MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2010-0131

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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

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

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

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

Staff Expert: Kimberly K. Bolin

III. Test Year/Update Period/True-Up Recommendation

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

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

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

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

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

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

RATE BASE:

Plant in service
Depreciation reserve
Deferred taxes
Related cash working capital effects
Materials and Supplies
Prepayments
Customer advance for construction
Pension and OPEB trackers
Tank Painting tracker

CAPITAL STUCTURE:

Rate of return

Capital Structure

INCOME STATEMENT:

Revenues for customer growth

Payroll – employee levels and wage rates

Rate case expense

Bad debt expense

Depreciation and amortization expense

Related income tax effects

Pensions and OPEBs

Injuries and damages

Property taxes

Staff Expert: Kimberly K. Bolin

IV. Major Issues

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

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

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

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

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

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

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

Staff Expert: Kimberly K. Bolin

V. Rate of Return

A. Summary

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

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

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

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

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

B. Legal Principles of Rate of Return

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

and Federal Power Commission v. Hope Natural Gas Company (1944) (Hope).[1] The Court in *Bluefield* specifically stated:

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

Similarly, the Court in *Hope* stated:

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

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

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

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[1] ***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).

[2] ***Bluefield,*** *supra,* 262 U.S. at 692-93, 43 S.Ct. at 679, 67 L.Ed. at 1182-1183.

[3] ***Hope,*** *supra,* at 603 (citations omitted).

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

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

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

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

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

[4] Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management*, Fifth Edition, The Dryden Press, 1997, p. 438.
[5] Zvie Bodie, Alex Kane and Alan J. Marcus, *Essentials of Investments*, Richard D. Irwin, Inc. 1992, p. 11.

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

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

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

C. Economic Information

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

1. *Monetary Policy*

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

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

The following comments were made in a recent article in the *Wall Street Journal (WSJ),*[7] concerning Federal Reserve Chairman's Ben Bernanke's semi-annual testimony to Congress on February 24, 2010, regarding the status of the economy and monetary policy:

> In his semi-annual testimony to Congress on the economy and monetary policy, Mr. Bernanke said that short-term interest rates, now near zero, were likely to remain there for at least several more months...
>
> He highlighted worries about what he called the "nascent recovery"—marked by high unemployment, wobbly real-estate markets, weak lending and large budget deficits. Mr. Bernanke said slack in the economy meant the benchmark federal-funds rate would remain near zero for an "extended period"...

[6] 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.

[7] Jon Hilsenrath, "Bernanke Stressed Needs for Low Rates," *The Wall Street Journal*, February 25, 2010, p. A2.

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

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

2. *Interest Rates, Bond Yields and Spreads*

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

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

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

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

3. *Equity Performance*

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

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

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

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

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

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

4. *Macroeconomic Environment*

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

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

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

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

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

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

> **A business recovery is under way.** Three months ago, in our last "Quarterly Economic Review," we noted that the recession had faded into history, having been brought to an apparent end in the third quarter of 2009, when the U.S. gross domestic product posted its first gain (2.2%) in over a year. In the several months since then, the recession's demise has become more evident, with GDP surging ahead by 5.7% in the fourth quarter. (Note: The group that determines when a recession begins and ends—The National Bureau of Economic Research—has yet to affirm that this downturn has concluded. However, we think that it will do so shortly.) In any event, the recession, which began in late 2007, proved long and painful, and its effects may linger for years to come, especially in the areas of housing, employment, credit availability, and fiscal and monetary policy.
>
> **The strength and sustainability of the economic recovery are open questions at this time.** The business upturn seemed to initially get under way with a flourish, with GDP at first reported to have risen by 3.5% during the third quarter of 2009. However, that gain was pared to 2.8% and then 2.2% in revisions that were issued in late November and late December, respectively. Now, as we peer out into 2010, the economy's outlook is uncertain, following the historically lackluster showing in the third quarter of 2009 and the stronger outcome in the final three months of the year. (However, it should be noted that the late-year surge was helped materially by a positive swing in inventories, as businesses moved to slow their pace of inventory liquidations, because demand for goods and services rose selectively.) We believe the economy will extend its winning ways in the current quarter, although probably at a slower pace—perhaps 2.5%-2.8%. This likely deceleration reflects our expectation that help from inventories will be less appreciable; the impact of fiscal stimulus on growth will fade; the housing and employment trends will be no better than neutral; and credit availability will be limited as before. Consumers could well be reticent to spend aggressively in such a setting. All told, the current period could more closely resemble the third quarter of 2009, in aggregate strength, than the final three months of last year. That said,

> the evolving economic up cycle still looks to be durable, if initially uninspiring. Indeed . . .
>
> **The business recovery may well be an understated affair for at least a year,** with the prospective showing in the first quarter probably being the rule throughout 2010. Note, however, that our revised business forecast is more upbeat than it was three months ago. However, we do not envision a prototypical V-shaped recovery. Tight credit, lackluster trends in housing and employment, and uneven retail activity (the consumer remains the weak link in the recovery chain) aren't consistent with a booming up cycle. However, a swing in GDP from last year's decline of 2.4% to a possible increase of 2.9% in 2010 certainly would qualify as meaningful.
>
> **There are risks to our forecast.** Economic modeling always contains some conjecture. In this case, our principal assumptions are that the coming 3 to 5 years will bring no new extended military crises, as well as no pandemic, drought, or major terrorist incident. Our forecast also presumes sustained expansions in housing and employment, few missteps in fiscal or monetary policy, no serious flareups of inflation, and no bouts of deflation, such as took place in the 1930s.

5. *Summary*

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

D. Overview of American Water's and MAWC's Operations, Financing and Staff's Proposed Approach for Estimating MAWC's Cost of Capital

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

1. *Business operations.*

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

> American Water Works Company, Inc., a Delaware Corporation, is the most geographically diversified as well as the largest, as measured both by operating revenue and population served, investor-owned United States water and wastewater utility company. Our approximately 7,300 employees provide approximately 15 million people with drinking water, wastewater and other water-related services in 32 states and Ontario, Canada.
>
> In 2008, we generated $2,336.9 million in total operating revenue and $186.9 million in operating loss, which includes $750.0 million of impairment charges relating to continuing operations, and a net loss of $562.4 million. In 2007, we generated $2,214.2 million in total operating revenue, representing approximately four times the operating revenue of the next largest investor-owned company in the United States water and wastewater business, and $15.1 million in operating income which includes $509.3 million of impairment charges relating to continuing operations.
>
> We have two operating segments which are also the Company's two reportable segments, which we refer to as the Regulated Businesses and Non-Regulated Businesses segments. For further details on our segments, see Note 22 of the Consolidated Financial Statements.
>
> For 2008, our Regulated Businesses generated $2,082.7 million in operating revenue, which accounted for 89.1% of total operating revenue. For the same period, our Non-Regulated Businesses generated $272.2 million, in operating revenue, which accounted for 11.6% of total consolidated operating revenue.

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

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

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

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

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

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

2. *Credit Quality*

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

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

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

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

> **Rationale**
> The ratings on American Water Works Co. Inc. (AWW) and its funding subsidiary American Water Capital Corp. (AWCC) reflect the consolidated credit quality of AWW. A favorable competitive position, a diverse and supportive regulatory environment, and a stable, above-average service territory support AWW's 'excellent' business risk profile. AWW's regulatory framework includes reasonably allowed returns on equity and various cost-recovery mechanisms, including incentives for infrastructure improvements. The company's geographic diversity provides it with some market, cash flow, and regulatory diversification. We view AWW's operating risks associated with its nonregulated operations as fairly low. AWW's aggressive financial profile, elevated capital-spending requirements for infrastructure replacement, increased compliance costs with water-quality standards, and the company's reliance on acquisitions to provide growth partly offset these strengths.
>
> AWW provides regulated water and wastewater services to more than 3.3 million customers in 20 states. The company's regulated utility subsidiaries represent almost 90% of total revenues, but have provided almost 100% of adjusted EBIT for the past three years. The company's non-regulated subsidiaries engage in water and wastewater facility management and maintenance, as well as design and construction consulting services related to water and wastewater plants. We view these non-regulated segments as having modest incremental risk for AWW due to their lack of cash flow contribution and modest expected capital requirements.
>
> A state commission regulates each of AWW's regulated subsidiaries, which supports revenue and cash flow stability. The average allowed

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

Outlook

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

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

[8] 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.

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

According to American Water's 2009 SEC Form 10-K Filing, American Water and AWCC currently has a "Baa2" issuer credit rating. This is equivalent to an S&P BBB credit rating.

E. Determination of the Cost of Capital

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

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

F. Capital Structure and Embedded Costs

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

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

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

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

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

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

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

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

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

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

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

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

[10] MAWC's Response to Staff Data Request No. 0104.

[11] 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.

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

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

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

G. Cost of Common Equity

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

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

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

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

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

1. *Proxy Group*

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

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

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

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

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

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

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

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

2. *Constant-growth DCF*

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

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

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

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

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

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

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

[12] 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.

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

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

3. *Multiple-Stage DCF*

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

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

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

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

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

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

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

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

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

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

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

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

[14] "The Budget and Economic Outlook: Fiscal Years 2010 to 2020" January 2010, *Congressional Budget Office.*

[15] http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20100127.pdf

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

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

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

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

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

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

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

4. *Capital Asset Pricing Model*

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

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

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

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

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

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

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

The final term of the CAPM is the market risk premium (Rm - R f). The market risk premium represents the expected return from holding the entire market portfolio, less the expected return from holding a risk-free investment. The Staff relied on risk premium estimates based on historical differences between earned returns on stocks and earned returns on bonds.

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

[16] http://research.stlouisfed.org/fred2/series/GS30?cid=115

from 1926 to 2008, which was determined to be 3.90 percent. These risk premiums were taken from Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2009 Yearbook.[17]

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

H. Further Tests of Reasonableness

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

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

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

[17] The 2010 Yearbook is not yet available.
[18] See http://www.mosers.org/About-MOSERS/Reports-Research/Summit-Strategies-Capital-Markets-Assumptions.aspx.

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

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

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

I. Conclusion

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

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

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

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

Staff Expert: David Murray

VI. Rate Base

A. Plant in Service and Depreciation Reserve

1. Plant in Service as of October 31, 2009

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

Staff Expert: Paula Mapeka

2. Cedar Hill Plant Capacity Adjustment

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

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

Staff Expert: James Merciel

3. Depreciation Reserve as of October 31, 2009

Accounting Schedule 4, Depreciation Reserve, reflects the rate base value of Missouri-American's depreciation reserve for each district as of March 31, 2008, by account. The depreciation reserve for each district includes allocated Corporate accumulated depreciation. Corporate depreciation reserve plant was allocated across the districts according to the Labor Composite Corporate Allocation Factor (the corporate allocation factors are discussed in Section VII item B and listed in the attached Appendix 3).

Staff Expert: Paula Mapeka

B. Cash Working Capital (CWC)

Cash Working Capital ("CWC") is the amount of funding necessary for a utility to pay the day-to-day expenses incurred in providing utility services to its customers. When a utility expends funds in order to pay an expense necessary to the provision of service before its customers provide any corresponding payment, the utility's shareholders are the source of the funds. This shareholder funding represents a portion of each shareholders' total investment in the utility, for which the shareholders are compensated by the inclusion of these funds in rate base. By including these funds in rate base, the shareholders earn a return on the CWC-related funding they have invested.

Customers supply CWC when they pay for electric services received before the utility pays expenses incurred in providing that service. Utility customers are compensated for the CWC they provide by a reduction to the utility's rate base. By removing these funds from rate base, the utility earns no return on that funding which was supplied by customers as CWC.

A positive CWC requirement indicates that, in the aggregate, the shareholders provided the CWC for the test year. This means that, on average, the utility paid the expenses incurred to provide the services to its customers before those customers had to pay the utility for the provision of these utility services. A negative CWC requirement indicates that, in the aggregate, the utility's customers provided the CWC for the test year. This means that, on average, the customers paid for the utility's services before the utility paid the expenses that the utility incurred to provide those services.

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

1) Column A (Account Description): lists the types of cash expenses, which MAWC pays on a day to day basis.

2) Column B (Test Year Expenses): provides the amount of annualized expense included in MAWC's cost of service. Column B basis the dollars associated with those items on an adjusted jurisdictional basis in Column A.

3) Column C (Revenue Lag): indicates the number of days between the midpoint of the provision of service by MAWC and the payment by the ratepayer for such service. Further explanation of the Revenue Lag can be found later in this Report.

4) Column D (Expense Lag): indicates the number of days between the receipt of, and payment for the goods and services (i.e., cash expenditures) used to provide service to the ratepayer. Further explanation of the Expense Lag can be found later in this Report.

5) Column E (Net Lag): results from the subtraction of the Expense Lag (Column D) from the Revenue Lag (Column C).

6) Column F (Factor): expresses the CWC lag in days as a fraction of the total days in the test year. This is accomplished by dividing the Net Lags in Column E by 365.

7) Column G is the CWC Requirement needed for each expense listed. The amounts in this Column are calculated by multiplying the test year/annualized balances with the CWC Factor (Column F).

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

1) Usage Lag: The midpoint of average time elapsed from the beginning of the first day of a service period through the last day of that service period;

2) Billing Lag: The period of time between the last day of the service period and the day the bill for that service period is placed in the mail by the Company; and,

3) Collection Lag: The period of time between the day the bill is placed in the mail by the Company and the day the Company receives payment from the ratepayer for the services provided.

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

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

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

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

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

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

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

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

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

Staff Expert: Jermaine Green

C. Prepayments, and Materials and Supplies

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

Staff Expert: Paula Mapeka

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

1. Pension/OPEB Tracker

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

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

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

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

Staff Expert: Kimberly K. Bolin

2. Pension Liability

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

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

Staff Expert: Kimberly K. Bolin

E Customer Advances

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

Staff Expert: Paula Mapeka

F. Contributions in Aid of Construction

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

Staff Expert: Paula Mapeka

G. Tank Painting Tracker

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

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

Staff Expert: Kimberly K. Bolin

H. Deferred Income Taxes

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

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

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

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

Staff Expert: Kimberly K. Bolin

VII. Allocations and Service Company Costs

A. Corporate Allocations

1. Introduction

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

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

Regulated Entities

Arizona-American Water	Missouri-American Water
California-American Water	New Jersey-American Water
Hawaii-American Water	New Mexico-American Water
Illinois-American Water	Ohio-American Water
Indiana-American Water	Pennsylvania-American Water
Iowa-American Water	Tennessee American Water
Kentucky-American Water	Texas-American Water

Long Island Water Corporation	Virginia-American Water
Maryland-American Water	Virginia-AmericanEasternDistrict
Michigan-American Water	West Virginia-American Water
Unregulated Entities	
American Water Enterprises (AWE)	Edison Water Company
American Water Capital Corporation (AWCC)	Elizabethtown Properties, Inc.
American Water Resources, Inc. (AWR)	Elizabethtown Services LLC
American Water Works (AWK)	Liberty Water Company

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

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

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

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

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

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

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

Staff Expert: Amanda C. McMellen

2. Service Company Management Fees

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

Staff Expert: Amanda C. McMellen

a. Line 13 Reconciliation

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

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

Staff Expert: Amanda C. McMellen

b. Penalty & Other

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

Staff Expert: Amanda C. McMellen

c. Elimination of One-time Costs

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

Staff Expert: Amanda C. McMellen

d. Annualization of Service Company Payroll

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

Staff Expert: Amanda C. McMellen

e. Shift of Service Company Employees

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

Staff Expert: Amanda C. McMellen

f. Incentive Compensation

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

Staff Expert: Amanda C. McMellen

B. District Allocations

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

Staff Expert: Amanda C. McMellen

VIII. Income Statement

A. Revenues

1. Introduction

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

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

2. The Development of Rate Revenue in this Case

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

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

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

Staff Expert: Paula Mapeka

3. Regulatory Adjustments to Test Year Sales and Rate Revenue

a. Normalization of Usage

Missouri-American provided work papers in the context of the rate case, that include a history of both residential and commercial water sales and corresponding customer numbers for the nine largest service area districts (districts) the Company provides water service to: Joplin, St. Charles, St. Joseph, St. Louis, Brunswick, Mexico, Parkville, Warrensburg and Jefferson City. The St. Louis district includes usage numbers for two separate classes of commercial customers as some are billed on a monthly basis and others on a quarterly basis. The Staff utilized the data provided in those work papers to establish normalized water usage for both residential and commercial customers for those nine districts; a total of 19 distinct customer groups.

The Company submitted a work paper document titled *Weather Normalization and Water Utilization Trend Estimates,* in which the Company recommended customer water usages for only the districts of St. Louis, St. Charles, St. Joseph, Joplin and Jefferson City, based upon various prediction methods. The Company used a prediction method of weather normalization or a method of averaging usage from recent history to predict customer water usages. The Company proposed a residential and commercial usage per customer for each of the five above-mentioned districts. This resulted in the Company proposing water usages for a total of 11 individual customer groups, due to the two separate classes of St. Louis commercial customers. Staff however, recommends using a six-year average for the 19 total distinct customer groups described in the paragraph above.

Staff elected to use known usage numbers, as provided by the Company, to compute an average usage for the years of 2002 through 2009 (excluding 2003 and 2006) to determine an accurate, consistent and timely estimate of water usage per customer for each of the service areas. Data for the years of 2003 and 2006 were excluded from the calculations, as the Company has found the data to be unreliable due to billing method changes that occurred in those years, with which Staff agrees. The prediction method of using the data from the remaining six years is the method the Company utilized in previous rate cases and this case to calculate usages for several of the 11 customer groups the Company proposes water usages for, and is the method utilized by Staff in the Company's previous rate case, Case No. WR-2008-0311.

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

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

Staff Expert: Jerry Scheible

b. Revenues Annualization

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

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

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

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

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

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

Staff Expert: Paula Mapeka

4. Compensation to MAWC for Services Provided to American Water Resources, Inc.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Staff Expert: Amanda C. McMellen

B. Depreciation

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

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

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

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

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

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

1. Depreciation

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

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

2. Depreciation Study

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

Depreciation Rate = (100 % -Net Salvage %) ÷ (Average Service Life).

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

3. Average Service Life

For each plant account, the average service life (ASL) is the expected period, in years, of the useful service of each unit of property in that account, (e.g., meters) regardless of when that unit was first put into service (its placement date). An account's ASL is developed in four steps. The first step is to review historical mortality data and historical salvage and cost of removal data. The data is checked for reasonableness, and to determine whether or not sufficient data exists to perform a statistically significant analysis. In addition, Staff reviews the data to determine if retirements recorded in one historical database are also recorded in another historical database.

The second step is to gain familiarity with the Company's facilities and to discuss current trends and developments that may influence the useful life of plant-in-service with Company operations' personnel, engineers, accountants, and other depreciation experts. Current developments such as technological changes, environmental regulations, regulatory requirements, or accounting changes can all affect the average service life of property in an account. Different vintages of plant being manufactured from different materials, changes in installation practices, or the development of a life extending maintenance procedure are some examples of factors contributing to changes in average service lives.

The third step is to perform a statistical analysis of the retirement experience of each utility plant account, followed with analysis of the results for reasonableness for the type of plant in question. To evaluate the retirement experience of the Company's plant accounts, Staff uses depreciation software to analyze historical plant data by calculating the ratio of retirements to exposures by age, and solve for the percent surviving by age to develop a survivor curve for an account. Data regarding plant additions in dollars by year, or vintage, and retirements from each vintage, in dollars by year, are necessary for this analysis. The exposures at a given age are the dollars remaining from the various vintages that have lived to that age. The retirement ratio is the dollars retired during an age interval divided by the exposures at the beginning of that interval. The survivor ratio is then calculated by subtracting the retirement ratio from "1". Multiplying each successive survivor ratio by the percent surviving of the previous age will generate a survivor curve. This original survivor curve can then be smoothed and fitted to an empirically developed statistical model known as

an Iowa curve.[19] Smoothing the original survivor curve by fitting it to an Iowa curve eliminates irregularities and extrapolates stub curves to zero percent. The average service life of an account's original survivor curve is estimated as the area under the selected Iowa curve.

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

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

4. Net Salvage Percentage

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

Net Salvage = Gross Salvage - Cost of Removal

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

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

[19] 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 mathematieally 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.

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

5. Analysis of Accumulated Reserve for Depreciation

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

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

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

6. Recommendations

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

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

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

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

Staff Expert: Guy C. Gilbert

C. Payroll and Benefits

1. FAS 87 and FAS 88 Pension Costs

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

Staff Expert: Kimberly K. Bolin

2. FAS 106 – Other Post-Employment Benefit s (OPEB's)

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

Staff Expert: Kimberly K. Bolin

3. Payroll and Payroll Taxes

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

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

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

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

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

Staff Expert: Amanda C. McMellen

4. Incentive Compensation

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

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

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

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

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

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

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

Staff Expert: Kimberly Bolin

5. Group Insurance and 401(K) Employer Costs

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

Staff Expert: Kimberly K. Bolin

6. Lobbying Costs

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

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

Staff Expert: Amanda C. McMellen

D. Maintenance Normalization Adjustments

1. Main Break Expense

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

Staff Expert: Paula Mapeka

2. Tank Painting

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

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

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

Staff Expert: Kimberly K. Bolin

3. Net Negative Salvage

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

Staff Expert: Amanda C. McMellen

E. Other Non-Labor Expenses

1. Rate Case Expenses

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

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

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

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

Staff Expert: Jermaine Green

2. Dues and Donations

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

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

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

Staff Expert: Kimberly K. Bolin

3. Insurance Expense

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

Staff Expert: Jermaine Green

4. Property Tax Expense

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

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

Staff Expert: Jermaine Green

5. Bad Debt Expense

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

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

Staff Expert: Paula Mapeka

6. Advertising Expense

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

1. General: informational advertising that is useful in the provision of adequate service;

2. Safety: advertising which conveys the ways to safely use electricity and to avoid accidents;

3. Promotional: advertising used to encourage or promote the use of electricity;

4. Institutional: advertising used to improve the company's public image;

5. Political: advertising associated with political issues.

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

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

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

Staff Expert: Kimberly K. Bolin

7. Postage Expense

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

Staff Expert: Jermaine Green

8. Injuries and Damages

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

Staff Expert: Jermaine Green

9. Franchise Tax Expense

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

Staff Expert: Jermaine Green

10. Amortization of Regulatory Assets

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

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

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

Staff Expert: Amanda C. McMellen

11. Chemical Expense

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

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

Staff Expert: Jermaine Green

12. Electricity

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

Supplier	Rate Case	Effective Date	Percent Increase**
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	91/2009	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%

** Percentage increases were provided by the MoPSC's Energy – Economic Analysis Department.

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

Staff Expert: Jermaine Green

13. Purchased Water

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

Staff Expert: Jermaine Green

14. Leases

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

Staff Expert: Paula Mapeka

15. Transportation Expense

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

Staff Expert: Paula Mapeka

16. PSC Assessment

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

Staff Expert: Jermaine Green

17. Belleville Lab Expense

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

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

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

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

Staff Expert: Amanda C. McMellen

18. Promotional Items

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

Staff Expert: Kimberly K. Bolin

19. Telephone Expense

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

Staff Expert: Jermaine Green

F. Current and Deferred Income Tax

1. Current Income Tax

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

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

- Add Back to Operating Income Before Taxes:
- Book Depreciation Expense
- Miscellaneous Non-deductible Expenses
- Subtractions from Operating Income:
- Interest Expense – Weighted Cost of Debt X Rate Base
- Tax Straight-Line Depreciation
- Tax Depreciation-Excess

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

Staff Expert: Kimberly K. Bolin

2. Deferred Income Tax Expense:

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

Staff Expert: Kimberly K. Bolin

Appendices

Appendix 1: Staff Credentials

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

Appendix 3: Allocation Factors Used - Amanda C. McMellen

Appendix 4: Usage Per Customer - Jerry Scheible

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

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 9th day of March, 2010.

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

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.

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

Subscribed and sworn to before me this 9th 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

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 JERMAINE GREEN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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 9th day of March, 2010.

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

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 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.

Mapeka
Paula Mapeka

Subscribed and sworn to before me this 9th 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 Services Provided in Missouri Service Areas	))))	Case No. WR-2010-0131

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, 67-68, 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 9th 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

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 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 9th day of March, 2010.

Susan L. Sundermeyer
Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

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

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 9th day of March, 2010.

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

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 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

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDICES

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2010-0131

Jefferson City, Missouri
March, 2010

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

APPENDIX 1
Staff Credentials

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2010-0131

APPENDIX 1

STAFF CREDENTIALS
TABLE OF CONTENTS

Bolin, Kimberly K. **1**

Gilbert, Guy C. **8**

Green, Jermaine **14**

Mapeka, Paula **15**

McMellen, Amanda C. **18**

Merciel, James A., Jr., P.E. **22**

Murray, David **26**

Scheible, Jerry **32**

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

Company Name	Case Number	Testimony/Issues	Contested or Settled
Empire District Gas Company	GR-2009-0434	**Report on Cost of Service** – Prepaid Pension Asset, Pension Tracker Asset/Liability, Unamortized Accounting Authority Order Balances, Pension Expense, OPEBs, Amortization of Stock Issuance Costs, Amortization of Accounting Authority Orders **Direct** – Overview of Staff's Filing	Settled
Laclede Gas Company	GT-2009-0056	**Surrebuttal Testimony** – Tariff	Contested
Missouri-American Water Company	WR-2008-0311 & SR-2008-0312	**Report on Cost of Service** – Tank Painting Tracker, Lobbying Costs, PSC Assessment **Direct** – Overview of Staff's Filing **Rebuttal** – True-Up Items, Unamortized Balance of Security AAO, Tank Painting Expense, Fire Hydrant Painting Expense **Surrebuttal** – Unamortized Balance of Security AAO, Cedar Hill Waste Water Plant, Tank Painting Expense, Fire Hydrant Painting Expense	Settled
Missouri Gas Utility, Inc.	GR-2008-0060	**Report on Cost of Service** – Plant-in Service/Capitalization Policy, Plant-in Service/Purchase Price Valuation, Depreciation Reserve, Revenues, Uncollectible Expense	Settled
Laclede Gas Company	GR-2007-0208	**Direct**- Test Year and True-Up, Environmental costs, AAOs, Revenue, Miscellaneous Revenue, Gross receipts Tax, Gas Costs, Uncollectibles, EWCR, AMR, Acquisition Adjustment	Settled

Schedule KKB 1-1

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

Company Name	Case Number	Testimony/Issues	Contested or Settled
Kansas City Power and Light Company	ER-2006-0314	**Direct**- Gross Receipts Tax, Revenues, Weather Normalization, Customer Growth/Loss Annualization, Large Customer Annualization, Other Revenue, Uncollectible (Bad Debt) Expense, Payroll, A&G Salaries Capitalization Ratio, Payroll Taxes, Employer 401 (k) Match, Other Employee Benefits **Surrebuttal**- Uncollectible (Bad Debt) Expense, Payroll, A&G Salaries Capitalization Ratio, Other Employee Benefits	Contested
Missouri Gas Energy	GR-2006-0204	**Direct**- Payroll, Incentive Compensation, Payroll Taxes, Employee Benefits, Lobbying, Customer & Governmental Relations Department, Collections Contract	Settled

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

Company Name	Case Number	Testimony/Issues	Contested or Settled
Missouri Gas Energy	GU-2005-0095	**Rebuttal**- Accounting Authority Order **Surrebuttal**- Accounting Authority Order	Contested
The Empire District Electric Company	ER-2004-0570	**Direct**- Payroll	Settled
Missouri American Water Company & Cedar Hill Utility Company	SM-2004-0275	**Direct**- Acquisition Premium	Settled
Missouri Gas Energy	GR-2004-0209	**Direct**- Safety Line Replacement Program; Environmental Response Fund; Dues & Donations; Payroll; Customer & Governmental Relations Department Disallowance; Outside Lobbyist Costs **Rebuttal**- Customer Service; Incentive Compensation; Environmental Response Fund; Lobbying/Legislative Costs **True-Up**- Rate Case Expense	Contested
Osage Water Company	ST-2003-0562 / WT-2003-0563	**Direct**- Payroll **Rebuttal**- Payroll; Lease Payments to Affiliated Company; alleged Legal Requirement of a Reserve	Case Dismissed
Missouri American Water Company	WR-2003-0500	**Direct**- Acquisition Adjustment; Water Treatment Plant Excess Capacity; Retired Treatment Plan; Affiliated Transactions; Security AAO; Advertising Expense; Customer Correspondence	Settled
Empire District Electric	ER-2002-424	**Direct**- Dues & Donations; Memberships; Payroll; Security Costs **Rebuttal**- Energy Traders' Commission **Surrebuttal**- Energy Traders' Commission	Settled

Schedule KKB 1-3

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

Company Name	Case Number	Testimony/Issues	Contested or Settled
Laclede Gas Company	GR-2002-356	**Direct**- Advertising Expense; Safety Replacement Program and the Copper Service Replacement Program; Dues & Donations; Rate Case Expense **Rebuttal**- Gas Safety Replacement Program / Deferred Income Taxes for AAOs	Settled
Missouri-American Water Company	WO-2002-273	**Rebuttal**- Accounting Authority Order **Cross-Surrebuttal**- Accounting Authority Order	Contested
Environmental Utilities	WA-2002-65	**Direct**- Water Supply Agreement **Rebuttal**- Certificate of Convenience & Necessity	Contested
Warren County Water & Sewer	WC-2002-160 / SC-2002-155	**Direct**- Clean Water Act Violations; DNR Violations; Customer Service; Water Storage Tank; Financial Ability; Management Issues **Surrebuttal**- Customer Complaints; Poor Management Decisions; Commingling of Regulated & Non-Related Business	Contested
Laclede Gas Company	GR-2001-629	**Direct**- Advertising Expense; Safety Replacement Program; Dues & Donations; Customer Correspondence	Settled
Gateway Pipeline Company	GM-2001-585	**Rebuttal**- Acquisition Adjustment; Affiliated Transactions; Company's Strategic Plan	Contested
Empire District Electric	ER-2001-299	**Direct**- Payroll; Merger Expense **Rebuttal**- Payroll **Surrebuttal**- Payroll	Settled
Osage Water Company	SR-2000-556/ WR-2000-557	**Direct**- Customer Service	Contested

Schedule KKB 1-4

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

Company Name	Case Number	Testimony/Issues	Contested or Settled
St. Louis County Water Company	WR-2000-844	**Direct**- Main Incident Expense	Settled
Missouri American Water Company	WR-2000-281/ SR-2000-282	**Direct**- Water Plant Premature Retirement; Rate Case Expense **Rebuttal**- Water Plant Premature Retirement **Surrebuttal**- Water Plant Premature Retirement	Contested
Laclede Gas Company	GR-99-315	**Direct**- Advertising Expense; Dues & Donations; Miscellaneous Expense; Items to be Trued-up	Contested
St. Joseph Light & Power	HR-99-245	**Direct**- Advertising Expense; Dues & Donations; Miscellaneous Expense; Items to be Trued-up **Rebuttal**- Advertising Expense **Surrebuttal**- Advertising Expense	Settled
St. Joseph Light & Power	ER-99-247	**Direct**- Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs **Rebuttal**- Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs **Surrebuttal**- Merger Expense; Rate Case Expense; Deferral of the Automatic Mapping/Facility Management Costs	Settled
Laclede Gas Company	GR-98-374	**Direct**- Advertising Expense; Gas Safety Replacement AAO; Computer System Replacement Costs	Settled
Missouri Gas Energy	GR-98-140	**Direct**- Payroll; Advertising; Dues & Donations; Regulatory Commission Expense; Rate Case Expense	Contested

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

Company Name	Case Number	Testimony/Issues	Contested or Settled
Gascony Water Company, Inc.	WA-97-510	**Rebuttal**- Rate Base; Rate Case Expense; Cash Working Capital	Settled
Union Electric Company	GR-97-393	**Direct**- Interest Rates for Customer Deposits	Settled
St. Louis County Water Company	WR-97-382	**Direct**- Interest Rates for Customer Deposits, Main Incident Expense	Settled
Associated Natural Gas Company	GR-97-272	**Direct**- Acquisition Adjustment; Interest Rates for Customer Deposits **Rebuttal**- Acquisition Adjustment; Interest Rates for Customer Deposits **Surrebuttal**- Interest Rates for Customer Deposits	Contested
Missouri-American Water Company	WA-97-45	**Rebuttal**- Waiver of Service Connection Charges	Contested
Imperial Utility Corporation	SC-96-427	**Direct**- Revenues, CIAC **Surrebuttal**- Payroll; Uncollectible Accounts Expense; Rate Case Expense, Revenues	Settled
St. Louis Water Company	WR-96-263	**Direct**-Main Incident Repairs **Rebuttal**- Main Incident Repairs **Surrebuttal**- Main Incident Repairs	Contested
Steelville Telephone Company	TR-96-123	**Direct**- Depreciation Reserve Deficiency	Settled

CASE PARTICIPATION
OF
KIMBERLY K. BOLIN

WHILE EMPLOYED WITH THE OFFICE OF THE PUBLIC COUNSEL

Company Name	Case Number	Testimony/Issues	Contested or Settled
Missouri-American Water Company	WR-95-205/ SR-95-206	**Direct**- Property Held for Future Use; Premature Retirement of Sewer Plant; Depreciation Study Expense; Deferred Maintenance **Rebuttal**- Property Held for Future Use; Premature Retirement of Sewer Plant; Deferred Maintenance **Surrebuttal**- Property Held for Future Use; Premature Retirement of Sewer Plant	Contested
St. Louis County Water Company	WR-95-145	**Rebuttal**- Tank Painting Reserve Account; Main Repair Reserve Account **Surrebuttal**- Main Repair Reserve Account	Contested

GUY C. GILBERT, MS, PE, RG

CASE PARTICIPATION

Issue	Case Number	Case Name
Modernization	TO-93-309	Farber Telephone
Certificate (Sewer) - Case dismissed	SA-94-54	Osage County Water (sewer)
Certificate	GA-94-127	Southern MO Gas Co
Transfer of assets	GM-94-252	Missouri Public Service
HB 360 & extr. ret.	TAO 992	Holway Telephone
Extraordinary retirement amortization	TAO 993	New Florence Telephone
Waiver from Rule	GO-95-104	Fidelity Natural Gas
Purchase of GTE exchanges	TM-95-134	Ozark Telephone
Purchase of GTE exchanges	TM-95-135	BPS Telephone
Purchase of GTE exchanges	TM-95-142	Modern Telecommunications
General rate case	WR-95-145	St. Louis County Water
Purchase of GTE exchanges	TM-95-163	Cass County Telephone
Certificate	SA-96-40	Taneycomo Highlands (Sewer)
Certificate	SA-96-91	S.T. Ventures (Sewer)
Certificate (Water & Sewer)	WA-96-96	Emerald Pointe Utilities
Certificate	GA-96-264	Ozark Natural Gas
General rate case (Water)	WR-96-407	Taney County
Depreciation rates & amortization	TAO 998	Fidelity Telephone
Depreciation rates & amortization	TAO 999	Bourbeuse Telephone
Depreciation rates	TAO 1001	Northeast Missouri Rural Tel
Variance from prior order	GO-97-30	Southern Missouri Gas
HB360 rates	TAO 1004	Kingdom Telephone
Extraordinary retirement of COE	TAO 1005	Iamo Telephone
Depreciation of Plant	EC97362	UtiliCorp United Inc. d/b/a MO Public Service
Depreciation of Plant	EO97144	UtiliCorp United Inc. d/b/a MO Public Service
Depreciation of Plant	ER97394	Missouri Public Service, A Division of UtiliCorp United Inc.
Sale of Plant	GM97435	Missouri Public Service, A Division of UtiliCorp United Inc.
Depreciation of Plant	ER97394	UtiliCorp United Inc. d/b/a MO Public Service
Amortization of accounts, Depreciation, Depreciation Recommendations	ER97394	UtiliCorp United Inc. d/b/a MO Public Service

GUY C. GILBERT, MS, PE, RG

CASE PARTICIPATION

Issue	Case Number	Case Name
Depreciation	GA98227	Ozark Natural Gas Company, Inc.
Depreciation of Plant	EC98573	St. Joseph Light and Power Company
Depreciation of Plant	WA97410	George Hoesch
Depreciation of Plant	ER99247	St. Joseph Light & Power Company
Depreciation of Plant	EC98573	St. Joseph Light & Power Company
Depreciation of Plant	GR2000512	Union Electric Company d/b/a AmerenUE
Depreciation of Plant	ER-2004-0570	Empire District Electric Company
Minimum Depreciation Rates	TU-2005-0358	Alma Telephone Company
Minimum Depreciation Rates	TO-2006-0239	Miller Telephone Company
Depreciation of Plant	GR-2005-0387	Atmos Energy Company
Depreciation of Plant	GR-2005-0422	Missouri Gas Energy
Depreciation of Plant	ER-2007-0002	AmerenUE
Depreciation of Plant	WR-2007-0216	Missouri-American Water Company
Waiver of Rule	GE-2008-0342	Atmos Energy
Depreciation of Plant	ER-2008-0318	AmerenUE
Waiver of Rule	GE-2009-0443	Atmos Energy
Depreciation of Plant	GR-2009-0434	Empire Gas
Waiver of Rule	GE-2010-0030	Missouri Gas Energy

GUY C. GILBERT, MS, PE, RG

PROFESSIONAL EXPERIENCE

State of Missouri, Public Service Commission
Utility Regulatory Engineer I, 1994 -2000, 2004-present

Prepare depreciation studies, cost studies, valuations and engineering analysis of utility assets.
Conduct special projects in conjunction with the FCC and the FERC.

Linn State Technical College
Chair, Civil / Construction Engineering Management Technology Department
Director, Material and Safety Institute
2000 - 2004

Department Chair and founding faculty instructor for courses in civil engineering technology, construction methods and techniques, surveying, engineering economics, materials, material testing, estimating, scheduling and project management.
Founder and manage activities of the Material and Safety Institute that provides resources and training for business and industry in the areas of quarry/materials acceptance certification as mandated by the Federal Highway Administration and OSHA/MSHA safety training.

State of Illinois, Department of Energy and Natural Resources
Project Engineer 1991 - 1994

Managed Clean Coal Technology Demonstration projects; often in concert with U.S.DOE projects. Represented Illinois in over $1.1 billion of projects ranging from pre-combustion technologies to combustion and post combustion technologies. Performed cost benefit analysis of the environmental and economic impacts and procured benefits to the state.

CW3M Company, Inc.
Consulting Project Engineer 1993 –1994 (part time contract)

Conducted geotechnical evaluation of leaking underground storage tank sites. Designed equipment for containment and treatment of contaminated ground water.

Illinois Commerce Commission
Management Analyst 1988 – 1991

Managed consultant conducted comprehensive management audits of operational aspects of public utilities. Assessed least cost planning programs of public utilities and provided recommendations on risk assessment and cost estimating of various externalities. Have reviewed and provided recommendations to utilities within the management function areas of Operations, Operations Planning, Power Production (fossil and nuclear), Fuels Management (fossil and nuclear), Transmission and Distribution (electric and gas), Engineering and Construction (electric, gas, and telephone), Gas Supply, Network Operations Planning, Network Operations and Information Services.

GUY C. GILBERT, MS, PE, RG

Freeman United Coal Mining Company (General Dynamics)
Assistant to the Superintendent 1982 - 1987

Produced annual mining plans and budget for 2+ million ton per year underground mining facility. Assessed geologic aspects of the mine environment to optimize safety and productivity. Prepared economic feasibility studies and justification for new and alternative capital expenditures. Developed and implemented microcomputer based on site operations information systems encompassing maintenance, materials, manpower, and costs. Administered UMWA-BCOA Labor Agreement: grievance procedures, attendance control and benefits programs. Special projects involving production methods, structures, ventilation, and materials engineering. Provided certification of operating compliance with Federal and State regulations as required.

Peabody Coal Company
Coal Miner, UMWA 1976-1980

Cloud Physics Space Sciences Research Center, University of Missouri – Rolla
Student Research Assistant / Electronics Design Fabricator, 1973-1978

EDUCATION:

Bachelor of Science Economics, University of Missouri-Rolla
Bachelor of Science Mining Engineering, University of Missouri-Rolla
National Science Foundation Research Grant participant (NSF GY 9841)
Master of Science, Career & Technology Education, Central Missouri State University
Graduate Speaker, Central Missouri State University
Outstanding Graduate Student Leadership Award, Central Missouri State University

Advisory Board Member, Economics & Finance Department, University of Missouri-Rolla
Facilities and Planning Committee for construction of Calvary Lutheran High School
School Board Member Trinity Lutheran Grade School

Continuing Education

Management Analyst Training
Basic Depreciation Concepts
Models Used In Life and Salvage Studies
Forecasting Life and Salvage
Advanced Topics in Analysis and Forecasting
Business and Technical Writing
Communicating Effectively
Auditing in Telecommunications
Introduction to EDP Auditing
Network Certification
Asbestos Training for Maintenance Employees, #40 CFR 763.92(a)(2)(i thru iv)
Red Cross First Aid Adult/AED/Child/Infant CPR Instructor, Expired

GUY C. GILBERT, MS, PE, RG

Redirecting Employee Performance
Basic Supervision
Humboldt Radiation Safety Training Class

CERTIFICATIONS:

by United States Department of Labor

Noise Level Testing
Dust Sampling
Dust Sampling Equipment Calibration
Electricity Low/Medium/High Voltage, Expired
Dam and Refuse Impoundment Inspector
Dam and Refuse Impoundment Inspection Instructor
OSHA Safety Instructor (10 & 30 Hour), Expired

by State of Missouri

State Board of Geologist Registration, member
Registered Professional Engineer, No. EN 026908
Registered Professional Geologist, No. RG 0976
SAVE/SEMA Structural Inspector I
Vocational Teaching Certificate, No. 0238934
Department of Transportation, Trainer Certified Materials Technician Level 1
Department of Transportation, Trainer Certified Level 2 Aggregate
Department of Transportation, Trainer Certified Level 2 Soils
Department of Transportation, Trainer Certified Level 2 Concrete
Department of Transportation, Trainer Certified Profilograph

by State of Illinois

Mine Manager, No. 6634
Mine Examiner, No. 10324
Electrical Hoisting Engineer, No. 2427
Sewage Treatment Plant Operator, Class K
Industrial Wastewater Treatment Works Operator, Class K
State of Illinois Mine Rescue Team, Springfield Station, No. 2
Certified Benchman for Mine Rescue Equipment
Emergency Medical Technician-Ambulance, Expired

GUY C. GILBERT, MS, PE, RG

Demonstration Projects

- Energy & Environmental Research Corporation - Hennepin Station (GR-SI)
- Energy & Environmental Research Corporation - City Water Light and Power
- Pircon-Peck Process - Western Illinois University
- Combustion Engineering - Integrated Gasification Combined Cycle (IGCC) - City Water, Light and Power Springfield
- Southern Illinois University Refurbishment Repowering Project
- Tecogen's Development and Testing of a Commercial Scale Coal-Fired Combustion System - Illinois Coal Development Park
- TCS Incorporated's Micronized Coal System at Rochelle Municipal Utilities
- IGT - Kerr-McGee MildGas
- Radian's Characterization of Disposed Wastes from Advanced Coal Combustion Residues

Investigations

- NovaCon Sorbent: U.S. DOE and EERC
- Sargent & Lundy Combustion 2000:
- Tecogen: moving bed copper oxide flue gas cleaning process
- Air Purification's RotorFilter Technology:
- Tampa Electric Company: Use of Illinois high sulfur coal

Management Audits

Central Illinois Light Company, Peoria, Illinois
Commonwealth Edison, Chicago, Illinois
GTE Telephone Company, Dallas, Texas
GTE Data Systems, Tampa Florida

JERMAINE GREEN

Educational and Employment Background and Credentials

I am currently employed as a Utility Regulatory Auditor I for the Missouri Public Service Commission (Commission). I accepted the position of Utility Regulatory Auditor I in June 2009.

In May 2009, I earned a Bachelor of Arts in Accounting from Westminster College in Fulton, Missouri. While at the Commission, I have assisted with the preparation of schedules in the Empire District Gas rate case, Case No. GR-2009-0434, SK&M Water and Sewer Company rate case, Case No. WR-2010-0154 and Noel Water Company rate case, Case No. WR-2009-0395. I have sponsored recommendations on Plant in Service, Depreciation Expenses and Reserve, Payroll, Incentive Compensation, Postage Expense, Advertising Expense, Dues & Donations and other rate base items.

PAULA MAPEKA

Present Position:

I am currently employed as a Utility Regulatory Auditor III in the Auditing Department, Utility Services Division.

Education Background and Work Experience:

I graduated with a Masters degree in Business Administration from Lincoln University, Jefferson City, Missouri in August 2005. I attained a Bachelor of Science degree in Accounting from Lincoln University in May 2004. Prior to employment with the Commission, I was employed by the Department of Health and Senior Services. I joined the Commission as a Utility Regulatory Auditor I in March 2006.

CASE PARTICIPATION
OF
PAULA MAPEKA

Date Filed	Case Name	Case Number	Testimony Type/Issues
10/20/2009	The Empire District Gas Company	GR-2009-0434	**Staff Report, Cost of Service** – Revenues, Customer growth, Gas cost removal, Bad debt expenses, Maintenance, Employee benefits, Rate case expenses, Injuries & damages, Insurance, outside Services
02/22/2008	The Empire District Electric Company	ER-2008-0093	**Staff Report, Cost of Service** - Rate Base, Plant in Service, Depreciation Reserve, Cash Working Capital, Materials and Supplies, Prepayments, Customer Advances, Customer Deposits, Clearing Accounts, Payroll, Payroll Taxes and 401K Benefit Costs, Incentive Compensation, Rate Case Expenses, Dues and Donations, Edison Electric Institute Dues, Insurance Expense, Customer Deposit Interest Expense, Property Tax Expense, Advertising Expenses, Postage Expenses, Outside Services, Injuries and Damages
05/24/2007	Laclede Gas Company	GR-2007-0208	**Direct** - Accounting Schedules, Rate Base, Plant in Service, Adjustments to Plant in Service, Depreciation Reserve, Cash Working Capital, Interest on IFP & EWP, Depreciation Expense, Cost of Removal, Advertising, Postage Expense, Property Taxes, MO Franchise Taxes, Postage Expenses, Regulatory Expenses, Outside Services
12/11/2006	Missouri Gas Energy	GR-2006-0422	**Surrebuttal** - Rate Case Expenses
11/21/2006	Missouri Gas Energy	GR-2006-0422	**Rebuttal** - Cash Working Capital, Software Amortization

CASE PARTICIPATION
OF
PAULA MAPEKA

Date Filed	Case Name	Case Number	Testimony Type/Issues
10/12/2006	Missouri Gas Energy	GR-2006-0422	**Direct** - Miscellaneous Expenses, Insurance, Postage, Property Taxes, Regulatory Expenses, Dues & Donations, Accounting Schedules, Promotional Giveaways, Other Ratebase Issues, Advertising, Depreciation Expense, Inquiries & Damages, Interest on Customer Deposits, Case Working Capital, Depreciation Reserve, Plant in Service
06/23/2006	The Empire District Electric Company	ER-2006-0315	**Direct** - Postage Expenses, Property and Liability Insurance, Injuries and Damages & Worker's Compensation, Customer Deposits, PSC Assessment, Rate Case Expense, Customer Advances, Material &Supplies

Amanda C. McMellen
Utility Regulatory Auditor IV

EDUCATION

Bachelors of Science
DeVry Institute of Technology, Kansas City, MO-June 1998

PROFESSIONAL EXPERIENCE

Missouri Public Service Commission
- Utility Regulatory Auditor IV
  - November 2006 – Present
- Utility Regulatory Auditor III
  - June 2002 – November 2006
- Utility Regulatory Auditor II
  - June 2000 – June 2002
- Utility Regulatory Auditor I
  - June 1999 – June 2000

I am a Utility Regulatory Auditor for the Missouri Public Service Commission (Commission). I graduated from the DeVry Institute of Technology in June 1998 with a Bachelor of Science degree in Accounting. Before coming to work at the Commission, I worked as an accounts receivable clerk. I commenced employment with the Commission Staff in June 1999. As a Utility Regulatory Auditor, I am responsible for assisting in the audits and examinations of the books and records of utility companies operating within the state of Missouri.

SUMMARY OF RATE CASE TESTIMONY FILED

Amanda C. McMellen

COMPANY	CASE NO.	ISSUES
Osage Water Company	SR-2000-556	Plant in Service Depreciation Reserve Depreciation Expense Operation & Maintenance Expense
Osage Water Company	WR-2000-557	Plant in Service Depreciation Reserve Depreciation Expense Operation & Maintenance Expense
Empire District Electric Company	ER-2001-299	Plant in Service Depreciation Reserve Depreciation Expense Cash Working Capital Other Working Capital Rate Case Expense PSC Assessment Advertising Dues, Donations & Contributions
UtiliCorp United, Inc./ d/b/a Missouri Public Service	ER-2001-672	Insurance Injuries and Damages Property Taxes Lobbying Outside Services Maintenance SJLP Related Expenses
BPS Telephone Company	TC-2002-1076	Accounting Schedules Separation Factors Plant in Service Depreciation Reserve Revenues Payroll Payroll Related Benefits Other Expenses

SUMMARY OF RATE CASE TESTIMONY FILED

Amanda C. McMellen

COMPANY	CASE NO.	ISSUES
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2004-0034	Revenue Annualizations Uncollectibles
Fidelity Telephone Company	IR-2004-0272	Revenue Revenue Related Expenses
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2005-0436	Revenue Annualizations Uncollectibles
Empire District Electric Company	ER-2006-0315	Payroll Payroll Taxes 401(k) Plan Health Care Costs Ineentive Compensation Depreciation Expense Amortization Expense Customer Demand Program Deferred State Income Taxes Income Taxes
Aquila, Inc. d/b/a Aquila Networks-MPS & Aquila Networks-L&P	ER-2007-0004	Revenue Annualizations Uncollectibles Maintenance Expenses Turbine Overhaul Maintenance
Empire Distriet Electric Company	ER-2008-0093	Revenues Bad Debts Employee Benefits Tree Trimming Storm Costs Customer Programs Amortizations Current Income Taxes Deferred Income taxes Jurisdictional Allocations Corporate Allocations

SUMMARY OF RATE CASE TESTIMONY FILED

Amanda C. McMellen

COMPANY	CASE NO.	ISSUES
Missouri Gas Energy, a Division of Southern Union Company	GR-2009-0355	Staff Report Cost of Service Revenues-Customer Growth Corporate Allocations Other Rate Base Items Amortizations Interest expense on customer Deposits Rents and Leases

Qualifications of

James A. Merciel, Jr., P.E.

My name is James A. Merciel, Jr. I am employed by the Missouri Public Service Commission as a Utility Regulatory Engineering Supervisor, in the Water and Sewer Department. My duties include reviewing and making recommendations with regard to certification of new water and sewer utilities including development of rates and rules, sales of utility systems to other utilities, formal complaint cases, and technical issues associated with water and sewer utility rate cases including quality of service matters, utility plant utilization, costs incurred for providing utility service, and tariff rules. In addition to formal case work, I handle informal customer complaints that are of a technical nature, conduct inspections and evaluations of water and sewer utility systems, and informally assist water and sewer utility companies with respect to day-to-day operations, planning, and customer service issues. In the past, I have supervised engineers and technicians in the water and sewer department working on the above-described type of case work and informal matters. I served on the American Water Works Association Small Systems Committee for three years, and for approximately the past twelve years have served on the National Association of Regulatory Utility Commissioners Staff Subcommittee on Water.

I graduated from the University of Missouri at Rolla in 1976 with a Bachelor of Science degree in Civil Engineering. I am a Registered Professional Engineer in the State of Missouri. I worked for a construction company in 1976 as an engineer and surveyor, began employment with the Commission in the Water and Sewer Department in 1977, and have held my current position since approximately 1979.

A partial list of cases in which I have provided written or live testimony follows.

Cases with Testimony
by James A. Merciel, Jr. (not all inclusive)

Algonquin Water Resources
WR-2006-0425
Aqua Missouri, Inc.
SC-2007-0044
Big Island – Folsom Ridge
WO-2007-0277
Blue Lagoon, LLC
SO-2008-0358
Camelot Utility Co.
WA-89-1
Capital City Water Co.
WR-94-297
WR-90-118
WO-89-76
WR-88-215
WR-83-165.
Davis Water Company
WC-87-125 and WC-88-288
(including proceeding in the Circuit Court in Wayne County)
Finley Valley Water Company / Public Funding Corporation, City of Ozark
WM-95-423
Gascony Water Company, Inc.
WA-97-510
House Springs Sewer Co.
SC-2008-0409
Lake Region Water and Sewer Co.
SR-2010-0110 and WR-2010-0111
Lake Saint Louis Sewer Co.
SC-78-257
Proceeding in Circuit Court in St. Charles County, approx 1980 or 1981
Merriam Woods Water Company
WC-91-18 and/or WC-91-268
Mill Creek Sewer System, Inc.
Proceeding by MO Attorney General in Circuit court in St. Louis County, Cause No. 611261, 1998
Missouri American Water Company
WR-2008-0311 and SR-2008-0312
WR-2007-0216
WC-2006-0345
WR-2003-0500
WR-2000-281
WR-97-237
WT-97-227 / WA-97-45 / WC-96-441 consolidated cases
WR-95-205

WR-95-174
WR-93-212
WR-91-211
WR-89-265
WR-87-177
WR-85-16

Missouri Cities Water Company
WR-95-172
WR-92-207
Proceeding in Circuit Court in Audrain County, CV192-40SCC approx 1992
WR-91-172
WR-90-236
WR-89-178
WC-88-280
WR-86-111
WC-86-20
WR-85-157
WR-84-51
WR-83-15

North Oak Sewer District, Inc.
SR-2004-0306

Raytown Water Company
WR-92-85 / WR-92-88

Southwest Village Water Company
WO-89-187
WC-89-138 (included testimony in Circuit Court in Greene County)

St. Louis County Water Company
WR-97-382
WR-96-263
WR-95-145
WR-94-166
WR-93-204
WR-91-361
WR-88-5
WR-87-2
WR-85-243
WC-84-29
WR-83-264
WR-82-249
WC-79-251

Stoddard County Sewer Co.
SO-2008-0289

Suburban Water and Sewer Co.
WC-84-19
Injunction hearing, Circuit Court in Boone County 07BA-CV02632, June 2007
WC-2007-0452

United Water Missouri
WR-99-326
Villa Park Heights Water Co.
WA-86-58
Warren County Water and Sewer Co.
Circuit court case in Warren County CV597-134CC, September1997
West Elm Place Corporation
Circuit court lawsuit case in Jefferson County, approx 1988

DAVID MURRAY

Educational and Employment Background and Credentials

I am currently the Acting Utility Regulatory Manager of the Financial Analysis Department for the Missouri Public Service Commission (Commission). I accepted the position of a Public Utility Financial Analyst in June 2000 and my position was reclassified in August 2003 to an Auditor III. I was promoted to the position of Auditor IV, effective July 1, 2006. I was employed by the Missouri Department of Insurance in a regulatory position before I began my employment at the Missouri Public Service Commission.

In May 1995, I earned a Bachelor of Science degree in Business Administration with an emphasis in Finance and Banking, and Real Estate from the University of Missouri-Columbia. I earned a Masters in Business Administration from Lincoln University in December 2003.

I have been awarded the professional designation Certified Rate of Return Analyst (CRRA) by the Society of Utility and Regulatory Financial Analysts (SURFA). This designation is awarded based upon experience and successful completion of a written examination, which I completed during my attendance at a SURFA conference in April 2007.

I am pursuing the Chartered Financial Analyst (CFA) designation. I passed the examinations for Levels I and II of the CFA Program and am currently a Level III candidate. In order to receive the CFA designation, I must pass the Level III examination and also have four years of relevant professional work experience.

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
03/05/10	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Surrebuttal	Rate of Return Capital Structure
02/11/10	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Rebuttal	Rate of Return Capital Structure
12/18/09	ER-2010-0036	Union Electric Company d/b/a AmerenUE	Cost of Service Report	Rate of Return Capital Structure
10/14/09	GR-2009-0355	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
09/28/09	GR-2009-0355	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
08/21/09	GR-2009-0355	Missouri Gas Energy	Cost of Service Report	Rate of Return Capital Structure
04/09/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/09/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Surrebuttal	Rate of Return Capital Structure
04/07/09	ER-2009-0089	Kansas City Power & Light Company	Surrebuttal	Rate of Return Capital Structure
03/13/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/13/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Rebuttal	Rate of Return Capital Structure
03/11/09	ER-2009-0089	Kansas City Power & Light Company	Rebuttal	Rate of Return Capital Structure
02/13/09	HR-2009-0092	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/13/09	ER-2009-0090	KCP&L Greater Missouri Operations Company	Cost of Service Report	Rate of Return Capital Structure
02/11/09	ER-2009-0089	Kansas City Power & Light Company	Cost of Service Report	Rate of Return Capital Structure
08/01/2008	HR-2008-0300	Trigen-Kansas City Energy Corporation	Cost of Service Report	Rate of Return Capital Structure

CASE PROCEEDING PARTICIPATION

DAVID MURRAY

Date Filed	Case Number	Company Name	Testimony Type	Issue(s)
01/18/2008	GR-2008-0060	Missouri Gas Utility, Inc.	Cost of Service Report	Rate of Return Capital Structure
07/31/2007	WR-2007-0216	Missouri-American Water Company	Surrebuttal	Rate of Return Capital Structure
07/13/2007	WR-2007-0216	Missouri-American Water Company	Rebuttal	Rate of Return Capital Structure
06/05/2007	WR-2007-0216	Missouri-American Water Company	Direct	Rate of Return Capital Structure
12/27/2006	GR-2006-0422	Missouri Gas Energy	True-up Direct	Rate of Return Capital Structure
12/11/2006	GR-2006-0422	Missouri Gas Energy	Surrebuttal	Rate of Return Capital Structure
11/21/2006	GR-2006-0422	Missouri Gas Energy	Rebuttal	Rate of Return Capital Structure
10/13/2006	GR-2006-0422	Missouri Gas Energy	Direct	Rate of Return Capital Structure
08/18/2006	ER-2006-0315	Empire District Electric Co.	Surrebuttal	Rate of Return Capital Structure
07/28/2006	ER-2006-0315	Empire District Electric Co.	Rebuttal	Rate of Return Capital Structure
06/23/2006	ER-2006-0315	Empire District Electric Co.	Direct	Rate of Return Capital Structure
12/13/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Surrebuttal	Rate of Return Capital Structure
11/18/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Rebuttal	Rate of Return Capital Structure
10/14/2005	ER-2005-0436	Aquila, Inc. dba Aquila Networks-MPS and Aquila Networks-L&P	Direct	Rate of Return Capital Structure
11/24/2004	ER-2004-0570	Empire District Electric Co.	Surrebuttal	Rate of Return Capital Structure
11/04/2004	ER-2004-0570	Empire District Electric Co.	Rebuttal	Rate of Return Capital Structure
09/20/2004	ER-2004-0570	Empire District Electric Co.	Direct	Rate of Return
07/19/2004	GR-2004-0209	Missouri Gas Energy	True-Up Direct	Rate of Return Capital Structure