  
28 Utilities (Sale For Resale) customers, the Staff utilized the actual usage recorded for the  
29 twelve-months ending June 30, 2009, and based on the billing units developed the average  
30 gallon usage per customer. The average gallons usage per customer per day was multiplied  
31 by the average days per year (365.25) and the number of customers to determine the total

1 annual usage or consumption. The total normalized usage was then multiplied by the  
2 applicable tariff rate per gallon for each usage block, to determine the normalized volumetric  
3 revenues. The Staff relied on the Company's test year usage per block in thousand (1,000)  
4 gallons to allocate the total volumes into the various blocks for which it applied the applicable  
5 volumetric rate per gallon.

6 In the absence of adequate and available data, the Staff could not perform a detailed  
7 customer growth analysis for any of the districts, by customer class and by meter size. Staff  
8 has eliminated all unbilled revenues booked by the Company to the test year revenues in its  
9 revenue annualization computation.

10 Again, for the purpose of this rate case, the Staff has removed any impact of the  
11 Infrastructure System Replacement Surcharge (ISRS) to the annualized revenues. The Staff's  
12 discussion on the treatment of the ISRS is contained within Section II.

13 *Staff Expert: Paula Mapeka*

#### 14 **4. Compensation to MAWC for Services Provided to American Water** 15 **Resources, Inc.**

16 AWR is an unregulated subsidiary of American Water Works Company, Inc. (AWW)  
17 and an affiliate of MAWC. AWR has employees located at the Service Company's Call  
18 Center site in Alton, Illinois. AWR is in the business of offering water line protection, sewer  
19 line protection, and in-home plumbing protection plans to AWW customers throughout the  
20 country, as well as to those MAWC customers that are residential property owners. AWR  
21 offered its water line protection program to MAWC customers that are residential property  
22 owners in all districts, except its St. Louis district. AWR has also offered its sewer line  
23 protection program primarily to those MAWC residential property owners who have agreed to  
24 participate in the water line protection program. In addition, two municipalities, Fenton and  
25 Sunset Hills, located in MAWC's St. Louis district, have requested that the sewer line  
26 protection program be offered to its residents. These two municipalities, which receive sewer  
27 service from the Metropolitan St. Louis Sewer District, provided AWR with a list of the  
28 addresses of its residents. AWR in more recent years has offered an in-home plumbing  
29 protection plan to those MAWC residential property owners who have elected to participate in  
30 both the water and sewer line protection programs.

1 MAWC residential property owners are encouraged to sign up for the water line  
2 protection program for \$5 per month or \$60 per year. In return, under the conditions of the  
3 plan, AWR promises to cover the cost of the repair of a water leak of a customer-owned  
4 service line that is caused by normal wear and tear. The customer is provided protection of up  
5 to \$4,000 per water leak occurrence. If a customer experiences an actual water leak on their  
6 service line, they must contact MAWC, which sends an employee to investigate the source of  
7 the problem. In the event MAWC determines that the leak is on the customer-owned service  
8 line, then a customer covered by the plan must contact AWR, which makes arrangements to  
9 have an approved independent contractor perform the repair. MAWC employees are not used  
10 to complete repairs to the service lines of customers who are covered by this plan. Instead,  
11 AWR dispatches a licensed, independent contractor to perform the necessary repairs. AWR  
12 does not compensate MAWC for the use of its employees who were dispatched to determine  
13 the source of water leaks.

14 MAWC customers who have signed up for the water line protection program have also  
15 been offered the opportunity to sign up for a sewer protection program. If a customer elects to  
16 participate in both programs, the customer is charged \$12 per month or \$144 per year for  
17 participation in both programs. Customers that participate only in the sewer line protection  
18 plan are charged \$9 per month, or \$108 per year for sewer line protection. This includes the  
19 customers in the Fenton and Sunset Hills municipalities in the St. Louis district who are only  
20 offered the sewer line protection plan. All customers participating in the sewer line protection  
21 program are also assessed a \$50 service fee when a contractor is dispatched to the home. In  
22 return, the customer is provided protection of up to \$8,000 per sewer line incident that is  
23 caused by a pipe collapse, tree-root invasion, blockage, or normal wear and tear.

24 AWR has also offered an in-home plumbing protection plan to those MAWC  
25 customers who have signed up for the water and wastewater line protection plans. Customers  
26 who elect to participate in this program are charged \$3.99 per month or \$47.88 per year.  
27 According to the brochure mailed to MAWC customers, this program provides coverage for  
28 unexpected events such as “a clogged bathtub drain...leaking washing machine  
29 valve...blocked toilet and more...” Again customers participating in the in-home plumbing  
30 protection program are also assessed a \$50 service fee when a contractor is dispatched to the

1 home. In return, the customer is provided up to \$1,500 of coverage for any approved repair  
2 work.

3 AWR originally received MAWC's customer list prior to its initial April 3, 2003  
4 mailing. Prior to every water line program mailing, AWR received an updated list of MAWC  
5 customers.

6 Since April 3, 2003, AWR has mailed letters to MAWC customers urging them to sign  
7 up for its water line protection program on 17 different occasions. Six of these 17 mailings  
8 included a letter of endorsement from MAWC's then president, Mr. Eric Thornburg. In fact,  
9 429,066 MAWC letters of endorsement were delivered to MAWC customers, as part of  
10 AWR's marketing campaign during a period covering April 3, 2003, through March 18, 2004.

11 MAWC discontinued its practice of providing letters of endorsement as part of  
12 AWR's marketing efforts after March 18, 2004, not long after the Staff's testimony in  
13 Case No. WR-2003-0500 had expressed concerns with this and other marketing practices  
14 absent any form of compensation from AWR to MAWC for its customer list. Nevertheless, all  
15 of the water line protection program mailings occurred only because AWR has been provided  
16 with MAWC's very unique and specific, captive customer list. To the best of Staff's  
17 knowledge, information and belief, MAWC stopped providing its customer lists to AWR in  
18 June of 2007 after inquiries from the Staff about this practice.

19 MAWC's rate case testimony has never identified any compensation from AWR for  
20 any of these items. The Staff believes that this is unreasonable. Absent significant  
21 compensation, the Staff doubts that MAWC would turn over its customer mailing list, lend its  
22 Company name, logo and President's time as part of thousands of letters of encouragement to  
23 provide a full endorsement of the water line protection program, if only some external or  
24 outside third party offered the plan and received the benefit of such.

25 AWR has sent to MAWC's customers 122,152 sewer line mailings through March  
26 30, 2007. These mailings include those sent at the request of the Fenton and Sunset Hills  
27 municipalities located in MAWC's St. Louis district between October 19, 2005 and  
28 March 30, 2007. AWR has also sent 9,562 in-home plumbing program mailings to MAWC  
29 customers through April 20, 2007.

30 As of October 31, 2009, MAWC reported that 6,244 customers had signed up for the  
31 water line protection program, 3,688 customers had signed up for the sewer line protection

1 program and 1,307 customers had signed up for the in-home plumbing protection program.  
2 Based on the information provided by the Company, the Staff calculates that AWR collects on  
3 an annual basis from MAWC's customers \$374,640 from the water line protection program,  
4 \$398,304 from the sewer line protection program and \$62,579 from customers who signed up  
5 for in-home plumbing protection program, for a total of \$835,523.

6 The Staff contends that AWR has profited because of the actions MAWC has taken.  
7 The Staff asserts it is reasonable for MAWC to provide these services only in the event that it  
8 is properly compensated by AWR. Staff's adjustment includes \$75,635 of compensation to  
9 MAWC in its determination of revenue requirement.

10 The Staff asserts that these programs benefited from all the support that MAWC  
11 provided to AWR for its initial water line protection offering. This support allowed AWR to  
12 gain a foothold with MAWC customers that it was able to leverage to offer other services.  
13 However, the Staff recognizes that the effect of this support is somewhat less regarding the  
14 later product offerings.

15 In the absence of the AWR expense information relevant to MAWC customers, which  
16 the Company objected to providing through data requests, the Staff assumed a 50% profit  
17 margin for the water line protection program being offered to MAWC customers. The Staff  
18 asserts that because of all the services that MAWC has provided to AWR, that MAWC is  
19 entitled to 25% of this profit margin.

20 The Staff also assumed a 50% profit margin for the sewer line protection program and  
21 in-home plumbing program. The Staff asserts that these mailings were made possible because  
22 MAWC provided AWR with a very unique captive customer list. This list cannot be exactly  
23 replicated by any outside mailing list provider. The Staff believes it reasonable that MAWC is  
24 entitled to 12.5% of the profit margins associated with these two programs.

25 The Staff's adjustment increases MAWC's revenues by \$75,635 annually. This  
26 amount represents an estimate of the AWR profits that should be imputed to MAWC for  
27 providing AWR with the services previously discussed. The Staff calculates that \$46,830 of  
28 compensation should be imputed to MAWC from the water line protection program, \$24,894  
29 should be imputed to MAWC from the sewer line protection program and \$3,911 should be  
30 imputed to MAWC from the in-home plumbing protection plan.

31 *Staff Expert: Amanda C. McMellen*

1           **B. Depreciation**

2           Staff conducted a depreciation study of the capital assets of MAWC, including an  
3 analysis of the accumulated reserve for depreciation. Based on its study, Staff recommends  
4 depreciation rates for MAWC as indicated in Schedule GCG-1 of Appendix 5, attached to this  
5 report.

6           Staff's proposed depreciation rates for MAWC would increase the currently ordered  
7 annual depreciation expense from approximately \$26,524,356 to \$28,282,172, as indicated in  
8 Appendix 5, Schedule GCG-2, which is a total increase of \$1,757,816.

9           Appendix 5, Schedule GCG-3 lists, by plant account, Staff's proposed depreciation  
10 rates. This schedule also provides a comparison of Staff's recommended new depreciation  
11 rates to the current rates, which the Commission ordered in Case No. WR-2008-0311,  
12 effective November 24, 2008.

13           Appendix 5, Schedule GCG-4 lists, by plant account, the accumulated reserve for  
14 depreciation and the theoretical reserve amount.

15           Staff's study indicates an over-accrual of the accumulated reserve for depreciation of  
16 approximately \$64,664,124. However, Staff is not recommending a recovery of this overage  
17 at this time, but will monitor this over-accrual and may address it in future rate proceedings  
18 should the over accrual continue.

19           Staff does not recommend any change to the depreciation rates for the Company's  
20 sewer operations. Staff followed Commission Rules recommending plant accounting using  
21 the Uniform System of Accounts. Staff follows the Commission policy as set forth in the  
22 Commission's Report and Order for The Empire District Electric Company in  
23 Case No. ER-2004-0570.

24                   **1. Depreciation**

25           "Depreciation" as applied to depreciable utility plant means the loss in service value  
26 not restored by current maintenance incurred in connection with the consumption or  
27 prospective retirement of utility plant in the course of service from causes which are known to  
28 be in current operation and against which the utility is not protected by insurance. Among the  
29 causes to be given consideration are wear and tear, decay, action of the elements, inadequacy,  
30 obsolescence, changes in the art, changes in demand and requirements of public authorities.

1 The purpose of depreciation in a regulatory setting is to recover the cost of capital  
2 assets over the useful lives of the assets. The depreciation rate for each plant account is  
3 designed to recover, over the average service life of the assets in that account, the original  
4 cost of the assets plus an estimate for any cost of removal less scrap value. Annual  
5 depreciation expense for a plant account is the depreciation rate for that plant account  
6 multiplied by the balance of plant in that account. The annual depreciation expense returns to  
7 the Company's shareholders a portion of the costs of the capital assets. In a regulatory  
8 setting, this return is commonly referred to as a return of equity. The remaining portion of the  
9 costs of the capital assets of the Company, known as net plant-in-service, is returned to the  
10 Company's shareholders in the future. The Company is permitted during this period to earn a  
11 return on the capital assets in rate base, commonly referred to as a return on net  
12 plant-in-service, a component of rate base. In a regulatory setting this return is also  
13 commonly referred to as a return on equity.

## 14 **2. Depreciation Study**

15 Staff used the straight line method, broad group-average life procedure, and whole life  
16 technique depreciation system for its depreciation study of the Company's capital assets.  
17 Staff has consistently used the whole life technique in developing depreciation rates that  
18 reflect expected average service lives. The whole life technique does not include an  
19 adjustment factor to address over- or under-accruals in the accumulated reserve for  
20 depreciation. Staff does not recommend any amortization of the excess accrual at this time,  
21 but will continue to monitor the balance. Staff uses the following formula to calculate a  
22 depreciation rate for each plant account:

$$23 \text{ Depreciation Rate} = (100 \% - \text{Net Salvage } \%) \div (\text{Average Service Life}).$$

24 This is consistent with the Commission's Depreciation Rate Formula from its Report  
25 and Order in The Empire District Electric Company Case No. ER-2004-0570. As shown in  
26 the formula, the average service life and net salvage percentage are the depreciation  
27 parameters used to determine the depreciation rate. The Staff calculated depreciation rates for  
28 each plant account based on the average service life and net salvage percentage determined  
29 applicable to each account, as shown in Schedule DJW-1. That determination is addressed in  
30 detail below.





1 an Iowa curve.<sup>19</sup> Smoothing the original survivor curve by fitting it to an Iowa curve  
2 eliminates irregularities and extrapolates stub curves to zero percent. The average service life  
3 of an account's original survivor curve is estimated as the area under the selected Iowa curve.

4 The fourth step is to apply Staff's engineering experience and informed judgment to  
5 the aggregate of the first three steps in the process to assign an appropriate ASL for each plant  
6 account. Staff recommends the Average Service Lives, by account, identified in the attached  
7 Appendix 5 of Schedule GCG-1.

8 As noted earlier the average service life is just one of two factors determining a given  
9 depreciation rate.

#### 10 **4. Net Salvage Percentage**

11 The second factor in determining a given depreciation rate is the net salvage  
12 percentage. Consideration is given to the future net salvage (or cost of removal) that property  
13 in an account may experience.

$$14 \text{ Net Salvage} = \text{Gross Salvage} - \text{Cost of Removal}$$

15 Gross salvage is the recovered marketable value of retired plant. Cost of Removal is  
16 the cost associated with the retirement and disposition of plant from service. Negative net  
17 salvage occurs when the cost of removal exceeds gross salvage. A negative net salvage is  
18 commonly referred to as an expense or net cost of removal and a negative net salvage  
19 percentage is called a net cost of removal percentage. Today, many utility accounts  
20 experience a net cost of removal; therefore the net salvage percentage in the depreciation  
21 calculation is negative, which results in an increase to overall depreciation expense.

22 Net salvage percentages were developed by dividing the experienced net cost of  
23 removal by the original cost of plant retired during the same time period to calculate the net  
24 cost of removal percentage realized by the Company. This is consistent with the  
25 Commission's policy for net salvage from its Report and Order in The Empire District  
26 Electric Case No. ER-2004-0570.

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<sup>19</sup> The Iowa curves are widely accepted models of the life characteristics of utility property. The system of Iowa curves is a family of 176 types of utility and industrial property. The curves were developed at the Iowa Engineering Experiment Station at what is presently known as Iowa State University. The Iowa curves were first published in 1935 and reconfirmed in 1980. The original survivor curve is mathematically and visually matched with various Iowa curves to determine which has the most appropriate fit, either for a significant portion of the curve or just a specified portion of the curve.

1 Depreciation software uses the selection of a specific Iowa curve and net salvage  
2 percentage for each plant account to calculate the account's theoretical accumulated reserve  
3 for depreciation.

#### 4 **5. Analysis of Accumulated Reserve for Depreciation**

5 Another analysis performed with a depreciation study is an examination of the  
6 adequacy of the accumulated reserve for depreciation and identification of any reserve over-  
7 or under-recovery. This analysis illustrates whether prior depreciation estimates have differed  
8 significantly from actual experience. An analysis of the accumulated reserve for depreciation  
9 reserve is performed by comparing the existing accumulated reserve for depreciation as of a  
10 certain date, in this case, December 31, 2008.

11 A depreciation reserve account is the amount for plant investment and net cost of  
12 removal that has been recovered in depreciation rates over the life of the capital assets,  
13 reduced by retirement amounts, costs of removal experienced, and transfers out, and increased  
14 by actual salvage proceeds collected, and transfers in. The aggregate of the depreciation  
15 reserve accounts is known as the accumulated reserve for depreciation. The theoretical  
16 accumulated reserve for depreciation amount can be viewed as the level of accumulated  
17 depreciation reserve that would exist today if the selected depreciation parameters had been  
18 used since the inception of placing plant in service. If the amount of the actual accumulated  
19 reserve for depreciation is more than the theoretical amount, an over-accrual is noted.  
20 Conversely, if the actual accumulated reserve for depreciation is less than the theoretical  
21 amount, an under-accrual is noted.

22 The need for, the magnitude of, and the timing of an adjustment should be based upon  
23 consideration of several factors: the characteristics of the account, the causes of the  
24 difference, and the year-to-year volatility of the accumulated provision for depreciation and  
25 the magnitude of the imbalance. Future service life cannot be estimated to a degree of  
26 certainty that guarantees that the actual life will not be different. In fact, the depreciation  
27 estimation process is dynamic and it is possible that the currently determined ASL  
28 recommended by Staff will differ from the ASL that occurs.

1                                **6. Recommendations**

2            Staff recommends that the Commission order the depreciation rates proposed in  
3 Schedule GCG-1 of Appendix 5.

4            Staff also recommends that MAWC be ordered to follow the policy and guidance  
5 sought and received in Case No. ER-2004-0570, that a separate accounting be kept of its  
6 amounts accrued for recovery of its initial investment in plant from the amounts accrued for  
7 the cost of removal. Staff’s recommendation addresses the Commission’s policy as stated in  
8 Case No. ER-2004-0570. Under the traditional accrual method, the depreciation rate for a  
9 particular asset or group of assets is calculated as follows:

10                                Depreciation Rate     =      $\frac{100\% - \% \text{ Net Salvage}}{\text{Average Service Life (years)}}$   
11

12            In this formula, net salvage equals the gross salvage value of the asset minus the cost  
13 of removing the asset from service. The net salvage percentage is determined by dividing the  
14 net salvage experienced for a period of time by the original cost of the property retired during  
15 that same period of time. This is the accrual method used by Staff to determine the  
16 depreciation rate.

17 *Staff Expert: Guy C. Gilbert*

18                                **C. Payroll and Benefits**

19                                **1. FAS 87 and FAS 88 Pension Costs**

20            The Staff has calculated the ongoing allocated FAS 87 cost in the amount of  
21 \$5,683,550. The Staff arrived at this amount by subtracting one-fifth of the FAS 87 net  
22 tracker position (amounts allowed in rates for Cases Nos. WR-2007-0216 and  
23 WR-2008-0311) from the annual FAS 87 cost calculated by the Company’s actuary in the  
24 amount of \$5,684,909. See the above discussion in Rate Base Section D, item 1 for the  
25 explanation of the FAS 87 tracker mechanism.

26 *Staff Expert: Kimberly K. Bolin*

1                   **2. FAS 106 – Other Post-Employment Benefits (OPEB's)**

2                   The Staff has calculated the ongoing FAS 106 cost in the amount of \$4,075,525. The  
3 Staff arrived at this amount by adding one-fifth of the FAS 106 net tracker position  
4 (amount allowed in rates for Cases Nos. WR-2007-0216 and WR-2008-0311) to the annual  
5 2008 FAS 106 cost calculated by the Company's actuary in the amount of \$3,728,629. See the  
6 above discussion in Rate Base Section D, item 2 for the explanation of FAS 106 tracker  
7 mechanism.

8                   *Staff Expert: Kimberly K. Bolin*

9                   **3. Payroll and Payroll Taxes**

10                  The Staff has adjusted Missouri-American's test year payroll expense to reflect an  
11 annualized level of payroll, payroll taxes, as of October 31, 2009, the endpoint of the test year  
12 update period ordered for this case by the Commission. The Staff is proposing a decrease of  
13 \$779,589 to the test year level of payroll costs.

14                  Base payroll was calculated by multiplying employee levels at October 31, 2009, by  
15 the then-current appropriate salary or wage rate to derive the annualized payroll cost.  
16 Overtime payroll for MAWC was calculated for each district based upon a three-year average  
17 of overtime hours actually incurred multiplied by a current average hourly overtime rate. The  
18 Staff used the years 2006, 2007 and 2009 for the overtime average. The year 2008 was  
19 excluded from the calculation of the average because it seemed skewed compared to other  
20 years that were analyzed. In fact, 2008 overtime hours were almost double compared to any  
21 other year.

22                  After allocation between expense and construction (O&M), the adjustment for payroll  
23 was distributed by each account of the National Association of Regulatory Utility  
24 Commissioners Uniform System of Accounts (NARUC USOA), based upon the actual  
25 distribution experienced by Missouri-American for the twelve months ending June 30, 2009.

26                  The Staff calculated payroll taxes based upon October 31, 2009 wage levels and  
27 current tax rates. All payroll related expenses reflect the application of O&M ratios calculated  
28 for each district based upon a three-year average of actual expense and construction. This  
29 ratio is then applied to the Staff's annualized payroll level. In addition, payroll taxes were  
30 computed for allowable non-financial incentive payments incurred in the test year. These

1 incentive payments were added to each employee's base wages, to calculate the additional  
2 taxes required over the annualized salary levels.

3 *Staff Expert: Amanda C. McMellen*

#### 4 **4. Incentive Compensation**

5 All full-time management, professional, and technical employees (exempt from  
6 overtime) of American Water were eligible to participate in the 2008 AIP. The total award  
7 paid in March 2009 was \$700,108. Incentive compensation from this plan is paid in addition  
8 to an employee's annual salary.

9 There are three basic components to the AIP; financial, operational and individual.  
10 The Staff has proposed an adjustment to remove the portion of the award based on the  
11 Company achieving financial goals. Staff also removed any goals associated with the  
12 percentage-based Customer Satisfaction Survey and Customer Service Quality Survey goals,  
13 and any individual goal which was based upon lobbying activities and charitable activities.

14 The financial goal is based on American Water's operating income, which is defined  
15 by the company as earnings before interest, taxes and other non-operating expenses. The  
16 performance level was determined at both the corporate level and the  
17 Divisional/Regional/State level, thus an employee could be eligible for AIP for both the  
18 Corporate financial goal and the Divisional/Regional/State level financial goal. It is the  
19 Staff's policy not to allow this portion of incentive compensation to be recovered in rates. The  
20 Staff finds no connection between such financial results and any benefits to MAWC's  
21 ratepayers. The Staff's approach to incentive compensation is long-standing and reflects  
22 previous Commission decisions. In the Report and Order issued in Case No. TC-89-14 et al.,  
23 Southwestern Bell Telephone Company (SWB), the Commission stated:

24 In the Commission's opinion the results of the parent corporation,  
25 unregulated subsidiaries, and non-Missouri portions of SWB, are only  
26 remotely related to the quality of service or the performance of SWB in  
27 the state of Missouri. Achieving the goals of SBC [the parent  
28 company] and unregulated subsidiaries is too remote to be a justifiable  
29 cost of service for Missouri ratepayers. Accordingly, the Staff's  
30 proposed disallowances in the senior management's long term and  
31 short-term incentive plans...should be adopted.

1 The Staff is also recommending a disallowance for the portion relating to the customer  
2 and service quality surveys. Per the Company responses to the Staff's Data Request 65, only  
3 927 water customers out of approximately 456,415 customers (less than 1 % of the customers)  
4 were contacted via phone. It is the Staff's position that this sampling is too small a sample for  
5 such a reward to be granted.

6 Staff also recommends disallowing any AIP with associated individual goals that  
7 promoted lobbying activities or activities that involved the employee participating in  
8 charitable organizations. Staff has disallowed all costs associated with lobbying activities and  
9 any donations to charitable organizations.

10 The Staff's adjustment for incentive compensation is contained within the overall  
11 payroll adjustment.

12 *Staff Expert: Kimberly Bolin*

### 13 **5. Group Insurance and 401(K) Employer Costs**

14 The Staff calculated 401(k) employer match expenses and group insurance  
15 (group health insurance, group life insurance, accidental death and disbursement (ADD),  
16 long-term disability (LTD) and short-term disability (STD)) based upon a ratio of test year  
17 costs and test year payroll expense. This ratio was then applied to Staff's annualized payroll  
18 expense to arrive at Staff's annualized expense level. Both the 401(k) and groups insurance  
19 expense reflect the application of Staff's O&M ratio for each district.

20 *Staff Expert: Kimberly K. Bolin*

### 21 **6. Lobbying Costs**

22 Staff removed the entire amount of wages and the associated payroll tax, employee  
23 benefits and incentive compensation associated with the positions of Manager of Government  
24 and Regulatory Affairs and the Director of Governmental Affairs. The descriptions for these  
25 positions indicate lobbying activities are the primary job roles. The Staff also removed a  
26 portion of the amount of wages and associated payroll tax and employee benefits associated  
27 with the positions of Senior Manager of Business Development and the Manager of External

1 Affairs (State), because the job descriptions indicated certain duties for these positions related  
2 to lobbying or non-regulated activities.

3 *Staff Expert: Amanda C. McMellen*

#### 4 **D. Maintenance Normalization Adjustments**

##### 5 **1. Main Break Expense**

6 The Staff is proposing an adjustment in the amount of (\$192,021) which reflects a  
7 five-year average of the number of main breaks and a three-year average of costs for the  
8 St. Louis County District. The St. Louis County District is the only district that tracks main  
9 break expenses separately from the general maintenance expenses. A main break occurs  
10 when a water pipe (main) breaks and/or separates completely, or a leak is detected which  
11 requires a portion of the main to be repaired or replaced. After reviewing the frequency and  
12 expenses associated with these breaks, the Staff is recommending this averaging annualization  
13 method because of the unpredictability of this type of expense.

14 *Staff Expert: Paula Mapeka*

##### 15 **2. Tank Painting**

16 In a previous Missouri-American rate case, Case No. WR-2007-0216, a tank painting  
17 tracker was established in the Non-unanimous Stipulation and Agreement. In the next rate  
18 case, Case No. WR-2008-0311, the tank painting tracker was continued in the  
19 Non-unanimous Stipulation and Agreement filed in that case. The tracker was to be  
20 maintained through the effective date of the rates established in the next regulatory  
21 proceeding (which is this case), with the continuation of the tracker to be addressed and  
22 evaluated in that subsequent proceeding. The tracker established a regulatory asset or liability  
23 in which the Staff has included in rate base.

24 The Staff has used a two year average of tank painting costs that were completed in  
25 the calendar years 2008 and 2009, to arrive at a level of tank painting expense to be included  
26 in the test year. Staff reviewed five years of tank painting history and believes a two year  
27 average is appropriate. The two year period reflects the time period in which the tank painting  
28 tracker was in effect.

1 Staff included the amortization of the tank painting liability in its annualized level of  
2 tank painting expense. Staff amortized the tank painting liability over a three year period. A  
3 three year period was chosen because the tank painting tracker will have been in effect almost  
4 three years by the time rates are set in this current case. Staff will update the tank painting  
5 tracker as part of its true-up audit. Staff's annualized level of tank painting expense  
6 is \$1,084,842.

7 *Staff Expert: Kimberly K. Bolin*

### 8 **3. Net Negative Salvage**

9 During the test year, the Company recorded around \$5 million related to net negative  
10 salvage in a maintenance expense account. An adjustment is necessary to eliminate this  
11 amount because the net negative salvage is already included in the composite depreciation  
12 rates. This adjustment is made by both the Staff and the Company. MAWC corporate  
13 amounts were allocated to the other districts based on the Labor Composite Corporate  
14 Allocation Factor. For further details on all allocation factors, please see Section VII.

15 *Staff Expert: Amanda C. McMellen*

## 16 **E. Other Non-Labor Expenses**

### 17 **1. Rate Case Expenses**

18 The Staff has included the actual rate case costs incurred by Missouri-American as of  
19 February 16, 2010, for this rate case (Case No. WR-2010-0131). The Staff will include rate  
20 case expenses on a going forward basis as the actual expenses are incurred by the Company.  
21 The Staff's rate case adjustment is based upon a two-year normalization.

22 The Staff is not recommending the inclusion of prior rate case expenses in the current  
23 cost of service for this case. The Staff's policy is to recommend recovery in rates of  
24 normalized rate case expenses only on a prospective basis. The Staff believes it is  
25 inappropriate to allow specific recovery in rates of amounts related to past rate proceedings.  
26 The Staff will work with the Company through the duration of this case to establish a  
27 reasonable and ongoing normalized level of rate case expense for inclusion in rates. This  
28 means that any additional expenses associated with the processing of this rate filing by  
29 Missouri-American will be examined to determine their appropriateness for inclusion in this



1 case. This will allow reasonable and normalized costs such as consulting fees, employee  
2 travel expenditures and legal representation, which are directly associated with the length of  
3 the case through the settlement conference and hearing process, to be properly included in this  
4 rate case.

5 The Staff does not recommend that rate case expense is an item that should be  
6 “amortized” in a rate case, as that implies an obligation to allow recovery of any unamortized  
7 costs in the utility’s next rate proceeding.

8 *Staff Expert: Jermaine Green*

## 9 **2. Dues and Donations**

10 The Staff reviewed the list of membership dues paid, and donations made, to various  
11 organizations that Missouri-American charged to its utility accounts during the test year. The  
12 Staff proposes adjustments to exclude various dues and donations that were included by  
13 MAWC in its above-the-line expense accounts. Such dues and donations were excluded  
14 because they were not necessary for the provision of safe and adequate service, and thus do  
15 not have any direct benefit to ratepayers. Allowing the Company to recover these expenses  
16 through rates causes the ratepayer to involuntarily contribute to these organizations.  
17 Examples of dues excluded from recovery in the rate case are dues paid to the  
18 Missouri Chamber of Commerce, Missouri Energy Development Association (MEDA), and  
19 Rotary Clubs.

20 In *Re: Missouri Public Service, a Division of UtiliCorp United, Inc.*, Case No.  
21 ER-97-394, et al., *Report and Order*, 7 Mo.P.S.C.3d 178, 212 (1998), 1998 WL 222959  
22 (Mo.P.S.C.) at 30, the Commission stated:

23 The Commission has traditionally disallowed donations [to charitable  
24 organizations including various country clubs and rotary clubs] such as  
25 these. The Commission finds nothing in the record to indicate any  
26 discernible ratepayer benefit results from the payment of these  
27 donations. The Commission agrees with the Staff in that membership  
28 in the various organizations involved in this issue is not necessary for  
29 the provision of safe and adequate service to the MPS ratepayers.

30 *Staff Expert: Kimberly K. Bolin*

1                                   **3. Insurance Expense**

2                   Insurance expense is the cost of protection obtained from third parties by utilities  
3 against the risk of financial loss associated with unanticipated events or occurrences.  
4 Utilities, like non-regulated entities, routinely incur insurance expense in order to minimize  
5 their liability (and, potentially, that of its customers) associated with unanticipated losses.  
6 The Staff proposed an adjustment to annualize Missouri-American’s insurance expense to  
7 reflect the premiums paid as of October 31, 2009, the end of the update period.

8 *Staff Expert: Jermaine Green*

9                                   **4. Property Tax Expense**

10                  Property taxes are those taxes assessed by state and local county taxing authorities on  
11 a utility’s “real” property as of January 1<sup>st</sup> of each year. At the first of each year, utilities are  
12 required to file with the taxing authorities a valuation of its utility property owned as of the  
13 January 1 assessment date. Several months later, the taxing authorities will provide the  
14 utilities with what they refer to as “assessed values” for each category of property owned.  
15 Much later in the year (typically in the late summer/fall time frame) the utilities will be given  
16 the property tax rate. Property tax bills are then issued to the utilities with “due dates” by  
17 December 31 of the same year. Property taxes are computed using the assessed property  
18 values and property tax rates.

19                  The adjustment proposed by Staff in this proceeding annualizes Missouri-American’s  
20 property tax base to take into account the Company’s balance of taxable assets at the end of  
21 2009 (i.e., the January 1, 2010 balance). Staff examined the actual amounts of property tax  
22 payments made by Missouri-American for 2008 to develop a taxable ratio which was applied  
23 to the property tax base as December 31, 2009. Staff believes that the property tax expense  
24 arrived at in this manner is the best estimate available of ongoing levels of these taxes, and is  
25 consistent with how property taxes have been calculated for rate purposes in the past for  
26 Missouri-American and other Missouri utilities.

27 *Staff Expert: Jermaine Green*

1                                   **5. Bad Debt Expense**

2                   Bad debt expense is the portion of revenues that Missouri-American is unable to  
3 collect from customers because of non-payment of customer bills. After a certain period of  
4 time has passed, delinquent customer accounts are written off and turned over to collection  
5 agencies for collection. The Company’s provisions for bad debt are first booked to the  
6 Missouri corporate account into Uniform System of Accounts (USOA) account number 904.

7                   The ongoing or annualized level of uncollectible accounts determined by Staff for  
8 each of MAWC’s districts reflects the ratio of the actual amounts of net write-offs to the  
9 related revenues for three years ending June 30, 2009. The three year average ratio is then  
10 applied to the Staff’s proposed annualized revenue level for each district.

11 *Staff Expert: Paula Mapeka*

12                                   **6. Advertising Expense**

13                   In forming its recommendation of the allowable level of Missouri-American’s  
14 advertising expense, the Staff relied on the Commission’s pronounced principles in  
15 the 1986 order for the Kansas City Power & Light Company rate case. In *Re:*  
16 *Kansas City Power and Light Company*, Case Nos. EO-85-185, et al., 28 Mo. P.S.C. (N.S.)  
17 228, 269-71 (1986), the Commission adopted an approach that classifies advertisements into  
18 five categories and provides separate rate treatment for each category. The five categories of  
19 advertisements recognized by the Commission therein are as follows:

- 20                   1.       General: informational advertising that is useful in the  
21                               provision of adequate service;
- 22                   2.       Safety: advertising which conveys the ways to safely use  
23                               electricity and to avoid accidents;
- 24                   3.       Promotional: advertising used to encourage or promote the use  
25                               of electricity;
- 26                   4.       Institutional: advertising used to improve the company’s public  
27                               image;
- 28                   5.       Political: advertising associated with political issues.

29                   The Commission adopted these categories of advertisements because it believed that a  
30 utility’s revenue requirement should: 1) always include the reasonable and necessary cost of

1 general and safety advertisements; 2) never include the cost of institutional or political  
2 advertisements; and 3) include the cost of promotional advertisements only to the extent that  
3 the utility can provide cost-justification for the advertisement (Report and Order in KCPL  
4 Case Nos. EO-85-185, et al., 28 Mo.P.S.C. (N.S.) 228, 269-271 (April 23, 1986)).

5 Accordingly, in the current rate case, the Staff has proposed an adjustment to exclude  
6 the costs of institutional and promotional advertising from recovery in rates. (The Staff found  
7 no evidence that MAWC engaged in any political advertising.) Costs for safety advertising  
8 and general advertising directed towards the benefit of existing customers were included in  
9 Staff's annual advertising expense amount.

10 *Staff Expert: Kimberly K. Bolin*

### 11 **7. Postage Expense**

12 Staff's adjustment represents the annualization of postage expense based on postage  
13 rates that became effective May 12, 2009. Staff developed its annualization by using the  
14 actual number of large and small meter mailings for the test year ending June 30, 2009, and  
15 applying the new postage rates. Staff then allocated the annualized postage expense across  
16 the Missouri-American districts based on the Total Number of Bills Corporate Allocation  
17 Factor (the corporate allocation factors are discussed in Section VII item A and listed in  
18 Appendix 3). The test year postage expense was then subtracted from allocated postage  
19 expense to derive the adjustment.

20 *Staff Expert: Jermaine Green*

### 21 **8. Injuries and Damages**

22 The Staff used a three-year average of actual injuries and damages payments made by  
23 Missouri-American to normalize this cost. A three-year average of payments was used as  
24 representative of injuries and damages costs because a historical analysis shows a  
25 considerable fluctuation in the payments from year to year. Actual injuries and damages  
26 payouts were used in the Staff's adjustment and allocated to each district based upon the  
27 Staff's proposed allocation factors.

28 *Staff Expert: Jermaine Green*

1                                   **9. Franchise Tax Expense**

2                    Missouri-American pays a franchise tax in order to conduct business in the State of  
3 Missouri. Staff’s adjustment annualizes the Franchise Tax Expense by computing the tax  
4 based on assets as of the end of the test year, June 30, 2009. The expense was then allocated  
5 across the districts using the Labor Composite Corporate Allocation Factor (the corporate  
6 allocation factors are discussed in Section VII item A and listed in Appendix 3). The test year  
7 expense for each district was then subtracted from the allocated expense for each district to  
8 derive the adjustment.

9                    *Staff Expert: Jermaine Green*

10                                   **10. Amortization of Regulatory Assets**

11                    This regulatory asset was created as part of the Stipulation and Agreement in  
12 Case No. WR-2007-0216. The asset is the result of expenses associated with the creation of a  
13 national call center and shared services center transition costs. The rate treatment of these  
14 expenses is explained in the Non-unanimous Stipulation and Agreement in  
15 Case No. WR-2007-0216, page 4, item 12:

16                    The Signatories agree that starting with the effective date of the Report  
17 and Order approving this Stipulation and Agreement, MAWC shall be  
18 authorized to transfer from Utility Plant in Service and Utility Plant  
19 Depreciation Reserve to a regulatory asset (in Account 186) the net  
20 investment that was made to plan, design and implement the  
21 National Call Center and the National Shared Services Center. This  
22 asset shall be amortized and recovered in rates over a fifty (50) year  
23 period beginning with the effective date of the Final Order in this case.  
24 The unamortized balance of the regulatory asset shall not be included in  
25 rate base in any future rate proceeding. MAWC will maintain this  
26 regulatory asset on its books until such time as the amortization has  
27 been completed.

28                    The Staff is proposing a decrease of \$5,125 to the test year amount of \$171,265 for an  
29 annualized level of \$166,140. The annualized level represents only the Missouri allocated  
30 portion of the fifty year amortized Call Center and National Shared Services Center  
31 transition costs.

32                    *Staff Expert: Amanda C. McMellen*

1 **11. Chemical Expense**

2 Staff’s annualized chemical expense for each district was based on a computation that  
3 involved a number of factors, such as current cost of chemicals per gallon, an average  
4 chemical usage, test year actual water sales and average system delivery reported by the  
5 Company, as well as the normalized and annualized system delivery determined by the Staff.  
6 All of these factors were combined to produce the annualized costs of chemicals that Staff  
7 believes the Company is required to utilize in the water treatment process for the provision of  
8 water service to customers.

9 “System delivery” means water sales to customers plus water or line losses, or water  
10 that is “unaccounted for.” These water losses may result from leaky pipes, substandard  
11 metering or inaccurate recordkeeping. It is a general, but unwritten policy of the Commission  
12 Staff that utilities take corrective actions to control the amount of water losses in their systems  
13 and limit excess line loss to 15 percent, and that rate recovery of the impact of water losses be  
14 limited to a 15% loss factor. During the test year, the loss percentage among the Company’s  
15 water districts varied from 6% to 29%. Therefore the Staff used a three-year average of  
16 district percentages in order to arrive at a normalized water loss percentage. This normalized  
17 water loss percentage was then used to calculate the annualized system delivery for the  
18 purpose of calculating chemical costs.

19 *Staff Expert: Jermaine Green*

20 **12. Electricity**

21 Staff’s adjustment annualizes fuel and power costs for each district based on the  
22 current cost of electricity and the normalized system delivery. The test year electric cost was  
23 increased to reflect electric rate increases that occurred during, and subsequent to, the test  
24 year as follows:

<b>Supplier</b>	<b>Rate Case</b>	<b>Effective Date</b>	<b>Percent Increase**</b>
AmerenUE	ER-2008-0318	3/1/2009	7.75%
KCP&L	ER-2009-0089	9/1/2009	16.16%
KCP&L-GMO(L&P)	ER-2009-0090	9/1/2009	11.85%
KCP&L – GMO (MPS)			10.46%
Empire District Electric	ER-2008-0093	8/23/2008	6.7%
Empire/FAC	EO-2009-0349	6/1/2009	1.0%

25 \*\* Percentage increases were provided by the MoPSC’s Energy – Economic Analysis Department.  
26

1           The average power cost per 1,000 gallons of water production was developed for each  
2 district based on the adjusted cost and test year system delivery. Each district specific  
3 average cost per gallon was multiplied by the annualized system delivery to calculate the  
4 annualized fuel and power cost for each district. The annualized system delivery also reflects  
5 the normalized water loss percentages for those districts that recorded an actual water loss.  
6 The test year fuel and power costs were then subtracted from the annualized expense to derive  
7 the adjustment.

8 *Staff Expert: Jermaine Green*

### 9                           **13. Purchased Water**

10           Staff's adjustment annualizes purchased water in the St. Louis County, Parkville and  
11 Jefferson City water operating districts, which purchase water from the City of St. Louis,  
12 Kansas City and Callaway County, respectively. The purchased water adjustment reflects the  
13 annualization of the purchased water cost in the two operating districts based on the  
14 annualized system delivery for St. Louis County and Parkville districts. The annualized  
15 system delivery also reflects the normalized water loss percentages for those districts that  
16 recorded an actual water loss.

17 *Staff Expert: Jermaine Green*

### 18                           **14. Leases**

19           Since the St. Louis headquarters (Craig Road Building) is shared by MAWC personnel  
20 and American Water Works, Inc., personnel, it is necessary to allocate common space  
21 between MAWC and AWW. Based upon this allocation, AWW retains 78.24% of this cost,  
22 which is not directly charged to Missouri operations. The remaining 21.76% is MAWC's  
23 portion. Since all districts benefit from activities associated with these shared services, the  
24 Staff has proposed that 21.76% is the appropriate portion of MAWC's building lease expense  
25 (rent) be allocated to the districts.

26 *Staff Expert: Paula Mapeka*

1                                   **15. Transportation Expense**

2                   Transportation expense is the cost associated with vehicles (trucks and cars) and other  
3 power operated equipment (backhoes, tractors and forklifts, etc.). The Staff reviewed the  
4 effective dates of these leases to determine which leases would be ongoing after  
5 April 30, 2010 expected True-up date. Once the on-going leases were determined, the Staff  
6 annualized the cost of these leases. Since these vehicles are directly assigned to each district,  
7 it is not necessary to use allocation factors. However, an O&M factor is applied to determine  
8 the overall amount charged to expense.

9       *Staff Expert: Paula Mapeka*

10                                   **16. PSC Assessment**

11                   The Staff used the most current PSC Assessment to determine an annualized level of  
12 PSC Assessment expense.

13       *Staff Expert: Jermaine Green*

14                                   **17. Belleville Lab Expense**

15                   All Belleville Lab Service Company costs are allocated to MAWC based on a ratio of  
16 the number of MAWC customers to the total number of customers of all operating companies  
17 taking service from Belleville Labs. For the test year, MAWC received only an indirect cost  
18 allocation based on a customer allocation ratio of approximately 15.29%.

19                   The Staff adjustment reduces MAWC's expense to reallocate the indirect portion of  
20 Belleville Lab Service Company costs based on an average of the number of test analyses  
21 performed on all samples that were submitted to the Belleville Lab over the last five calendar  
22 years ending October 31, 2009, in order to smooth out the fluctuation of test analyses for  
23 purposes of setting rates. MAWC's portion of test analyses, when compared to all other  
24 operating companies during this five year time period, represented a ratio of approximately  
25 5.64%. The Staff believes that the test analysis ratio is a more appropriate allocation method  
26 for cost distribution than using customer numbers, and recommends that MAWC's Belleville  
27 Lab costs be adjusted and distributed using the test analyses ratio.

28                   The function of the Belleville Labs facility is exclusively for water sample testing to  
29 comply with required regulations. Therefore, test analysis represents a better basis of



1 allocation than the number of customers, because it represents the work that is actually being  
2 performed at Belleville Labs. Furthermore, the amount of testing required for a company is  
3 dependant upon the type of facilities operated and the environment of the service area, more  
4 so than the number of customers that are served. The Staff's proposed allocation method will  
5 more accurately match cost-causers to costs.

6 *Staff Expert: Amanda C. McMellen*

### 7 **18. Promotional Items**

8 Staff proposes to remove from the cost of service all of the costs of promotional items  
9 that the Company gives to others at events such as local trade shows and exhibitions.  
10 Examples of items that were given away during the test year are; mini tool kits, water bottles,  
11 rain gauges and sponges and seed packets. Such promotional giveaways are not necessary for  
12 the provision of safe and adequate service, and thus have no benefit to the ratepayer and  
13 should not be included in the Company's cost of service. The amount of Staff's disallowance  
14 for promotional items is \$52,489.

15 *Staff Expert: Kimberly K. Bolin*

### 16 **19. Telephone Expense**

17 Staff's adjustment annualizes telephone expenses by removing any non-telephone  
18 related expenses from the test year data.

19 *Staff Expert: Jermaine Green*

## 20 **F. Current and Deferred Income Tax**

### 21 **1. Current Income Tax**

22 Current income tax has been calculated generally consistent with the methodology  
23 used in the most recent Missouri-American rate case, Case No. WR-2008-0311. A "tax  
24 timing difference" occurs when the timing used in reflecting a cost (or revenue) for financial  
25 reporting purposes is different from the timing required by the Internal Revenue Service (IRS)  
26 in determining taxable income. Current income tax reflects timing differences consistent with  
27 the timing required by the IRS. The tax timing differences used in calculating the taxable

1 income amount, which in turn is used for computing the current income tax obligation, are as  
2 follows:

- 3 • Add Back to Operating Income Before Taxes:
- 4 • Book Depreciation Expense
- 5 • Miscellaneous Non-deductible Expenses
- 6 • Subtractions from Operating Income:
- 7 • Interest Expense – Weighted Cost of Debt X Rate Base
- 8 • Tax Straight-Line Depreciation
- 9 • Tax Depreciation-Excess

10 In Missouri-American’s last rate case, Case No. WR-2008-0311, and in this case, the  
11 Company’s and Staff’s book depreciation and tax straight-line depreciation are the same. The  
12 Staff adjusted deferred income tax expense to reflect the normalization of the timing  
13 differences related to excess depreciation. The Staff also recognized the deferred income  
14 taxes related to the amortization of prior year deferrals associated with depreciation and  
15 investment tax credit.

16 *Staff Expert: Kimberly K. Bolin*

17 **2. Deferred Income Tax Expense:**

18 When a tax timing difference is reflected for ratemaking purposes that are consistent  
19 with the timing used in determining the taxable income amount for current income tax due  
20 under the Internal Revenue Code (IRC), the timing difference is given “flow-through”  
21 treatment. When a current year timing difference is deferred and recognized for ratemaking  
22 purposes in a way that is consistent with the timing used in calculating pre-tax operating  
23 income in the financial statements, then that timing difference is given “normalization”  
24 treatment for ratemaking purposes. Deferred income tax expense for a regulated utility  
25 reflects the tax impact of “normalizing” tax timing differences for ratemaking purposes. IRS  
26 rules for regulated utilities require normalization treatment for the timing difference related to  
27 accelerated tax depreciation. The Staff also recognized the deferred income taxes related to  
28 the amortization of prior year deferred amounts associated with the depreciation and  
29 investment tax credit.

30 *Staff Expert: Kimberly K. Bolin*

1 **Appendices**

2 Appendix 1: Staff Credentials

3 Appendix 2: Support for Staff Cost of Capital Recommendation - David Murray

4 Appendix 3: Allocation Factors Used - Amanda C. McMellen

5 Appendix 4: Usage Per Customer - Jerry Scheible

6 Appendix 5: Average Service Lives - Guy C. Gilbert

**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 ) Case No. WR-2010-0131  
General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

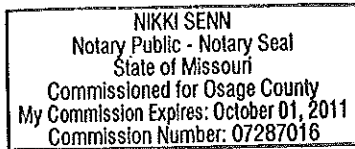
**AFFIDAVIT OF KIMBERLY K. BOLIN**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

Kimberly K. Bolin, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report in pages 1-5, 43-45, 45-47, 64-65, 66-67, 68-69, 70, 72-73, 78-79 that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Kimberly K. Bolin  
Kimberly K. Bolin

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.



Nikki Senn  
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 )  
Services Provided in Missouri Service Areas )

Case No. WR-2010-0131

**AFFIDAVIT OF GUY C. GILBERT, MS, PE, RG**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

Guy C. Gilbert, MS, PE, RG, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 59-64; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

*Guy C. Gilbert*  
Guy C. Gilbert, MS, PE, RG

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.

NIKKI SENN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Osage County  
My Commission Expires: October 01, 2011  
Commission Number: 07287016

*Nikki Senn*  
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 )  
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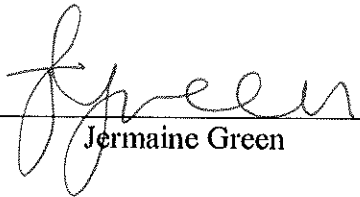
Case No. WR-2010-0131

**AFFIDAVIT OF JERMAINE GREEN**

STATE OF MISSOURI )  
 )  
COUNTY OF COLE )

ss.

Jermaine Green, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 40-43, 69-70, 71, 73-74, 75-76, 77, 78; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

  
\_\_\_\_\_  
Jermaine Green

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.

NIKKI SENN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Osage County  
My Commission Expires: October 01, 2011  
Commission Number: 07287016

  
\_\_\_\_\_  
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 ) Case No. WR-2010-0131  
General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

AFFIDAVIT OF PAULA MAPEKA

STATE OF MISSOURI     )  
                                  )     ss.  
COUNTY OF COLE     )

Paula Mapeka, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report in pages 38, 40, 43, 45, 52, 54-55, 68, 72, 76-77; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

  
\_\_\_\_\_  
Paula Mapeka

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.

NIKKI SENN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Osage County  
My Commission Expires: October 01, 2011  
Commission Number: 07287016

  
\_\_\_\_\_  
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 ) Case No. WR-2010-0131  
General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

AFFIDAVIT OF AMANDA C. MCMELLEN

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

Amanda C. McMellen, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report in pages 47-51, 55-56, 65-66, 47-68, 69, 74, 77-78; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

*Amanda C McMellen*  
Amanda C. McMellen

Subscribed and sworn to before me this *9<sup>th</sup>* day of *March*, 2010.

*Nikki Senn*  
Notary Public

NIKKI SENN  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Osage County  
My Commission Expires: October 01, 2011  
Commission Number: 07287016



**BEFORE THE PUBLIC SERVICE COMMISSION**

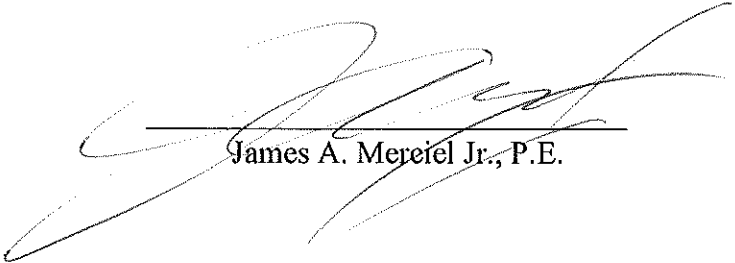
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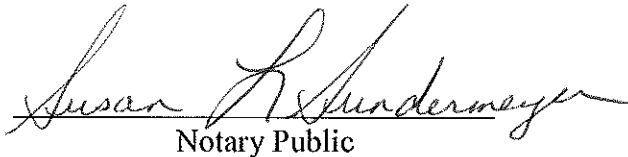
AFFIDAVIT OF JAMES A. MERCIEL JR., P.E.

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

James A. Merciel Jr., P.E., of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 38-39; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

  
James A. Merciel Jr., P.E.

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.

  
Notary Public



SUSAN L. SUNDERMEYER  
My Commission Expires  
September 21, 2010  
Callaway County  
Commission #06942086


**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 ) Case No. WR-2010-0131  
General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

AFFIDAVIT OF DAVID MURRAY

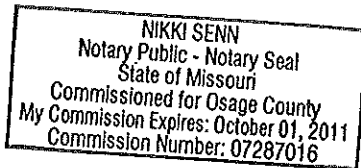
STATE OF MISSOURI     )  
  )     ss.  
COUNTY OF COLE     )

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 5-38; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

  
\_\_\_\_\_  
David Murray

Subscribed and sworn to before me this 9<sup>th</sup> day of March, 2010.

  
\_\_\_\_\_  
Notary Public



**BEFORE THE PUBLIC SERVICE COMMISSION**

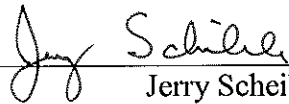
**OF THE STATE OF MISSOURI**

In the Matter of Missouri-American Water )  
Company's Request for Authority to Implement a ) Case No. WR-2010-0131  
General Rate Increase for Water and Sewer )  
Services Provided in Missouri Service Areas )

**AFFIDAVIT OF JERRY SCHEIBLE**

STATE OF MISSOURI )  
 ) ss.  
COUNTY OF COLE )

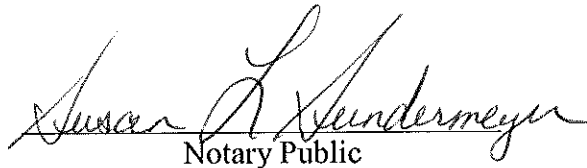
Jerry Scheible, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 53-54; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

  
Jerry Scheible

Subscribed and sworn to before me this 8th day of March, 2010.



SUSAN L. SUNDERMEYER  
My Commission Expires  
September 21, 2010  
Callaway County  
Commission #06942086

  
Notary Public