MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2020-0344

Jefferson City, Missouri
November 24, 2020

** Denotes Confidential Information **

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I. Executive Summary

Staff conducted a review in Case No. WR-2020-0344 of all cost of service components (capital structure and rate of return, rate base, depreciation expense, operating revenues, and expenses) which comprise Missouri-American Water Company's (MAWC) Missouri jurisdictional revenue requirement. This audit was in response to MAWC's filing made on June 30, 2020, applying a future test year, and seeking to increase its annual base rate revenues for water and sewer by $102,915,538, which is approximately a 32.3% increase in rate revenues.

MAWC's proposed future test year means that historic data is escalated using projected levels of investment, expenses, and revenues. Those projections are reflected in the overall cost of service calculation of $102,915,538 proposed by MAWC in this rate case, including investment associated with its Infrastructure System Replacement Surcharge (ISRS). While MAWC has been ordered to use historic data ending December 31, 2019, and has updated most of the data through June 30, 2020, an apples-to-apples comparison of Staff's modified historic test year revenue requirement recommendation to MAWC's projections is challenging. Such a comparison requires further analysis not present in this Report.[1]

Staff's recommended revenue requirement is based upon an adjusted test year for the twelve months ending December 31, 2019, which includes several updates for changes in major elements of the revenue requirement through June 30, 2020. Staff's recommendation also reflects all ISRS capital investment and related costs that MAWC may be authorized to recover through its currently proposed ISRS tariff. As a result of this case, MAWC's ISRS rate be set to zero upon the effective date of rates in this case. Staff's recommended revenue requirement for MAWC is an overall decrease of $19,923,654 at Staff's recommended return on equity (ROE) recommendation of 9.55%. Staff's recommendation includes an estimated true-up

[1] It should be noted, however, that pursuant to the Commission's August 26, 2020, *Order Setting Test Year and Adopting Procedural Schedule* in this matter, MAWC must submit an historical test year revenue requirement in the course of this case.

allowance of $19,896,569. Including the true-up allowance, Staff's recommendation is comprised of a revenue requirement for all MAWC water operations of ($25,832,764) and for all sewer operations of $5,909,110.

The impact of 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 December 9, 2020.

Staff Expert/Witness: Amanda C. McMellen

II. Background of Missouri-American Water Company

A. Introduction

MAWC is a wholly owned subsidiary of American Water Works Company, Inc. (AWC), which is the largest investor-owned U.S. water and wastewater utility company. AWC is headquartered in Voorhees, New Jersey, and provides a variety of services to approximately 15 million people in over 46 states, and parts of Canada. As part of this overall umbrella of services, AWC provides water and sewer service in 14 states that are subject to regulation by state public utility commissions. AWC also controls American Water Works Service Company, Inc. (AWWSC) which provides consolidated and centralized functions for AWC owned subsidiaries.

B. Mergers and Acquisitions

As of June 30, 2020, MAWC provided water service to approximately 470,000 customers and sewer service to approximately 15,000 customers. MAWC is a Missouri corporation providing water service primarily in and around the cities and villages of Branson, Brunswick, Hollister, Houston Lake, Jefferson City, Joplin, Loma Linda, Mexico, Parkville, Platte Woods, Riverside, Reeds Spring, Sedalia, St. Charles, St. Joseph, St. Louis metropolitan area, Warrensburg, and Warsaw, Missouri, and other outlying areas in the following Missouri Counties: Barry, Benton, Christian, Greene, Lincoln, Moniteau, Pettis, Platte, Stone, Taney, Warren, and Washington. MAWC also primarily provides sewer service in and around the cities of Arnold, Branson, Cedar Hill, Gravois Mills, Jefferson City, Laurie, Lawson, Parkville, Reed Springs, Sedalia, and Warsaw, Missouri, and in the following Missouri Counties: Benton, Cole, Callaway, Camden, Christian, Clinton, Jefferson, Lincoln, Moniteau, Morgan, Pettis, Platte, St. Louis, Taney, Warren, and Washington.

Since the time of MAWC's last rate case, Case No. WR-2017-0285, MAWC has acquired several smaller water and wastewater systems. The following chart summarizes the systems that MAWC has acquired since the time of its last rate case:

System Name	Water/ Sewer	Location	Case No.
Pevely Farms	Water & Sewer	St. Louis Co.	WA-2017-0278 & SA-2017-0279
Spokane Highlands	Water	Taney Co.	WM-2018-0104
Homestead Estates	Sewer	St. Louis Co.	SA-2018-0019
Radcliffe Place	Sewer	St. Louis Co.	SA-2018-0068
Rogue Creek	Water & Sewer	Washington Co.	WM-2019-0018
Golden Acres	Water	Stone Co.	N.A.
Timber Spring	Sewer	Clinton Co.	SA-2019-0183
El Chaparral	Sewer	Jefferson Co.	N.A.
Hillers Creek	Sewer	Callaway Co.	SA-2019-0334
Austin Trails	Sewer	Jefferson Co.	N.A.

MAWC has also acquired or is the process of acquiring the following systems, but these are not in the current rate case.

System Name	Water\ Sewer	Location	Case No.
Clinton Estates	Sewer	Clinton Co.	SA-2020-0132
City of Hallsville	Sewer	Boone Co.	SA-2021-0017
City of Trimble	Sewer	Clinton Co.	SA-2021-0074
Table Rock Estates	Water	Stone Co.	WA-2021-0116
City of Taos	Sewer	Cole Co.	WA-2021-0120

C. MAWC Previous Rate Increase

MAWC last sought to change its water and sewer rates in Case No. WR-2017-0285. In its *Order Approving Non-Unanimous Stipulation and Agreement* issued in that case, the Commission approved an agreement that granted MAWC a total increase in rates of approximately $24 million. MAWC received a $22 million annual increase in water revenues and a $2 million annual increase in sewer revenues.

Staff Expert/Witness: Amanda C. McMellen

III. Test Year and True-Up Recommendation

In this proceeding, MAWC is proposing a future test year. On June 30, 2020, MAWC filed a *Motion to Establish Future Test Year* (*Future Test Year Motion*). *However*, on August 26, 2020, the Commission issued its *Order Regarding Test Year and Adopting Procedural Schedule*, and ordered the following:

> 1. The parties shall use a test year of the 12-months ending December 2019, with an update period of the six months ending June 2020, and a true-up period of the six months ending December 2020. The true-up process and hearing will be for the sole purpose of updating various known and measurable cost of service components to December 31, 2020. Additionally, the parties may make specific (discreet) adjustments to the June 30, 2020, known and measurable revenue requirement calculation.
>
> 2. All parties must present historical revenue requirement calculations as of consistent points in time. Thus, Missouri-American shall submit a historical test year revenue requirement, updated with historical results in accordance with the requirements of Ordered Paragraph 1.

As a result, Staff has followed the Commission's Order and used a test year of the twelve months ending December 31, 2019, with a true-up for known and measurable changes through December 31, 2020. At this time, Staff has not chosen to use any further adjustments using projected or forecasted data past December 2020 to the test year.

Staff Expert/Witness: Amanda C. McMellen

A. Analysis of Historic Test Year vs Future Test Year Ratemaking Approaches

Historic Test Year

In this proceeding, MAWC has proposed that its rates be set using what it terms as a "future test year." If adopted by the Commission, use of this approach would be a significant change to how utility rates have been established in Missouri for many decades.

In Missouri, utility rates have traditionally been set using a "historic test year" approach. Under this method, rate analysis begins with selection of a test year consisting of twelve months of actual financial information, and for which the data is available for review and analysis at

the beginning of the rate case audit. During this audit, the test year data is reviewed to determine what adjustments should be proposed in order to convert the historical financial data into representative ongoing expense and revenue levels to include in prospective rate levels. In every rate case, a number of "annualization" and "normalization" adjustments are proposed for this purpose. Annualization adjustments are proposed to reflect the most current trends evident for an individual expense or revenue item in setting utility rates. Normalization adjustments are proposed to eliminate abnormally high or low individual revenue and expense amounts incurred within the test year in order to reflect only normal and ongoing levels of costs in setting prospective utility rates.

However, historic test year ratemaking in Missouri is not limited to reliance on information contained within the twelve month test year selected for the case. In all major cases, financial information from a subsequent "test year update period" is used and, in almost all cases, an even later "true-up" period is authorized as well to allow use of the most updated expense, revenue, and rate base data possible in setting utility rates; this practice has been referred to as a "modified" historic test year approach. Under Missouri's modified historic test year approach, rate base items are generally set equal to the update period or true-up period ending level, again to reflect that the most current information available is utilized to set customer rates while ensuring that actual expenditures made were prudently incurred and in-service.

To summarize, use of a modified historic test year approach in Missouri has included a number of features intended to reasonably ensure that utility rates are set to reflect the most current trends in the company's revenue, expense, and capital results. However, in almost all cases, ratemaking allowances have been restricted to those qualifying under the "known and measurable" cost standard. The "known and measurable" standard requires that only the costs associated with events have actually occurred or are certain to occur, and for which the financial impact can be accurately quantified, should be reflected in utility rates. If adhered to, the known and measurable standard precludes the use of budgeted, projected or forecasted information in setting utility rates.

Future Test Year

Under a "future test year" ratemaking approach, the known and measurable standard is abandoned, and projected information is utilized to set the utility's rates. Adjustments are

proposed to the utility's revenue, expense, and rate base levels in order to estimate what those values are expected to be in a future period when the company's new rates will be in effect. In most cases, this future period will be the first twelve months new utility rates will be in effect (the "rate period"). Under a future test year approach, revenue and expense levels equal to the level expected to be incurred during the twelve-month rate period are normally assumed for purposes of setting rates. Rate base levels equal to the average values projected during the rate period are normally assumed as well. Forecasted rate of return and capital structure assumptions are also utilized under future test year ratemaking.

The end result of a rate case audit is a revenue requirement recommendation based upon the construction of an expected "revenues/expense/rate base" relationship. For historic test year ratemaking, the revenues/expense/rate base relationship is based upon *actual* past financial results. For future test year ratemaking, this relationship is constructed using forecasted amounts. Under either approach, material deviations in individual financial items between actual costs incurred and amounts assumed for ratemaking purposes will not necessarily mean that customer rate levels are either deficient or excessive as there may be offsetting changes in other items. It is only when the overall revenue/expense/rate base relationship previously used to set rates is no longer reflective of actual utility financial performance that a change in rates may be warranted, either upward or downward.

The most frequently observed argument for adoption of future test years is the belief that this method more directly matches the financial values used in ratemaking to the time period in which rates will be in effect than the historic test year method does. A related contention in support of future test years is that, in an increasing cost environment, use of historic ratemaking approaches will not allow utilities a reasonable opportunity to earn their authorized rates of return.

However, in Staff's view, there are at least two major disadvantages in using future test year approaches to set rates. The first is that use of speculative data is an inherently less reliable foundation for ratemaking than reliance on known and measurable information. This concern is increased by the incentive for the utility to, consciously or unconsciously, overstate its cost of service estimations, in order to achieve higher rates and earnings levels. The second major disadvantage of future test years compared to historic test years is that the incentives for a utility to minimize increases in its cost of service over time will inherently be less when forecasts of

an increasing cost of service are used to set rates in comparison to the situation in which the historical known and measureable standard is adhered. Moreover, the legal prohibition against retroactive ratemaking amplifies these disadvantages of a future test year, as once an over-estimated rate goes into effect, there is no recourse for the ratepayer. The Commission's directive to set just and reasonable rates must be "fair to both the utility and its customers."[2] As acknowledged in Missouri case law:

> [A] just and reasonable rates is a bilateral proposition. Like a coin, it has two sides. On the one side it must be just and reasonable from the standpoint of the utility. On the other side it must be just and reasonable from the standpoint of the utility's customers. This bilateral aspect of utility rate making, although susceptible of easy expression in theory, is considerably more difficult to achieve.[3]

Achieving that balance is made all the more challenging for the Commission when the nature of the evaluation is fundamentally altered in favor of a ratemaking process that values estimates and speculation over quantifiable, verifiable data.

National Regulatory Research Institute

Helpful background information concerning future test year issues can be found in two reports issued by the National Regulatory Research Institute (NRRI) in 2013. The first report, *Future Test Years: Challenges Posed for State Utility Commissions* (July 2013),[4] provides an overview of the policy implications of use of future test years and makes clear the author's belief that the choice between use of historic and future test year approaches requires a number of trade-offs, with neither option being clearly optimal under all circumstances. The second report, *Future Test Years: Evidence from State Utility Commissions* (October 2013),[5] is largely concerned with discussion of the responses to a NRRI survey by those public utility commissions currently utilizing a future test year. The survey respondents indicated general support for continued use of this approach to setting rates in their jurisdictions.

[2] ***St. ex rel. Valley Sewage Co. v. Pub. Serv. Comm'n,*** 515 S.W.2d 845 (Mo. App., K.C.D. 1974).
[3] ***State ex rel. Valley Sewage Co. v. Public Service Commission,*** 515 S.W.2d 845, 850 (Mo. App. 1974).
[4] Included in Appendix 4, attached to this Report.
[5] Attached to "MAWC Reply to Response Concerning Motion to Establish Future Test Year," Missouri-American Water Company, August 6, 2020. Also Included in Appendix 4 attached to this Report.

The content of the two NRRI reports support Staff's belief that any transition to use of future test years in Missouri will require a significant refocusing of rate case audit efforts, not only by the parties to the case, but also by the Commission in its review of evidence. Instead of an emphasis on detecting trends and abnormalities in historic financial data, the new focus would be on the need to assess the reasonableness of the assumptions underlying the forecasts relied upon by utilities.[6] Consequently, in determining just and reasonable rates, the Commission would be placed in a position of deciding the reasonableness of those same assumptions underlying the financial predictions. As such, use of future test years will require greater expertise on Staff's part regarding analysis and critiques of utility budgeting practices and forecasting techniques than it currently possesses. For this reason, additional Staff training will be necessary if use of future test years is implemented in this jurisdiction. However, even with enhanced training, Staff cautions that it will take time and effort to gain expertise in future test year ratemaking commensurate with its current experience with historic test year ratemaking.

Guidelines and Policies for Consideration in Using a Future Test Year

In the event that the Commission sees possible merit in use of future test years, either in general or in the specific circumstances of MAWC's current rate increase request, Staff suggests that the following guidelines and policies be considered in conjunction with any consideration of this approach to ratemaking:

Use of Inflation Factors.

Staff sees very little justification for use of general inflation factors to escalate the level of individual utility expenses above historic levels. First, reference to broad inflation factors that are not tied to the specific conditions under which utilities in general operate would not seem to provide persuasive evidence as to the likely trend over time in incurred utility expense levels. Second, application of these factors for purposes of setting rates would implicitly take the position that utility costs should be considered to be subject to general inflation impacts, without any specific offset for the possibility of productivity or efficiency improvements on the

[6] It should be noted that some analysis of historical financial information of utilities will still be required by Staff and other parties, including MAWC even under a future test year approach, as it is likely that annualization and normalization adjustments will still be applied to the current historical level of many expenses prior to further adjusting the costs out to projected levels for the rate period.

utility's part that would offset the impact of general inflation, at least in part. Such a position may not consider "all relevant factors" in setting rates, as is required by Missouri courts.[7]

Staff's position is that, if future test years are used, proposed increases to historical expense levels should be justified by a specific and detailed analysis on an individual expense level. Use of inflation/escalation factors for this purpose should not be accepted. More broadly, Staff would encourage the Commission not to necessarily view potential use of future test years as an "all or nothing" proposition. If forecasting of cost of service values is to be allowed in ratemaking, the utility should shoulder the clear burden of demonstrating that use of projected values for any individual item of revenues, expense, or rate base is justified by substantial evidence that movement beyond historic values is appropriate. If such evidence is not provided by the utility, then the value in question should be left at historical levels for ratemaking purposes.

Imputation of Productivity Improvements.

It should be expected that utilities achieve and demonstrate greater productivity over time. Sometimes, these improvements in productivity are brought about by upfront investments in labor and capital. Appropriate treatment of the cost of investments made to enhance utility productivity and their resulting savings in traditional rate cases in Missouri ensures that customers both pay the costs of and receive the benefits of these initiatives in the rates charged. However, in a future test year scenario, the risk is that the utilities will take greater care to forecast increased capital and labor costs associated with improved operations than any related and offsetting productivity benefits.

To guard against this possibility, Staff recommends that the Commission require utilities seeking future test years to demonstrate how their projected adjustments in total reasonably impute a level of increasing productivity and efficiency in their operations for the ongoing benefit of customers and to offset projected cost of service increases. If use of inflation/escalation factors are allowed in future test year ratemaking, the utilities should be required to propose a reasonable productivity offset to these factors for purposes of setting rates.

[7] ***State ex rel. Missouri Water Co. v. Public Service Commission,*** 308 S.W.2d 704, 719 (Mo. 1957).

Used and Useful Status.

By Missouri statute electric utilities are not allowed to include the costs of construction projects in rate base until such projects are "used and useful" from a current customer perspective; i.e., that the projects are "in-service." While not statutorily required for natural gas, water, and sewer utilities, the Commission has in all or almost all instances over many years applied the same principle in setting rates for non-electric utilities.

Any broad movement toward use of future test years in this jurisdiction will require abandonment of a strict used and useful ratemaking standard for non-electric utility plant in service additions. If use of the future test year approach is authorized by the Commission in the future, Staff recommends that the affected utilities be required to submit a reconciliation of the projected plant addition costs reflected in the utility's rates to the cost of actual "used and useful" plant additions made during the rate period. If the reconciliation shows that construction project costs included in customer rates as part of a future test year were not actually placed in service in the timeframe assumed by the utility, then the costs associated with all projects not achieving used and useful status on a timely basis should be refunded to customers with interest. The mechanics of such a reconciliation mechanism would need to be considered in more detail if forecasted plant additions are allowed in Missouri ratemaking in the future for non-electric utilities.

Rate variance analyses.

If use of future test years is allowed by the Commission at some future point, the utilities using this technique should be required to produce on a quarterly calendar basis an analysis of the differences between their actual incurred cost of service, and the projected cost of service used in setting customer rates. Along with this quantification, the utilities should provide explanations for any material variances in the two cost quantifications on an individual cost of service item basis.

Conclusion

Staff is not persuaded at this time that a future test year ratemaking approach is superior to continued use of modified historical test year ratemaking. Staff asserts that historical ratemaking has in the past and can continue to provide an appropriate baseline for setting reasonable ongoing rate levels in Missouri. A properly adjusted set of historical test year

process financial data should provide utilities with a reasonable opportunity to earn their authorized return. Use of historical test years also provide very strong incentives for efficiency and cost control by utility management. Additionally, Staff has not concluded that the revenue/expense/rate base relationship established using future test years will inherently be more accurate than establishing that relationship using historic adjusted financial information. For these reasons, Staff recommends that MAWC's rates continue to be set using a modified historical test year approach in this proceeding. Specific comments by Staff regarding the details of MAWC's future test year proposal will be found in Staff's rebuttal testimony to be filed later in this case.

Staff Expert/Witness: Kimberly K. Bolin

B. True-Up

The test year represents the starting point for determining a utility's existing annual revenues, operating costs and net operating income. Adjustments are made to the test year results when the unadjusted amounts do not fairly represent a utility's most current, ongoing and appropriate annual level of revenues and operating costs. The purpose of a true-up 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. When ordered, true-ups involve the filing of additional sets of testimony and the scheduling of additional evidentiary hearings ordered by the Commission. Staff expects to consider actual changes for certain significant items during its true-up audit. The following list are the items that Staff proposes to update as part of its true-up audit:

Rate Base

Plant-in-Service

Depreciation Reserve

Contributions in Aid of Construction (CIAC)

CIAC Reserve

Accumulated Deferred Income Taxes

Customer Advances

Materials and Supplies

Prepayments

Pension Tracker Balance

OPEB Tracker Balance

Other Deferred Regulatory Assets and Liabilities
Rate Base for Newly Acquired Systems
Cash Working Capital

Cost of Capital[8]
Capital Structure
Cost of Debt
Cost of Preferred Stock

Revenues and Expenses
Customer and meter counts
Chemical Expense
Purchased Water Expense
Fuel and Power Expense
Waste Disposal
Support Services
Transportation Fuel and Maintenance
Payroll & Benefits
Rate Case Expense
Uncollectibles Expense
Depreciation and Amortization
Tank Painting Expense
Pension and OPEB Expense
Injuries and Damages
Property Tax Expense
Revenues and Expense for Newly Acquired Systems
Income Taxes

As the part of the procedural schedule approved by this Commission in its *Order Regarding Test Year and Adopting Procedural Schedule* issued on August 26, 2020, MAWC is required to provide all of this true-up information to the parties of this rate case by January 29, 2021. *Staff Expert/Witness: Amanda C. McMellen*

[8] Data will be provided through December 31, 2020.

IV. Major Issues

The following are the major issues that exist between Staff and MAWC as a result of their respective direct filings.

Return on Equity and Capital Structure (ROE)

Staff has recommended a 9.55 percent ROE. MAWC is recommending a 10.5 percent ROE. In addition, Staff has reflected an AWC parent company capital structure whereas MAWC has proposed a MAWC specific capital structure. The ROE and Capital Structure issues are addressed in detail in Section V of this Report.

Revenues/Customer Usage

A sub-issue of revenues and the driver for the difference between MAWC and Staff is the impact of any declining usage on a per customer basis. MAWC states that usage on a per customer basis is declining and that trend will continue into the future. MAWC divides usage into two components, the first being base usage or non-discretionary use. Base usage is the amount of water consumed for normal in-house usages, and is generally determined in the winter months/season when customers do not use water for outside activities, such as car washing or watering a yard. The second component is non-base usage or discretionary use, which includes the previously mentioned outdoor activities.

MAWC's proposal on how to address the variable of declining usage when normalizing customer usage is based on the assumption that base water usage patterns will continue to decrease, and will not level out or increase over at least the next 16 years. MAWC proposes to affix normalized data (minus past, present, and forecasted weather), as it relates to base (or non-discretionary) usage, represented by data gathered for the months of December through June (STL) and/or October through June (Non-STL) vs non-base (discretionary) usage, represented by the remaining calendar months, over the time series analyzed, via a standardized statistically linear regression analysis with the inclusion of climatic variables. Staff suggests that usage patterns have changed over the years for various reasons that might cause usage to fluctuate. Thus, Staff recommends using a five-year average of usage to determine the normalized usage amount for the residential class.

Future Test Year

As described later in this report, MAWC is proposing a future test year. This test year is determined by first using an historical test year as its starting point. MAWC has proposed that historical period to be twelve months ended December 31, 2019, which is the same period as Staff's test year. Then, MAWC proposes the future test year which includes the first twelve months after new rates will be effective, thus the twelve months ended May 31, 2022. Staff is proposing maintaining the traditional modified test year historically relied upon by this Commission which is an initial test year through December 31, 2019, trued-up through December 31, 2020. See the analysis provided above.

Revenue Stabilization Mechanism (RSM)

MAWC is proposing an RSM. Staff considers this issue to be a rate design issue and thus will present its recommendation within its Class Cost of Service Report to be filed on December 9, 2020.

Staff Expert/Witness: Amanda C. McMellen

V. Rate of Return

A. Introduction

In this section, Staff presents evidence and provides a recommendation regarding the appropriate rate of return (ROR) to be used in establishing MAWC's water and sewer rates. Staff estimated the market-based cost of common equity (COE) for MAWC using a comparative COE analysis. Staff's analysis takes into account changes in economic and capital market conditions by employing two widely-used and well-respected COE estimation methodologies: the two-step discounted cash flow model (DCF) and the capital asset pricing model (CAPM).[9] The comparative analysis method allowed Staff to calculate changes in authorized return on equity (ROE)[10] from period to period by using the settlement decision approved by the Commission in the Stipulation and Agreement in the most recent MAWC rate case, Case No. WR-2017-0285, as a benchmark.

[9] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019).

[10] COE is the return required by investors; ROE is the return set by a regulatory utility commission. Although some experts contend that COE and ROE are synonymous, Staff's position is that they need not be. Observed utility COEs have been generally significantly lower than ROEs in recent years.

In the Stipulation and Agreement filed March 1, 2018, in Case No. WR-2017-0285, the parties agreed to, and the Commission approved, a range of 9.5% to 10.0% as reasonable for calculating revenue requirement for MAWC.[11] For the current rate case, Staff recommends that the Commission set MAWC's authorized ROE at 9.55%, the midpoint of a reasonable range of 9.30% and 9.80%. Staff's reasonable range of recommended authorized ROEs takes into consideration that COE fell by 20 basis points since the period of the last MAWC's rate case.[12]

Staff's recommendation of 9.55% authorized ROE will fairly compensate MAWC for its current market COE and balance the interests of all stakeholders, particularly considering that the current market COE estimates for MAWC are presently in the range of 7.54% to 8.86% (see Appendix 2, Schedule SJW-13-1). Staff also recommends that the Commission use the consolidated capital structure of MAWC's parent, AWC, for ratemaking purposes because, among several reasons, MAWC's capital structure is funded almost exclusively by its parent company, through AWC's financing subsidiary entity, American Water Capital Corp. (AWCC). AWC has a lower equity ratio than MAWC, leading to a lower revenue requirement. Consistent with Staff's capital structure recommendation, Staff also recommends that the Commission use AWC's embedded costs of debt and preferred stock of ** ____ ** and ** ____ **, respectively, resulting in the overall midpoint ROR of 6.33%, taken from the calculated range of 6.23% to 6.43% (see Appendix 2, Schedule SJW-15).

Staff's analyses and conclusions are supported by the data presented in Schedules SJW-1 through SJW-17 of Appendix 2. Staff's workpapers will be provided to the parties at the time of the filing of Staff's Cost of Service Report. Staff will make any source documents of specific interest available upon the request of any party to this case or to the Commission upon request.

B. Analytical Parameters

The determination of a fair ROR is guided by principles of economic and financial theory and by certain minimum Constitutional standards. Investor-owned public utilities such as MAWC are private property that the state may not confiscate without appropriate compensation. The United States Supreme Court has described the minimum characteristics of

[11] Order Approving Stipulation and Agreement, Case No. WR-2017-0285.

[12] 20 basis points is the difference between the current DCF estimated COE (8.33%) and MAWC's last rate case (WR-2017-0285)'s estimated COE (8.53%). See Schedules SJW-13-1 and SJW-13-2 for more on how Staff calculated the COEs.

a constitutionally-acceptable ROR in two frequently-cited cases: *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, and *Federal Power Commission v. Hope Natural Gas Co.*[13]

From these two decisions, Staff derives and applies the following principles to guide it in recommending a just and reasonable ROR:

1. A return consistent with returns of investments of comparable risk;
2. A return that allows the utility to attract capital; and
3. A return sufficient to assure confidence in the utility's financial integrity.

Embodied in these three principles is the economic theory of the opportunity cost of investment. The opportunity cost of investment is the return that investors forego in order to invest in similar risk investment opportunities that vary depending on market and business conditions.

Methodologies of financial analysis have advanced greatly since the *Bluefield* and *Hope* decisions.[14] Additionally, today's utilities compete for capital in a global market rather than a local market. Nonetheless, the parameters defined in those cases are readily met using current methods and theory. The principle of commensurate return is based on the concept of risk. Financial theory holds that the return an investor may expect is reflective of the degree of risk inherent in the investment, risk being a measure of the likelihood that an investment will not perform as expected by that investor. Any line of business carries with it its own risks and it follows, therefore, that the return MAWC's shareholders may expect is equal to that required by comparable-risk utility companies.

COE is a market-determined, minimum return investors are willing to accept for their investment in a company compared to returns on other available investments. An authorized ROE, on the other hand, is a Commission-determined return granted to monopoly industries, allowing them the opportunity to earn just and reasonable compensation for their investments.

Staff has relied primarily on the analysis of a comparable group of companies to estimate the COE for MAWC, applying this comparable-company approach through the use of both the

[13] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 43 S.Ct. 675, 67 L.Ed. 1176 (1923); *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333 (1943).

[14] Neither the Discounted Cash Flow ("DCF") nor the Capital Asset Pricing Model ("CAPM") methods were in use when those decisions were issued.

DCF method and the CAPM. Properly used and applied in appropriate circumstances, both the DCF and the CAPM can provide accurate estimates of utilities' COE. It is a well-accepted economic theory that a company that earns its cost of capital will be able to attract capital and maintain its financial integrity. Therefore, Staff's recommended authorized ROE based on the COE derived from comparison of peer companies, is consistent with the principles set forth *Bluefield* and *Hope*.

C. Economic and Capital Market Conditions

Determining whether a cost of capital estimate is just and reasonable requires a good understanding of current economic and capital market conditions, with the former having a significant impact on the latter. With this in mind, Staff emphasizes that an estimate of a utility's COE should pass the "common sense" test when considering the broader current economic and capital market conditions.

1. Economic Conditions

With many economic activities halted because of the COVID-19 pandemic, the current market conditions of the U.S. economy look much weaker now than at the beginning of this year. Actually, for the past several years, the economic climate has been fragile due to the weakening global economy and uncertainty emanating from trade conflict between the U.S. and China, and the pending withdrawal (Brexit) of the United Kingdom from the European Union.

According to the Bureau of Economic Analysis, gross domestic product (GDP) declined 5.0% and 31.7% in the first, and second quarters of 2020, respectively. Real GDP growth in 2017, 2018, and 2019 were 2.2%, 2.9%, and 2.3%, respectively.[15] Because of the pandemic and the generally weakening economic climate, the projections for economic activity point to a continued slowdown. In 2020, the Federal Open Market Committee (FOMC) projects real GDP of the U.S will contract between 7.6% and 5.5%.[16] The Organization for Economic Cooperation and Development (OECD) projects the annual GDP growth rate of the U.S. for 2020 to fall between -8.5 and -7.3.[17] The International Monetary Fund (IMF) projects averages

[15] Bureau of Economic Analysis, retrieved on September 1, 2020 (https://www.bea.gov/data/gdp).
[16] Federal Open Market Committee, retrieved on September 1, 2020 (https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20200610.htm).
[17] Organization for Economic Cooperation and Development, retrieved on September 1, 2020 (https://data.oecd.org/gdp/real-gdp-forecast.htm).

of -4.9% and 5.4% global growths for 2020 and 2021, respectively.[18] The FOMC's long-run projections for real GDP of the U.S. is about 1.8%.[19]

Inflation, measured by Personal Consumption Expenditures (PCE) for 2017, 2018, and 2019 was 1.7%, 1.8%, and 1.4%, respectively, and is expected to be about 0.8% for the year 2020.[20] According to the Federal Reserve Bank of Philadelphia, long-term inflation should be expected to be near the Federal Reserve System (Fed) 2% target.[21] The unemployment rate has continued to decline from 14.7% in April 2020 to 8.4% in August 2020.[22]

In March 16, 2020, the FOMC decreased the Fed target funds rate (funds rate) to 0-0.25%.[23] Abrupt and widespread cessation of economic activity in the U.S. necessitated this move by the Fed. On September 17, 2020, the Fed chairman, Jerome Powell, signaled that they will keep rates near zero for some time, with all 17 officials present at the 2-day meeting saying they expect to keep rates near zero for at least through next year (2021); 13 officials projected rates would stay there through 2023 to support the economic recovery.[24]

30-year treasury yields fell throughout 2017 before rising in 2018 and then falling again in 2019. 30-year treasury yields were 3.02% in January 2017 and 2.77% by December 2017. 2018 saw yields rising from 2.88% in January to 3.10% in December 2018 before falling to 1.36% by August 2020 (see Appendix 2, Schedule SJW-4-2). Abroad, negative yields are common. There is more than $16 trillion of bonds with negative yields world-wide, most of them sold in the European Union and Japan.[25] Low interest rates abroad have the effect of pushing down U.S interest rates through the force of supply and demand. Lower yields abroad increase demand for U.S debt securities with the effect of lowering yields in the U.S. The average 30-year Treasury bond yield for the 3-month period (July, August, and September 2017) of the last MAWC rate case analysis was 2.82% (see Appendix 2, Schedule SJW-4-2).

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[18] International Monetary Fund, retrieved on September 1, 2020 (https://www.imf.org/en/Publications/WEO).
[19] Federal Open Market Committee, retrieved on September 1, 2020 (https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20200610.htm).
[20] Congressional Budget Office, retrieved on September 1, 2020 (https://www.cbo.gov/publication/56465).
[21] Federal Reserve Bank of Philadelphia, retrieved on September 30, 2020 (https://www.philadelphiafed.org/ research-and-data/real-time-center/survey-of-professional-forecasters/).
[22] Bureau of Labor Statistics, retrieved on September 13, 2020 (https://www.bls.gov/news.release/pdf/empsit.pdf).
[23] Board of Governors of the Federal Reserve System, retrieved on September 1, 2020 (https://www.federalreserve.gov/monetarypolicy/openmarket.htm).
[24] Wall Street Journal, retrieved on September 17, 2020 (https://www.wsj.com/articles/fed-signals-interest-rates-to-stay-near-zero-through-2023-11600279214).
[25] Wall Street Journal, retrieved on September 17, 2020 (https://www.wsj.com/articles/in-bond-anomaly-negative-yields-bring-positive-returns-11567947602).

The average 30-year Treasury bond yield is 1.39% in the 3-month period (June, July, and August 2020) of analysis for the current rate case (see Appendix 2, Schedule SJW-4-3). That is a decrease of 143 basis points.

Interest rates have a strong relationship with GDP and the inflation rate. Weakening GDP growth will prompt the Fed to cut interest rates as the Fed tries to stimulate the economy. Weakening GDP growth also signals to investors a weakening economy, which causes investors to increase demand for treasury bonds as they flee riskier securities into the safe haven of government treasuries. High demand for treasury bonds causes prices to rise and yields to fall, creating a low cost-of-capital environment. Weak inflation also causes concern about economic growth, which prompts the Fed to cut interest rates. Because of weak economic growth and short-term interest rate cuts, long-term utility bond rates have fallen to levels lower than experienced during the period of the last MAWC rate case (see Appendix 2, Schedule SJW-4-5). With projected low GDP growth, interest rates are set to remain low and continue to support a low COE environment. The takeaway is that capital is less expensive and the ROE should therefore be lower than at the time of MAWC's last general rate case.

2. Capital Market Conditions

a. Utility Debt Markets

Interest rates are a key factor in determining a utility's COE, as stock investors demand a premium return over those offered by lower-risk, interest-bearing securities, such as U.S. Treasury bonds. An increase [decrease] in interest rates therefore, will increase [decrease] a utility's COE, all else being equal. The current utility debt market indicates a lower cost-of-capital than the period of the last MAWC rate case. Utility bond yields have been on a steady decline since January 2019. Average Moody's utility bond yields, as reported by Mergent Bond Record, declined from 4.01% in June 2017 to 2.76% in August 2020 (see Appendix 2, Schedule SJW-4-1).

Staff compared average utility bond yields in a three-month period (July, August, and September 2017) within the timeframe of the last MAWC rate case analysis, to a three-month period (June, July, and August 2020) within the timeframe of the current case. The three-month average utility bond yield was 3.97% in the last MAWC rate case compared to 2.88% in the current rate case, a drop of 109 basis points (see Appendix 2, Schedule SJW-4-1).

Although utilities' COEs are not perfectly correlated to changes in utility debt yields, it is widely recognized in the investment community that regulated utility stocks are a close alternative to bond investments and, therefore, that the two values are highly correlated over time. As interest rates fall, utility stock prices rise, pushing COE down as investors substitute debt for utility stock in search for higher yields. Consequently, to the extent the Commission believes the range of 9.5% to 10.0% authorized ROE agreed to by parties in the Stipulation and Agreement of the last MAWC rate case was reasonable, and the cost of debt information was looked at in isolation, without considering COE estimation methodologies, this would suggest that a range of 9.3% to 9.8% recommended authorized ROE may be considered just and reasonable for MAWC's the current case.[26]

b. Utility Equity Markets

Utility equities have outperformed the S&P 500 in the recent past. Over the past 3 years ending July 31, 2020, the S&P 500 Utilities sector outperformed in terms of total return the overall S&P 500 49.86% to 26.81%, respectively.[27] Staff's water proxy group had total returns 69.86% during the three-year period ending July 31, 2020, well above the 26.81% for the S&P 500 and the overall Utilities sector.[28] In the long-term, total returns on the S&P 500 are expected to be greater than total returns on utility stocks because overall, companies in the S&P 500 have higher growth rates than utilities. In times of volatility and economic uncertainty, investors move their investments into utilities, increasing demand and consequently pushing utilities' valuations higher than the overall market.

To further gain insight on what is happening in the utility equity market, Staff analyzed utility price to earnings (PE) ratios and dividend yields. Staff's water proxy group's PE ratio for the time period (July, August, and September 2017), corresponding to the time period during the last MAWC rate case, was 29.82x compared to 63.04x in the current period (June, July, and August 2020), corresponding to the time period of Staff's analysis for the current case.[29] Dividend yields for water proxy groups fell from 1.93% to 1.76%.[30]

[26] The Commission Order Approving Stipulations and Agreements, WR-2017-0285.
[27] S&P Global Market Intelligence, Retrieved in August 1, 2020.
[28] Regulatory Research Associates, S&P Global Market Intelligence.
[29] S&P Global Market Intelligence, Retrieved in September 18, 2020.
[30] Ibid.

There is an inverse relationship between PE ratios and COE. At any given point in time, the PE ratio gives you the price of the company (per share) divided by earnings per share. The reciprocal of this is called earnings yield – a metric comparable to dividend yield. At a high PE ratio, earnings yield (dividend yield) is low, which translates into low COE. Higher PE ratios and lower dividend yields today than during the period of the last MAWC's rate case indicate a lower COE.

D. Corporate Analysis

1. Business Profile

MAWC has been a water and sewer utility subsidiary of AWC since August 31, 1993. The following summary from AWC's Form 10-K filing with the United States Securities and Exchange Commission (SEC) in February 2020, provides a good description of AWC's current business operations and current organizational structure.

Through its subsidiaries, AWC is the largest and most geographically diverse, publicly-traded water and wastewater utility company in the U.S., as measured by both operating revenues and population served. A holding company originally incorporated in Delaware in 1936, AWC employs approximately 6,800 professionals who provide drinking water, wastewater and other related services to approximately 15 million people in 46 states. The Company conducts most of its business through regulated utilities that provide water and wastewater services, collectively presented as the "Regulated Businesses." The Company also operates unregulated market-based businesses that provide complementary services. Individually, these market-based businesses do not meet the criteria of a reportable segment in accordance with generally accepted accounting principles in the United States (GAAP), and are collectively presented as the "Market-Based Businesses," which is consistent with how management assesses the results of these businesses.

AWC's primary business involves the ownership of utilities that provide water and wastewater services to residential, commercial, industrial, public authority, fire service, and sale for resale customers. AWC's utilities operate in approximately 1,700 communities in 16 states in the United States, with over 3.4 million active customers in its water and wastewater networks. Services provided by AWC's utilities are subject to regulation by multiple state utility commissions or other entities engaged in utility regulation, collectively referred to as public

utility commissions (PUCs). Federal, state and local governments also regulate environmental, health and safety, and water quality matters. The Company reports the results of the services provided by its utilities in the Regulated Businesses segment. Operating revenues for the Regulated Businesses were $3.094 billion for 2019, $2.984 billion for 2018, and $2.958 billion for 2017, accounting for 86%, 87%, and 88%, respectively, of AWC's total operating revenues for the same periods.

2. Credit Ratings

MAWC does not receive an individual credit rating as a stand-alone entity. MAWC relies on American Water Capital Corp. (AWCC) to issue debt financing for AWC's subsidiaries, which in turn loans these proceeds to the subsidiaries through internal loan agreements. It is important for AWC to have its debt rated so that potential debt investors can evaluate rating agency opinions in determining a fair price to pay for AWC's debt. Staff understands the credit quality of AWCC to be based on AWC's consolidated credit quality.

AWCC is a wholly-owned subsidiary of AWC that was created for the special purpose of serving as the primary funding vehicle for AWC and its subsidiaries. Although AWCC and AWC are assigned credit ratings, because AWCC's purpose is to manage and issue financing for AWC, the credit ratings for each entity are based on AWC's consolidated operations. AWC and AWCC are currently rated by Moody's and Standard & Poor's (S&P). The corporate credit ratings assigned to both AWC and AWCC by Moody's and S&P are 'Baa1' and 'A', respectively.[31]

E. Rate of Return Analysis

In order to arrive at Staff's recommended ROR, Staff specifically examined and evaluated (1) the estimated COEs in the current and recent MAWC rate cases, (2) the just and reasonable range of authorized ROE agreed in the settlement decision of the Stipulation and Agreement of the most recent MAWC rate case, (3) the appropriate ratemaking capital structure, and (4) the embedded cost of debt and preferred stock.

[31] S&P Global Market Intelligence, retrieved September 9, 2020 (https://platform.marketintelligence.spglobal.com).

1. Cost of Common Equity

Staff estimated MAWC's COE through a comparable company cost-of-equity analysis using a proxy group of water utility companies, applying the DCF model and testing the reasonableness of the DCF model with CAPM analysis and other methods. Staff compared the two COE estimates from the current and the last MAWC rate cases. Combining the COE estimates and applying them proportionately allowed Staff to estimate a sensible range of recommended authorized ROEs. Additionally, Staff used a survey of other indicators and compared its recommendation to recent authorized ROEs in other Commission jurisdictions as a check of the reasonableness of its recommendation.

a. The Proxy Group

Staff used a proxy group consisting of U.S. utilities that Value Line classifies as Water Utilities. Staff screened seven companies (see Appendix 2, Schedule SJW-9) by ensuring that companies:

- are publicly traded;
- have more than 5 years of financial data available;
- have investment grade credit ratings from major U.S. credit rating agencies;
- have long-term growth coverage from at least two analysts;
- have no pending merger or acquisitions;
- have not reduced dividends since 2017;
- have at least 50% of plant associated with water utility operations;
- have at least 70% of income from regulated operations; and
- generate at least 50% of regulated income from water utility operations.

b. DCF

Staff started its evaluation of the water utility industry's COE by applying values derived from the proxy group to the two-step DCF model. The DCF model is widely used by investors to evaluate stable-growth investment opportunities, such as regulated utility companies. The premise of the DCF model is that an investment of common stock is worth the present values of the infinite streams of dividends discounted at a market rate commensurate with the

investment's risk. Using the following formula of the DCF model, the investors determine common stock price:

$$\boldsymbol{P = D/(k - g)}$$

Where: $\boldsymbol{P}$ is the common stock price,

$\boldsymbol{D}$ is the current dividend,

$\boldsymbol{k}$ is investors' required return from the stock, and

$\boldsymbol{g}$ is the expected growth rate in dividends.

In rate cases, the investors' required return from the stock could be considered to be the expected market COE of utility stock investors. Staff uses an adjusted dividend yield $(1 + .5g)D$ to account for the fact that the dividends are paid on quarterly basis. The COE estimate using the above formulation can be expressed as follows:

$$\boldsymbol{k = (1+.5g)D\ /\ P\ +\ g.}$$

The two-step DCF model is utilized by the Federal Energy Regulatory Commission ("FERC") and is meant to give a more nuanced consideration of growth than the constant-growth DCF model.[32] Staff calculated the input for the expected future growth rate of dividends,g, by combining short-term (given two-thirds (2/3) weight), and long-term (given one-third (1/3) weight) growth rate projections. For the short-term growth rates, Staff used Value Line 5-year earnings per share growth rate estimates, and for the long-term, Staff used the average of long-term projected GDP growth rate estimates (see Appendix 2, Schedule SJW-11).

For the current rate case, the proxy group DCF analysis resulted in a reasonable COE estimate range of 7.54% to 8.86% with a proxy group average COE point estimate of 8.33% (see Appendix 2, Schedule SJW-13-1). For the last MAWC rate case, the proxy group's

[32] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019).

DCF analysis resulted in a reasonable COE range of 8.05% to 9.52% with a proxy group average COE point estimate of 8.53% (see Appendix 2, Schedule SJW-13-2).

c. CAPM

Staff tested the reasonableness of the DCF COE estimates by applying a CAPM analysis. The CAPM is built on the premise that the variance in returns over time is the appropriate measure of risk, but only the non-diversifiable variance (systematic risk) is rewarded. Systematic risks, also called market risks, are unanticipated events that affect almost all assets to some degree because the effects are economy wide. Systematic risk in an asset, relative to the average, is measured by the beta of that asset.[33] Unsystematic risks, also called asset-specific risks, are unanticipated events that affect single assets or small groups of assets. Because unsystematic risks can be freely eliminated by diversification, the appropriate reward for bearing risk depends on the level of systematic risk.

The CAPM shows that the expected return for a particular asset depends on pure time value of money (measured by the risk free rate), the amount of the reward for bearing systematic risk (measured by the market risk premium (MRP)), and the amount of systematic risk incurred by the asset (measured by beta). Specifically, the CAPM methodology estimates the cost of equity by taking the risk-free rate and adding to it the MRP multiplied by beta.[34] The MRP is calculated by subtracting the risk-free rate from the expected market return. The general form of the CAPM is as follows:

$$k = R_f + \beta(R_m - R_f)$$

Where:

k	is the expected return on equity for a security,
R_f	is the risk-free rate,
R_m	is the expected market return,
β	is beta, and
$R_m - R_f$	is the MRP.

[33] Beta is a measure of the volatility—or systematic risk—of a security or portfolio compared to the market as a whole.
(Investopedia, retrieved November 5, 2020).

[34] Roger A. Morin, New Regulatory Finance (Public Utilities Reports, Inc. 2006).

For the risk-free rate, Staff used the average yield on 30-year U.S. Treasury bonds for the three-month period ending August 31, 2020; that figure was 1.39% for this case but it was 2.82% for MAWC's 2017 rate case. For beta, Staff relied on Value Line betas. MRP can vary widely depending on estimating methodology. For instance, according to FERC Opinion No, 569 issued in November 21, 2019, the American Appraisal Risk Premium Quarterly, Value Line, and Duff & Phelps calculated forward-looking risk premiums of 6.0 %, 5.5%, and 5.0%, respectively.[35] But FERC used MRP in the First and Second Complaint proceedings for Docket No. EL 14-12-003 of 9.12% and 8.85%, respectively.[36] This wide variance in MRPs is the main reason Staff utilized CAPM only for testing purposes but not as the primary COE estimation method. Staff also used two "extreme" scenarios for MRPs to test the reasonableness of its calculated DCF COE estimates by comparing the relationship between those estimates to the two extreme scenario values.

As an extreme lower bound of the MRP estimates, Staff relied on the historical difference between earned returns on stocks and earned returns on government treasury bonds. For the lower bound of the MRP estimates, Staff used the long-term geometric average of historical return differences between large company stocks and long-term government bonds from 1926-2018, which is 4.5%.[37] As an extreme upper bound of the MRP estimates, Staff used MAWC's S&P 500 estimated required market return of 13.18%, and subtracted the risk-free rate of 1.39%, to obtain an MRP value of 11.79%.[38] The results of the COE estimates range using the two MRP estimates are 4.86% through 10.49% with a midpoint of 7.68% (see Appendix 2, Schedule SJW-14). The COE estimates' range and the midpoint of the CAPM results support Staff's COE estimates' range of 7.54% to 8.86%, derived from its DCF analysis. Staff stresses that the upper and lower bounds of the COE estimates of the CAPM are not meant to be equated to the zone of reasonableness because the MRPs used are two extreme scenarios used for testing purposes only; there is no evidence that they are rational estimates. In other words, the lower bound could be too low and the upper bound could be too high for reasonable MRPs.

[35] Forward-looking means an estimated future value based on currently available information but does not mean a forecasted value at the specified time or a certain time period of the future.
[36] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019).
[37] From Duff & Phelps 2019 Valuation Handbook: A Guide to the Cost of Capital.
[38] Staff's Data Request No. 0092.

d. Other Tests of Reasonableness

A "rule of thumb" risk premium method allows an objective test of individual analysts' COE estimates.[39] It is also a useful test because it is very straightforward and limits the risk premium to a 200-basis point range. The COE is estimated by simply adding a risk premium to the yield-to-maturity (YTM) of the subject company's long-term debt. Based on general U.S. capital-market experience and regulated utilities, the typical risk premium is in the 4% to 6% range. This is especially true considering that regulated utility stocks behave like bonds. For the three months ended through August 31, 2020, "A" rated and "Baa" rated long-term utility bonds had average yields of 2.85% and 3.20% respectively.[40] Adding a 4% risk premium, the "rule of thumb" indicates a cost of common equity between 6.85% and 7.20%. Adding a 6% risk premium, the "rule of thumb" indicates a cost of common equity between 8.85% and 9.20%. Overall, the "rule of thumb" indicates that a range of COE estimates of 7% - 9% is reasonable.

In addition, U.S. Treasury yields and utility bond yields are quite low (at levels last experienced in the early 1960s) and the spread between them is presently below their long-term average (see Appendix 2, Schedule SJW-4-4). Lower U.S. Treasury yields, and a narrower spread between U.S. Treasury yields (risk-free rate) and utility yields (see Appendix 2, Schedule SJW-4-2) mean that investors are requiring lower risk premiums, which consequently means that investors are requiring lower returns.[41] Therefore, it is common sense in today's capital market environment that investors are only requiring lower returns, in the 6 to 9 percent range, on their utility common equity investments rather than the historical average returns. As Staff explained in its discussion of other tests of reasonableness, these COE estimates are consistent with common sense tests. Therefore, Staff's DCF calculations resulting in a COE estimate of 7.54% to 8.86% are reasonable.

2. <u>Return of Equity</u>

a. Authorized ROE

In the MAWC's most recent rate case, the parties to the Stipulation and Agreement agreed, and the Commission approved, that for the purpose of calculating the revenue requirement, an

[39] Stowe, J. D., Robinson, T. R., Pinto, J. E., & McLeavey, D. W. (2002) Analysis of Equity Investment: Valuation. Association for Investment Management and Research.
[40] Mergent Bond Record, September 2020.
[41] Morin, R. A. (2006) New Regulatory Finance. Public Utilities Reports.

assumed ROE range of 9.5% to 10.0% was reasonable. Based on Staff's DCF analysis, the point COE estimate of the MAWC's last rate case was 8.53%. With the same proxy group, Staff's DCF analysis in the current MAWC case results in a COE point estimate of 8.33%. The difference between the two COEs is 20 basis points, meaning that COE has declined 20 basis points since the last MAWC case. If there is no significant change of the Commission's perspectives on the relationship between the COE estimate and the authorized ROE, it is reasonable to conclude that the current authorized ROE should be set at around 20 basis points lower than the midpoint of the 9.5% to 10.0% range agreed in the last MAWC case. Similarly, the reasonable recommended range of authorized ROEs should be 9.3% to 9.8%, calculated by adjusting downward the lower and upper bounds of the 9.5% to 10.0% range by 20 basis points. Considering all of the above information that Staff has reviewed, Staff recommends the Commission authorize an ROE of 9.55% for MAWC.

b. Comparison of Authorized ROEs

Staff recognizes that the Commission may also be interested in recent authorized ROEs for other water utility companies throughout the country. Table 1 presents information compiled and published by Regulatory Research Associates (RRA) which details the average authorized ROE's from Commissions around the U.S. in the years 2010 - 2020, along with the number of cases considered.

Table 1. Authorized ROEs of Utility Rate Cases (2010-2020)[42]

	Water Utility		Gas Utility		Electric Utility	
Year	ROE (%)	Case (No.)	ROE (%)	Case (No.)	ROE (%)	Case (No.)
2010	10.16	25	10.15	39	10.37	61
2011	10.06	11	9.92	16	10.29	42
2012	9.82	22	9.94	35	10.17	58
2013	9.75	6	9.68	21	10.03	49
2014	9.68	11	9.78	26	9.91	38
2015	9.75	13	9.60	16	9.84	31
2016	9.64	11	9.54	26	9.77	42
2017	9.62	12	9.72	24	9.74	53
2018	9.41	17	9.59	40	9.60	48
2019	9.58	11	9.71	32	9.65	47
2020	8.82	3	9.46	17	9.47	38

[42] Regulated Research Associates, S&P Global Market Intelligence, Retrieved September 22, 2020.

In the first half of 2020, water utility authorized ROEs averaged 8.82%, compared to the 9.58% average ROE in water utility rate cases completed in 2019.[43] According to S&P Global Market Intelligence, this downward trend is steeper than the declines in equity returns authorized for electric and gas utilities nationwide, during the same period. The average ROE authorized for gas utilities was 9.46% in cases decided during the first three quarters of 2020 versus 9.71% for cases decided during the full year 2019. The average ROE authorized for electric utilities was 9.47% in cases decided during the first three quarters of 2020 versus 9.65% for cases decided during the full year 2019.

Staff issued Data Request No. 0052 to MAWC to request authorized returns for each of AWC's subsidiaries. As can be seen in the attached Schedule SJW-17 in Appendix 2, the authorized ROE resulting from rate cases for AWC's other subsidiaries has ranged from 9.10% to 10.20% since December 5, 2011. There have been four authorized ROEs in 2019 and one in 2020: 9.90% for Maryland-AWC Company effective February 5, 2019, 9.75% for West Virginia-AWC Company effective February 25, 2019, 9.70% for Kentucky-AWC Company effective June 28, 2019, 9.80% Indiana-AWC Company effective July 1, 2019, and 9.60% New Jersey-AWC Company effective October 28, 2020.[44]

3. Capital Structure

In past general rate cases, Staff has consistently recommended the Commission use AWC's capital structure for MAWC's ratemaking capital structure. There has not been any discernible change to MAWC's or AWC's capital structure policy since the last rate case to cause Staff to change its recommendation. Staff offers the following reasons for recommending that AWC's capital structure be used to set MAWC's authorized ROR:

First, MAWC does not operate 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 with AWCC through which AWCC arranges short-term borrowings and performs cash management for MAWC.[45] Under the cash management program, operating cash surpluses and deficits of each participating affiliate are lent to or

[43] S&P Global Market Intelligence, RRA Regulatory Focus, July 20, 2020.
[44] Staff's Data Request No. 0051.1.
[45] See Financial Service Agreement, attached as Appendix 2 to MAWC's Application filed in Case No. WF 2002-1096.

borrowed from AWCC on a daily basis, showing heavy integration of MAWC's financial management with AWC's other operations. While MAWC has accessed the capital markets directly in the past by issuing tax-advantaged bonds through the State Environmental Improvement and Energy Resources Authority, MAWC has not done so for over a decade. AWCC is the primary source of long-term and short-term debt financing for MAWC and this appears to continue to be the case. As of June 30, 2020, more than 97 percent of the long-term debt shown on MAWC's balance sheet was received by means of debt issuances by AWCC.[46]

Second, MAWC's stand-alone capital structure does not support its own credit rating.[47] The debt issued by AWCC is rated by credit rating agencies based on the consolidated credit quality of AWC. Therefore, the cost of any debt that MAWC receives from AWCC is and will be based on the consolidated creditworthiness of AWC, (i.e. the business risk and financial risk associated with AWC's consolidated operations).

Third, AWC is primarily a regulated water distribution utility, meaning that the business risks of AWC are similar to those of MAWC in terms of sector risk. If the business risks of the parent company are similar to those 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 AWC's consolidated operations that drive the cost of debt and equity capital, AWC'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 AWC. AWC's SEC Form 10-K filings indicate that AWC's debt percentage in its capital structure had continued to increase from 54.62% in 2017 to 58.52% in 2019. In contrast, MAWC reported 48.04% in 2017, 47.56% in 2018, and 49.70% in 2019 of debt percentage in its capital structure. Not only would it be unreasonable and inappropriate to use MAWC's standalone capital structure to set MAWC's ROR, it would be more costly for ratepayers because of the higher equity ratio in the MAWC's capital structure.

Fourth, due to diversified equity investments in subsidiaries, it is reasonable to assume that AWC can take on greater leverage than MAWC because of its lesser financial and business risk. However, because of this higher leverage, AWC's current credit risk is similar to

[46] Staff's Data Request Nos. 0047, 0054.2, and 0054.3.
[47] Staff's Data Request Nos. 0058.

MAWC's. Staff notes that it is not always appropriate to use the parent company's cost of common equity if the parent company's risk profile is significantly different than that of its regulated subsidiaries.

Finally, it appears that all debt issued by AWCC and loaned to MAWC is essentially guaranteed by AWC. 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 AWC. The subsidiary's use of debt financing that is backed by the parent supports Staff's recommendation to use AWC's consolidated capital structure.

For these reasons, the Commission should set MAWC's rate of return based on AWC's capital structure, which reflects the capital structure that AWC targets for purposes of capitalizing all of its regulated water utility operations. The capital structure Staff used for this case is AWC's capital structure, on a consolidated basis, composed of ** ____ ** percent common equity, ** ____ ** percent long-term debt, and ** ____ ** percent preferred stock, as of June 30, 2020.[48] Schedule SJW-6, attached as Appendix 2 to this Report and incorporated by reference herein, presents AWC's capital structure and the associated capital ratios.

4. Embedded Costs

AWC does not run the day-to-day operations of its regulated utilities but, as a holding company, exercises overall control over the management and policies of MAWC. AWC can hire and fire managers, set and evaluate strategies, and monitor the performance of MAWC and other subsidiaries' businesses. As explained in the above section, AWC injects capital into MAWC, which is able to further increase its own borrowings, and thereby compounds AWC's debt. Staff noticed that AWC's intra-firm financing may allow for low risk capital gains through MAWC's higher embedded cost of debts.

For purposes of setting MAWC's ROR, Staff recommends the use of AWC's consolidated embedded cost of debt, which is ** ____ ** instead of MAWC's embedded cost of debt, which is 4.86%.[49] In the same way, Staff recommends the use of AWC's consolidated embedded cost of preferred stock, which is ** ____ **, instead of MAWC's embedded cost of preferred stock, which is 10.41%.[50]

[48] Staff Data Request No. 0039.1.
[49] Staff Data Request No. 0041, Revised at 10/30/2020.
[50] Staff Data Request No. 0041.2.

F. Conclusion

Considering all of the above financial and economic information Staff has reviewed, and taking into account the evidence that supports the conclusion that the cost of common equity for water utility companies has declined by 20 basis points since the last MAWC rate case, Staff concludes that an authorized ROE in the 9.3% to 9.8% range is just and reasonable. Staff recommends the Commission authorize a midpoint ROE of 9.55%.

Using an authorized ROE range of 9.3% to 9.8% results in an authorized ROR range of 6.23% to 6.43% (see Appendix 2, Schedule SJW-15). Using the point recommended authorized ROE of 9.55% combined with embedded costs of debt and preferred stock of ** ____ ** and ** ____ **, respectively, applied to a capital structure consisting of ** ____ ** percent common equity, ** ____ ** percent long-term debt, and ** ___ ** percent preferred stock, respectively, results in a recommended authorized ROR of 6.33%.

Staff Expert/Witness: Seoung Joun Won, PhD.

VI. Rate Base

A. Plant in Service and Depreciation Reserve

1. Plant in Service

Accounting Schedule 3, Plant in Service, reflects the value of MAWC's plant in service for the test year ending December 31, 2019, updated through June 30, 2020. Staff will incorporate plant additions and retirements that occurred beyond the test year through the agreed true-up period cut-off date of December 31, 2020. Since the last rate case, MAWC made the following acquisitions of small water and sewer companies: Spokane Highlands Water, Lawson Water and Sewer, Rogue Creek Water and Sewer, Golden Acres Water, Timber Springs Sewer, El Chaparral Sewer, Hillers Creek Sewer, and Austin Trails Sewer. Staff analyzed each acquisition to determine the proper amount of rate base (plant, depreciation, reserve, and CIAC) to include in this case. Staff's calculation for the total plant in service is $2,859,257,410.

Staff Expert/Witness: Amanda C. McMellen

2. Depreciation Reserve

The accumulated depreciation reserve represents the sum of all depreciation accruals, net of cost of removal and salvage, which has been recorded on plant placed in service. The value of the accumulated depreciation attributed to MAWC's plant in service will be netted with the total plant in service amount to determine rate base.

Accounting Schedule 4, Depreciation Reserve reflects the adjusted rate base value of MAWC's depreciation reserve for each district as of June 30, 2020, by account. The plant in service for each district includes allocated corporate plant as discussed above. The depreciation reserve for each district also includes allocated corporate accumulated depreciation.

Staff recommends that adjustments be made in certain districts for land accounts in which the Company reported depreciation reserve. As land is not a depreciable asset, Staff made adjustments of $992 for water and $21,990 for sewer to remove these reserve amounts.

Staff Expert/Witness: Amanda C. McMellen

B. Contributions in Aid of Construction

Contributions in Aid of Construction (CIAC) include the costs of all developer-donated plant and any other plant the utility receives at zero cost. CIAC could also include, funds received from developers for the right to connect to MAWC's system in the form of a tariffed CIAC charge. MAWC has no obligation to repay or refund CIAC to developers or customers. Staff calculates the CIAC and CIAC Amortization balances in the amounts of $375,995,069 and $98,106,672, respectively, on Accounting Schedule 2, Rate Base, as of June 30, 2020, for all MAWC profit centers,[51] including the systems acquired since the last rate case. For the acquisitions since the last rate case, Staff used the most current information available.

Staff Expert/Witness: Amanda C. McMellen

C. Prepayments

Prepayments are payments made before the period during which a utility receives a benefit from the purchased good or service. They typically relate to expenses such as leases, insurance, income taxes, and other taxes. Prepaid amounts require use of investors' funds and, accordingly, are included in rate base. Staff used a thirteen-month average running from June

[51] Profit centers are smaller service areas that are used by MAWC to classify transactions on a more geographic-specific basis.

2019 through June 2020 to show a trend of prepayment balances to include as an addition to rate base. The amount calculated is $2,830,151.

Staff Expert/Witness: Amanda C. McMellen

D. Materials and Supplies

MAWC maintains an inventory of materials and supplies that are used in the construction, operation, and maintenance of utility plant but are not directly assignable to specific plant accounts. For the purpose of setting rates, these items should be included in the calculation of rate base, because they are typically purchased with investors' funds. Staff used a thirteen-month average running from June 2019 through June 2020 to capture any fluctuation of monthly materials and supplies' inventory level. Materials and Supplies is an addition to rate base. Staff determined the thirteen-month average balance of materials and supplies that existed at the end of the test year to be $6,070,568.

Staff Expert/Witness: Amanda C. McMellen

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

Pension/OPEB Tracker

Staff, MAWC, and other parties entered into a *Stipulation and Agreement* in Case No. WR-2017-0285 that addressed the ongoing ratemaking treatment for qualified pension costs (FAS 87) and Other Post-Employment Benefit (OPEB) costs (FAS 106). This agreement authorized MAWC to use an accounting mechanism (tracker) that would track the difference between the amount of pension expense and OPEB expense included in MAWC's rates and the amounts funded by MAWC. Consistent with this agreement, the difference between the annual pension and OPEB expense incurred by MAWC and the amount of pension and OPEB expense included in rates, as accumulated in the trackers, have been included in rate base and will be amortized over a period of five years as a reduction to pension and OPEB expense. Staff's pension tracker balance as of June 30, 2020, is a liability of $1,629,756 and the OPEB tracker balance as of June 30, 2020, is a liability of $8,307,123.

MAWC's accrued pension asset as of June 30, 2020, is $6,138,925. This amount is included in rate base in Staff's cost of service. This total represents the amount of pension funding MAWC has made to date in excess of its minimum Employee Retirement Income Security Act of 1974 (ERISA) requirement. The prior *Stipulation and Agreement* allows

MAWC to fund additional prudent pension amounts above the minimum ERISA level under certain conditions.

Staff will update the pension and OPEB trackers and accrued pension asset balances as of December 31, 2020, during its true-up filing.

Staff Expert/Witness: Keith D. Foster

F. Customer Advances

Customer advances are funds provided by MAWC customers for constructing and extending mains to facilitate the provision of water and/or sewer service to these customers. MAWC does not pay interest to customers for the use of these funds and, accordingly, these funds are interest-free money to MAWC. Since MAWC is reimbursed for the plant items associated with construction and extensions, it should not receive a return on customer advances. Therefore, it is appropriate to include the accumulated total of these funds as an offset to rate base. Staff determined the balance of customer advances at the end of the update period to be $3,957,706. As a part of the true-up audit, Staff will use the customer advance balance as of December 31, 2020. The balance determined by Staff will be included as an offset to rate base.

Staff Expert/Witness: Amanda C. McMellen

G. Cash Working Capital (CWC)

Cash Working Capital (CWC) is a rate base component that represents a measurement of the amount of funds, on average, required for the payment of a utility's day-to-day expenses, as well as an identification of whether a utility's customers or its shareholders are responsible for providing these funds in the aggregate. If, on average, a utility has the funds to pay an expense necessary to the provision of service before customers provide payment to the utility, it is the shareholders who are the source of funding, indicating a requisite increase to the rate base. Alternatively, if, on average, the utility pays expenses necessary for the provision of service only after receiving payments from customers, the ratepayers have provided the requisite funding to pay day-to-day expenses before payment is required on the expenses. Ratepayers are compensated for this funding through a reduction to rate base.

To determine the necessary amount of CWC to be included in the calculation of rate base, a lead/lag study is normally performed. In regard to revenues, a lead/lag study analyzes the timing differences between when the utility provides a customer with service, when a utility generates a bill, and when the utility receives revenue for the service it provides. This overall "revenue lag" is divided into service, billing, and collections lag components. The lead/lag study analysis also involves calculation of the lags from when a good or service is provided to the utility and when the utility pays the invoice for the goods and services, which is called an "expense lag." To determine the amount of CWC to be included in rate base, each expense lag is subtracted from the revenue lag, which provides a net lag. In Staff's calculation of CWC, the net lag is multiplied against an annualized level of each expense, providing a cash requirement for each expense lag. The resulting net total of these cash requirements will either be positive or negative. A positive CWC requirement indicates that, in the aggregate, the shareholders provided the working capital needs during the test year. A negative CWC requirement indicates that, in the aggregate, the ratepayers provided the needed working capital during the test year and paid for the related water and/or sewer expenses before receiving service from MAWC.

In this rate case proceeding, Staff did not conduct a full lead/lag study to determine the CWC requirement; however, MAWC performed such a study internally and provided the study for Staff's review in response to Staff Data Request No. 0123. For purposes of this rate proceeding, Staff has accepted some elements of MAWC's lead/lag study, but made adjustments to other lead/lag components for the reasons discussed below.

Staff utilized the study data to calculate the revenue and expense lags for all profit centers. Staff is presenting one CWC analysis as MAWC plans to convert to monthly billing for all customers in its St. Louis County service territory by the end of 2020.

Staff has made the following adjustments to MAWC's expense lead/lag calculations:

- The expense lags for long-term and short-term debt have been combined into a single expense lag under 'interest expense.'
- The expense lags for federal income tax and state income tax have been combined into a single expense lag under 'income tax. The "from" and "thru" dates have been changed from "1/1/2019 – 12/31/2019" to the respective quarters for which each quarterly tax payment is due. This changed the average expense lag from 37 to 52.88.

- The expense lags for pensions and OPEBs have been combined into a single expense lag under 'Pensions & OPEBs.'

- Staff reviewed all the waste disposal invoices that the Company provided in response to DR 0116. Staff changed some of the service period dates and CWC amounts. The service period is the time frame in which MAWC received services from vendors.

- Staff reviewed all the rent invoices that the Company provided in response to DR 0116. Staff changed some of the CWC amounts and one "From" date so that it matches the invoice dates.

- Staff excluded postage, employee related travel and entertainment, employee stock purchase plan, building maintenance service, office supplies and services, transportation, purchased water, contracted services, retiree medical expense, other benefits, accounts payable summary, payroll summary, lockbox data and maintenance from Staff's CWC workpaper. These were all tabs in MAWC's direct CWC workpaper except for the lock box data. Staff excluded these items because Staff believes the items are excessive costs. A lockbox is a payment banking service provided by banks. The bank retrieves payments from the lock box and processes and deposits the money into the Company's account.

Preferred stock dividend payments were not included in the expense lag calculations; the capital structure calculations take preferred stock payments under consideration in the ratemaking process. The payment of preferred stock is a benefit purely obtained by shareholders and should not affect ratepayer rates.

Staff has chosen to not accept the "check clearing" or "check float" lags added by MAWC. The funds for the checks deposited into the bank should be available immediately. There may be a small percentage that will be found not to be legitimate or have insufficient funds. However, this would not apply to 100% of the deposited checks so it should not be applied in such a way.

Finally, Staff has chosen to use its "miscellaneous cash vouchers" lag calculation to apply to MAWC's AWWSC expenses, instead of using the specific lag calculated for this expense item by MAWC. Since Case No. WR-2003-0500, Staff has taken issue with AWWSC requiring prepayment from MAWC of invoices paid to AWWSC; this results in

MAWC incurring costs prior to the its receipt of any benefit of the related services. The vast majority of the goods and services that MAWC receives from unaffiliated vendors are paid by MAWC in "arrears;" i.e., after the goods and services are received. Staff believes that the requirement that MAWC prepay amounts due to AWWSC is solely a result of the affiliated relationship of MAWC to AWWSC. Staff continues to disagree with MAWC's request for a "negative" expense lag to be reflected in its CWC allowance for AWWSC expenses, as it would result in MAWC's customers paying a higher return on rate base than would be required under normal business billing practices.

All of Staff's recommended revenue and expense lags can be found in Schedule 8 of Staff's Accounting Schedules. Staff's overall lead/lag study resulted in a negative CWC requirement for MAWC. This means that the ratepayers are currently providing the cash working capital, in the aggregate, to MAWC. Therefore, to recognize this, Staff recommends a reduction to rate base in the amount of $6,816,887.

Staff Expert/Witness: Courtney Barron

H. Tank Painting Tracker

The Tank Painting Tracker (tracker) was established in the *Non-Unanimous Stipulation and Agreement* approved by the Commission as part of MAWC's rate case, Case No. WR2007-0216, and was continued through provisions of subsequent agreements approved by the Commission in MAWC's following three rate cases: Case Nos. WR-2008-0311, WR-2010-0131, and WR-2011-0337. The tracker was discontinued in Case No. WR-2015-0301, with a five-year amortization of the regulatory asset which started on the date the rates became effective for Case No. WR-2015-0301. In 2016, there was an application of $445,990 regulatory liability applied from the stub period (February 1, 2016, through July 28, 2016; the period between the cut-off date in the last rate case and the point when new rates from that rate case went into effect). The amortization of tank painting regulatory asset and the stub period ending date is shortly after rates are supposed to be effective in this case. Therefore, Staff recommends setting the rate base balance of the tank painting tracker at $0.

Staff Expert/Witness: Angela Niemeier

I. Accumulated Deferred Income Taxes (ADIT)

Staff has included the ADIT balance as of June 30, 2020, in the amount of $451,144,884 in rate base.

See Section G.: Current and Deferred Income Tax for a detailed discussion on deferred income taxes.

Staff Expert/Witness: Keith D. Foster

VII. Allocations and Service Company Costs

A. Corporate Allocations

Headquartered in Voorhees, New Jersey, American Water Works Company, Inc. (AWC) and its subsidiaries (or affiliates) serve approximately 15 million customers in 46 states and Ontario, Canada. AWC 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 AWC-owned subsidiaries by AWC's wholly-owned subsidiary American Water Works Service Company, Inc. (AWWSC). Through a process of direct assignment and allocation, AWWSC employees' time and all other related costs are ultimately charged to the AWC-owned utility subsidiaries receiving service. In addition to AWWSC, American Water Capital Corporation (AWCC) was created to provide a single source of long- and short-term debt capital for AWC and its utility subsidiaries. Service agreements exist between MAWC and both AWWSC and AWCC.

In addition to MAWC, the following subsidiaries or affiliated entities currently receive direct or allocated charges from AWWSC:

Regulated Entities

California-American Water Company	Michigan-American Water Company
Hawaii-American Water Company	New Jersey-American Water Company
Illinois-American Water Company	New York-American Water Company
Indiana-American Water Company	Pennsylvania-American Water Company
Iowa-American Water Company	Tennessee-American Water Company[52]
Kentucky-American Water Company	Virginia-American Water Company
Maryland-American Water Company	West Virginia-American Water Company

[52] Tennessee American also serves customers that are located in northern Georgia.

Unregulated Entities

Contract Services Group	American Water Resources
Pivotal Home Solutions	American Industrial Water, LLC
One Water Street LLC	AWIP Holdings LLC
Military Services Group	Laurel Oak Properties
Homeowner Services Group	American Water Works Service Company
American Water Capital Corporation	AWI, Inc

Services performed by AWWSC are grouped into various costs centers, depending on the services provided.

AWWSC allocates expenses to the AWC subsidiaries. AWWSC's Billing and Accounting Manual (BAM) identifies AWWSC accounting categories by transaction type as follows: labor, expenses, assets, and overhead. AWWSC employees charge their time and expenses to each one of the affiliate companies either directly or indirectly. AWWSC employees provide information to AWWSC to assign expenses to affiliates. Such information includes the affiliate company number (if transaction is a direct charge) or a formula number, known as Work Breakdown Structures (WBS) elements (if transaction is allocated), the number of hours the employee worked, and the appropriate amount of non-labor charges. 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.

AWC uses a methodology that allocates costs to both its regulated and non-regulated affiliates. When it is not practical for an AWWSC employee to directly charge a given affiliate the actual time spent on a task, employees log their hours on a time sheet that includes various allocation billing formulas. The billing formula charges either whole or partial hours among the regulated and non-regulated AWC subsidiaries.

When an AWWSC employee provides services that benefit both regulated and non-regulated entities, the employee chooses a "Tier One Factor" formula to allocate the charges to both regulated and non-regulated entities.

An employee who only performs services for regulated affiliates uses a "Tier Two Factor" formula that is primarily based on the number of customers for a given regulated

subsidiary. An employee providing services to non-regulated affiliates only charges his or her time "directly" to that affiliate.

Tier One Factor formulas rely on various criteria, including: revenues, number of employees, plant investment, and others. Some of the formulas are derived from a combination of several of these criteria, while others consider only one criterion such as the number of employees. The AWWSC employee then chooses the formula that matches the service provided. For example, employees in payroll choose a formula based on the number of employees.

Divisional cost centers can charge other affiliates for costs incurred. This type of charge occurs if a particular divisional office has given expertise that is lacking in another division. An employee from that divisional office may perform tasks for other divisional offices, and directly charge his or her time to the corresponding division. For example, if a plant project is under construction by Maryland-American Water Company in the Mid-Atlantic Division, but the only engineer familiar with that type of plant is located in the MAWC Division, he or she may provide services to Maryland-American Water Company and charge his or her time directly to that entity.

Based upon the data request responses provided by MAWC, Staff has not proposed any changes to AWC's method for allocating AWWSC expenses to MAWC. However, other Staff witnesses will have recommended adjustments to some AWWSC costs allocated to MAWC, which will be addressed in their sections of this report.

Staff Expert/Witness: Caroline Newkirk

B. District Allocations

MAWC is currently composed of two different water operating districts and two different sewer operating districts, with each district consisting of one or more profit centers. To determine district specific revenue requirements, all corporate rate base, revenues, and expenses must be allocated among these districts using different allocation factors. In a prior rate case (Case No. WR-2015-0301), both MAWC and Staff used twelve different allocation factors to allocate these corporate costs. Each allocation factor depended upon the causes that required the costs to be incurred. Staff has taken the same approach in this rate case, and

recommends these costs be allocated across the districts using the same allocation factors as used by Staff and MAWC in Case No. WR-2015-0301.

Staff Expert/Witness: Caroline Newkirk

VIII. Income Statement

A. Revenues

1. Introduction

The largest component of operating revenues results from rates charged to MAWC's metered and unmetered water 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 MAWC charges its metered and unmetered customers is required.

One of the major tasks in a rate case is not only to determine whether a deficiency (or surplus) between cost of service and operating revenues exists, but also to determine the magnitude of any such deficiency (or surplus). Any deficiency (or surplus) identified can only be addressed by adjusting Missouri retail rates (i.e., rate revenues) prospectively, on a going-forward basis.

2. The Development of Rate Revenue in this Case

The objective of this section is to explain Staff's determination of annualized, normalized test year usage and revenues by rate class.

The intent of Staff's adjustments to test year Missouri usage and rate revenues is to determine the level of revenue the Company would have collected annually, based on information "known and measurable" at the end of the test year (in this case, updated through June 30, 2020).

Staff Expert/Witness: Ashley Sarver

3. Regulatory Adjustments to Test Year Sales and Rate Revenue

a. Normalization of Customer Water Usage

Calculating annualized revenues is one of the key components in determining if a change to a utility's rates is appropriate. The method Staff utilizes in determining annual revenues will be explained in detail by Staff witness, Ashley Sarver.

One aspect investigated in determining annual revenues is customer usage. In this rate case, Staff gathered information related to residential customer usage on a per day basis, within specific MAWC service territories, and/or an entire Tariff District, where MAWC provides metered water service. The Rankin Acres and White Branch service areas were excluded from this investigation as they do not have metered rates.

For its review, Staff analyzed historical usage data provided by MAWC in its response to Staff DR No. 0026. This data provided Staff with monthly customer usage and monthly customer counts, per service territory.

Staff determined that the most reasonable method to determine annual customer usage was to use a five-year average of usage for the period July 2015 – June 2020. Staff used an average of all available data provided in order to calculate this five-year average on a per District basis. The method employed by Staff is a reasonable approach that uses actual data to support an annualized level of usage. Averaging the data over the most recent five-year period represents reliable data and provides evidence of recent trends in customer usage. Many factors, such as more efficient appliances, conservation, and lawn sprinkling/irrigation, impact water usage. These factors change over time; therefore, using the most recent five years of data provides for a reasonable determination of customers' usage habits. Furthermore, Staff's utilization of each service area's unique data is reasonable because the usage characteristics of each service territory are different from other service territories.

For certain service territories, MAWC did not have five years of data, however, these systems were included in the normalization of overall customer usage utilized in calculating annual revenues. The following territories' individual system daily use averages correspond to less than five-years of available data: Hickory Hills; Woodland Manor; Jaxson Estates; Anna Meadows; Lawson; Rogue Creek; Pevely Farms and Wardsville.

Based on Staff's determination of customer usage per day, Staff witness Sarver calculated an annual amount of revenues and the appropriate commodity rates.

Staff's recommended usage per customer for the residential customers by service area, for both the "Current Tariff" and the "Proposed Tariff" are attached to this Report as Appendix 3, Schedule JJR-d1, and Schedule JJR-d2, respectively.

Staff Expert/Witness: Jarrod J. Robertson

b. Revenues Annualization

Water Annualization

Staff's annualized water revenues for each of the Company's operating profit centers is the sum of the minimum charge revenues and the volumetric charge revenues at the currently approved tariff rates. The difference between these revenues and those billed during the test year provide the amount for the revenue adjustment.

Staff developed the minimum charge revenues by first multiplying the number of meters as of June 30, 2020, for each meter class by the applicable minimum charge as approved in Case No. WR-2017-0285, the Company's last general rate proceeding. The product of the number of meters multiplied by the applicable minimum charge was then multiplied by the number of billing periods in a year to produce the annualized minimum charge revenues for each customer class.

Staff developed the annualized and normalized volumetric (consumption) charge revenues based on a normalized usage applied at the current volumetric rate per gallons. Staff witness Jarrod J. Robertson, of the Commission's Water and Sewer Department, developed and provided the normalized average gallons of usage per customer per day for residential customers for all operating profit centers. Staff multiplied the average gallons of usage per customer per day by the average days per year (365.25) and the number of customers, to determine the total annual usage or consumption.

For commercial, industrial, and other public authority (OPA) customers' water usage, Staff determined the customer usage based on Rate A (meter rate for residential, commercial, and small industrial customers) or Rate J (for manufacturers and large quantity users of water) as of June 30, 2020. Based on the customers (Rate A or Rate J) as of June 30, 2020, Staff reviewed 5 years of usage data. For St. Louis County customers, Staff used the Company's split between Rate A and Rate J for the calendar year 2019 to determine the quarterly or monthly usage allocation percentage. The total normalized usage or consumption was then multiplied by the applicable tariff rate per 1,000 gallons for each profit center to determine the normalized revenues.

For the Sale for Resale revenues, Staff used a five-year average to normalize usage or consumption for all profit centers except Warsaw, St. Charles, and Joplin. Warsaw and Joplin added additional wells and saw usage decline; therefore, Staff used the update period usage.

For St. Charles, Staff used the updated period usage since they started to resell water starting January 2020. The usage was multiplied by the applicable tariff rate per 1,000 gallons for each profit center to determine the normalized revenues. MAWC has special contracts with the City of Kirkwood, Public Water Supply District (PWSD) #C-1 Jefferson, and Chariton County Water District #2. Staff used a five-year average for the City of Kirkwood, PWSD #C-1 Jefferson, and Chariton County Water District #2. The total normalized usage or consumption was then multiplied by the applicable tariff rate per 1,000 gallons for each profit center, to determine the normalized volumetric revenues. MAWC has two special retail sales contract rates: one for The Empire District Electric Company and another for Triumph Foods. Staff determined the appropriate level of usage for each of these customers then multiplied by the applicable tariff rate per 1,000 gallons for each profit center, to determine the normalized volumetric revenues.

Staff Expert/Witness: Ashley Sarver

Sewer Revenues Annualization

Staff developed the minimum sewer charge revenues by first multiplying the number of meters/units as of June 30, 2020, to each customer or meter/unit class by the applicable minimum charge as approved in Case No. WR-2017-0285, the Company's last general rate proceeding. Staff developed the annualized and normalized commodity (consumption usage) charge based on a normalized usage applied to the current usage rate (commodity charge) per 1,000 gallons.

Staff developed the sewer usage for residential, commercial, and OPA customers, based on the average gallons of sewer usage per system per year by using either a five-year average or less, depending on the number years of data available. For the sewer commodity charge usage, the Company provided the actual split between the gallons included in the base charge and commodity charge during the January 2017 – June 2020. However, Staff had to calculate a percentage allocation factor for each profit center to determine the average gallons for the commodity charge when Staff used a 4 or 5 year average. Staff then applied the current usage rate (commodity charge) per 1,000 gallons for Arnold and Lawson and per 6,000 gallons for the other waste water profit centers.

MAWC provides Metal Container Corporation a discount for commercial waste water in the Arnold district. Metal Container Corporation receives a 15% discount based upon the amount of water used as agreed with the City of Arnold. Staff normalized the usage using the five-year period ending June 30, 2020.

Staff Expert/Witness: Ashley Sarver

c. Other Revenues

Private Fire Revenue

Staff developed the minimum charge revenues by first multiplying the number of customers (or hydrants or meters) as of June 30, 2020, to each hydrant or meter class by the applicable minimum charge as approved in Case No. WR-2017-0285, the Company's last general rate case. The total normalized usage or consumption was then multiplied by the applicable tariff rate per 1,000 gallons for each profit center to determine the normalized revenue.

Other Miscellaneous Revenues

Staff eliminated all unbilled revenues booked by MAWC within the test year in its revenue annualization computation. This ensures that only 365 days of revenue is included in the revenue annualization calculation and that revenues are stated on an "as billed" basis. Unbilled revenue on the books of MAWC recognized water sales that have occurred, but have not yet been billed to the customer. Therefore, it is necessary for Staff to remove unbilled revenues to reach an accurate revenue requirement based upon water sales billed to, and revenues collected from, Missouri ratepayers.

Other Operating Revenues

MAWC's other revenues categories include funds received for the following items: late payment charges, rents, collection for others, non-sufficient funds check charges, application/initiation fees, the provision of usage data to other entities, reconnection fees, frozen meter fees, after hours charges, and miscellaneous service. Staff reviewed the totals for each of these revenue categories for the most recent five-year period. Based upon this review, Staff determined a three-year or less average was most representative as a going forward level of revenue for all but three of these categories. For two of the categories, rents and the provision of usage data to other entities, Staff used the actual revenues for the twelve months ending

June 30, 2020. Staff reviewed the effective date of the rents and usage data through June 30, 2020, to determine which rents and usage data would be ongoing. Staff annualized the cost of the ongoing as of June 30, 2020. For the third category, late payment fees, Staff used a two year period ending June 30, 2020.

Staff Expert/Witness: Ashley Sarver

d. Revenues: Conclusion

Staff's calculation of the revenues for MAWC water is $311,218,137, and for sewer is $10,993,805.

Staff Expert/Witness: Ashley Sarver

B. Depreciation

1. Recommendation

Staff reviewed the depreciation study provided in the Direct Testimony of MAWC witness Larry E. Kennedy. Staff also requested the source data for this depreciation study in Staff Data Request No. 0093. Staff analyzed the data submitted, but was unable to verify the results of the depreciation study with the data submitted. Staff requested additional data in Staff Data Request No. 0093.1 on November 4, 2020, and received a response from MAWC on November 19, 2020. Staff is still in the process of reviewing the additional information provided by MAWC, and is thus unable to confirm the results of MAWC's depreciation study as of the filing date of this report. Staff will continue to evaluate the results of the study; however, at this time Staff recommends the continued use of the depreciation schedules as currently ordered in Case No. WR-2017-0285 and attached as Appendix 3, Schedule CEC-d1.

In reviewing the depreciation study, Staff noticed that the 1973 version of the Uniform System of Accounts (USOA) with 1976 revisions, which is prescribed by the Commission in 20 CSR 4240-50.030(1), was not used. Staff is unaware of any authority granting the use of a different version of the USOA. Staff requested an explanation for the use of a different version of the USOA from MAWC in Staff Data Request No. 0324. In response, MAWC stated that the current depreciation study relied on data that was submitted in previous cases and used the 1996 version of the USOA. Staff recommends that the Commission order MAWC to use the version of the USOA prescribed in 20 CSR 4240-50.030 and 20 CSR 4240-61.020 for its future depreciation studies.

Depreciation is defined as "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."[53] In practice, this is accounted for by recording the book cost of an asset when it is purchased and charging depreciation expense over the expected service life of the asset.

The currently ordered rates were determined using the straight-line method, with the average life group procedure applied on a remaining life accrual basis. The straight line method allocates expense evenly over the expected life of the asset. The average life group procedure bases annual depreciation on the average service life of the group. A remaining life accrual basis attempts to recover the net book cost of surviving plant over the estimated remaining useful life of the assets. Under the remaining life technique, the net book cost is determined by subtracting the current book reserve from the original book cost. The remaining life method is often useful to speed up recovery when accounts are lagging in accruals or assets are nearing their end of life. Lagging accruals can be a common issue for systems with many previously unregulated acquisitions. Once life groupings have been established, historical data is used to create an incomplete survivor curve, also known as a stub curve. The stub curve shows the percent of assets remaining at a given age, but does not have actual data to complete 100 percent of the curve. The stub curve is then matched to an Iowa curve visually and through goodness of fit and other statistical methods. Iowa curves are survivor curves that can be used to estimate the life of assets beyond historical data. Once an Iowa curve has been matched to the stub curve, estimations of average life and remaining life can be made.

Amortization is a method of allocating cost over a set amount of time. The book cost is expensed evenly over a predetermined amount of time regardless of actual retirement of assets. This is different from depreciation in that, amortization expense is not directly correlated with the useful life of assets. Depreciation tracks asset retirements and uses that historical data to estimate a service life. The amortization period is estimated via other methods and does not

[53] Definition from NARUC USOA for Class A and B Water Utilities 1973.

track assets. MAWC has proposed amortization of accounts 339.1, 339.2, 339.3, 339.50, 340.1, 340.2 340.3 340.31, 340.5, 342.0 342.98, 343.0, 344.0, 346.1, 346.2, 347.0, and 348.0 for water assets and accounts 390, 390.2, 392.0, 393, 394.0, 396.0, 397.0, and 398.0 for wastewater assets. Amortizations do not track the expense to the useful life of the asset and pose a risk of early recovery. Therefore, Staff recommends that mass property depreciation be applied to these accounts at the rates included in Appendix 3, Schedule CEC-d1.

Staff Expert/Witness: Cedric E. Cunigan

2. Capitalized Depreciation

Expenses related to construction are accumulated in construction-work-in-progress accounts and can be included in rates after completion of the project. The capitalized expenses include depreciation expense associated with assets used in construction, such as power operated equipment and transportation equipment. Capitalized depreciation expenses must be subtracted from the depreciation expense calculated using MAWC's total plant-in-service balances in order to prevent double recovery. After receiving MAWC's response to Staff DR No. 0159 in Case No. WR-2017-0285, and after further discussion with the Company in the course of that case, Staff discovered that MAWC was not tracking the amount of time these assets are being used for construction versus expense. Based on MAWC's response to Staff DR No. 0174 in this case, MAWC is still not keeping track of this information. Therefore, Staff deducted capitalized depreciation based on the overall capitalization ratio calculated by Staff from its total depreciation expense in order to arrive at the amount of depreciation expense associated with operations and maintenance related functions. This adjustment of $977,743 is on Accounting Schedule 10, Adjustments to Income Statement Detail.

Staff Expert/Witness: Amanda C. McMellen

C. Payroll and Benefits

1. Payroll and Payroll Taxes

Staff's total annualized and normalized payroll expense for MAWC and AWWSC is based upon the test year amounts ending December 31, 2019, adjusted for: (a) wage increases; (b) changes in employee levels through June 30, 2020, the end of the update period; (c) a normalization adjustment for MAWC overtime; and (d) use of the twelve months ended

December 31, 2019, capitalization percentage for MAWC and AWWSC, respectively. These calculations can be found in Accounting Schedule 9 of the Staff Accounting Schedules.

Staff calculated the annualized level of base payroll for MAWC by multiplying the employee levels as of June 30, 2020, by the appropriate salary or wage rate as of June 30, 2020.

Staff annualized AWWSC payroll based upon employee counts and salaries in effect as of June 30, 2020. Staff then applied the average percentage of time charged to MAWC by each employee in order to determine the appropriate allocation of AWWSC payroll to MAWC.

Staff normalized the test year levels for overtime for each MAWC district using a three-year average of overtime incurred. Staff calculated its normalization of overtime by developing a ratio of overtime dollars to straight time payroll dollars and then multiplied this result by Staff's annualized base payroll. The level of overtime allocated from AWWSC to MAWC during the test year appeared reasonable; therefore, Staff does not propose an adjustment to AWWSC allocated overtime at this time.

Staff applied the operations and maintenance (O&M) payroll percentages to all payroll and payroll expenses for MAWC and the AWWSC through June 30, 2020, to its total adjusted payroll expense to calculate the expensed amount of payroll. After allocation between expense and construction based on O&M, Staff distributed the total amount of the adjustment to individual Federal Energy Regulatory Commission Uniform System of Accounts (FERC USOA) based upon the actual distribution by FERC account MAWC experienced for the twelve months ending December 31, 2019. Staff's calculation for total payroll is $38,215,359.

Staff calculated annualized payroll taxes for both MAWC and AWWSC based upon June 30, 2020, wage levels and current tax rates. This included Federal Unemployment Taxes ("FUTA"), State Unemployment Taxes ("SUTA"), and Federal Insurance Contributions Act ("FICA") tax. Staff's calculation for payroll taxes is $2,876,306.

Staff Expert/Witness: Ali Arabian

2. Incentive Compensation

MAWC's total incentive compensation is awarded under two performance plans, The Annual Performance Plan (APP) and The Long Term Performance Plan (LTPP).

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Historically, Staff has recommended the removal of incentive compensation awards tied to company financial performance; no connection has been found between the financial results for which incentives are awarded and tangible benefits to ratepayers. Staff uses the criteria established in the Commission's Report and Order for ***In re Union Electric Co.,*** Case No. EC-87-114: "At a minimum, an acceptable management performance plan should contain goals that improve existing performance, and benefits of the plan should be ascertainable and reasonably related to the plan." 29 Mo. P.S.C. (N.S.) 313, 325 (1987). Furthermore, in the Report and Order in Case No. TC-89-14 et al., ***In re 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.

Overall, Staff recommends removal of 50% of the APP paid in the test year to MAWC and AWWSC eligible employees.

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Staff recommends disallowing the entirety of the LTPP amount for both MAWC and AWWSC, as they are primarily tied to company financial performance.

Additionally, Staff has made an adjustment to remove a similar percentage of the capitalized portion of the AWWSC APP and LTPP from the plant-in-service and depreciation reserve balances from January 2017, through December 2019. Staff made this adjustment to remain consistent with the position that none of the incentive compensation costs relating to EPS should be borne by ratepayers. Since Staff was unable to allocate the total amount to specific plant accounts, Staff applied a composite depreciation rate based on the rates used in the current case to calculate the related accumulated depreciation amount associated with capitalized incentive compensation costs. Staff's calculation for APP is $2,503,448. Staff will also continue to review this issue through December 31, 2020, as part of its true-up audit.

Staff Expert/Witness: Ali Arabian

3. Employee Benefits other than Pensions and OPEBs

MAWC and AWWSC offer several benefits to their employees, including a 401K employer match, Voluntary Employees Beneficiary Association plan (VEBA), Employee Stock Purchase Plan (ESPP), and various types of insurance (medical, dental, vision, etc.) For each MAWC and AWWSC employee, Staff annualized the benefits on an employee-by-employee basis for both MAWC and AWWSC, with the exception of ESPP. Staff recommends disallowing recovery of ESPP as there is no cash outlay for this item. Staff's calculation for total employee benefits other than pensions and OPEBs is $4,987,995.

Staff Expert/Witness: Ali Arabian

4. FAS 87 Pension Costs

Financial Accounting Standards Board's (FASB) Accounting Standards Codification (ASC) Subtopic 715-30, formerly known as FAS 87, is an accrual accounting method for pension expense required by the accounting profession under Generally Accepted Accounting Procedures (GAAP) for financial reporting purposes. Under FAS 87 a company accrues (expenses) for employee's earned pension benefits over the service life of the employee. The total obligation to the employee for pension benefits is accumulated annually until retirement in the Accumulated Benefit Obligation (ABO). Both financial statement expense recognition under FAS 87 and the funding requirements under the Employee Retirement Income Security Act of 1974 (ERISA) are based upon the same pension plan obligation to employees enrolled in the plan. ERISA is a federal United States tax and labor law that establishes minimum standards for pension plans in private industry. While different assumptions are used for the timing of pension cost recognition during the service life of the employee under FAS 87 and ERISA, both FAS 87 and ERISA are intended to address the same total ABO by the employee's retirement date.

Staff, MAWC, and other parties entered into a Unanimous Stipulation and Agreement in Case No. WR-2008-0311 and subsequent rate cases including Case Nos. WR-2010-0131, WR-2011-0337, WR-2015-0301, and WR-2017-0285, that addressed the ongoing ratemaking treatment for annual qualified pension costs. These prior agreements call for MAWC's pension cost rate recovery to be based upon MAWC's ongoing pension expense used in setting rates and pension expense based on ERISA minimums required for MAWC. MAWC is also required to defer the difference on its books between the annual minimum ERISA contribution amount and its annual FAS 87 expense calculation. Further, MAWC is required to track the difference between its annual minimum ERISA amount and the level included in MAWC's rates. In this rate proceeding, the difference between the annual pension cost and the amount included in rates, as accumulated in the tracker has been included in rate base as a liability and amortized over a period of five years as a reduction to pension expense.

Staff has calculated the ongoing allocated minimum ERISA amount or pension expense in the amount of $528,941 (after application of the operating and maintenance percentage). Staff's pension calculation incorporates MAWC's actuary's calculation of the minimum

ERISA amount, as well as the prior tracker balance amortization from MAWC's previous rate case. Staff will update the FAS 87 pension costs in the true-up audit in this proceeding.
Staff Expert/Witness: Keith D. Foster

5. FAS 106 – Other Post-Employment Benefits (OPEBs) Cost

Other Post-Employment Benefit (OPEB) costs are those costs incurred by the Company to provide certain benefits to retirees. These benefits include medical, dental, vision, and life insurance benefits. The Company must determine its OPEB expenses for rate making purposes based on FASB ACS 715-60 (formerly FAS 106).

In Case No. WR-2008-0311, and subsequent MAWC rate cases, the Commission addressed the ratemaking treatment for the annual OPEB costs. As with FAS 87, the Commission authorized the rate base inclusion of the difference between the amount of OPEB expense included in rates and the amount funded during the same period that those rates were in effect. The OPEB tracker amount included in rate base as a liability in Staff's cost of service calculation in this rate proceeding is consistent with the treatment of this item in the previous rate case, Case No. WR-2017-0285. Staff calculated the ongoing allocated annual FAS 106 costs as a liability of $4,375,295. The annual amount of amortization for the OPEB tracker balance from Case No. WR-2017-0285 is a liability of $1,661,425, which when included in Staff's OPEB calculation results in a negative OPEB expense as a liability of $6,036,720. Staff will update the FAS 106 costs in the true-up audit in this proceeding.
Staff Expert/Witness: Keith D. Foster

6. Defined Contribution Plan (DCP) Expense

MAWC terminated its pension and OPEB plans for any new employees beginning employment with MAWC in the early 2000's. The Defined Contribution Plan (DCP) expense replaced MAWC's Pension and OPEB plan expense going forward with a current 5.25% employer match based upon each eligible employee's salary. Staff calculated its DCP expense adjustment based on the list of DCP eligible employees in MAWC's confidential labor workpaper and their annualized salaries at June 30, 2020.
Staff Expert/Witness: Keith D. Foster

7. Employee Expenses

Employee expenses are operating expense that include costs associated with employee travel and relocation expenses. Staff normalized employee expenses for MAWC employees, as well as all AWWSC allocated employee expenses, based on a three – year average ending December 31, 2019. Staff calculated MAWC's employee expense as $1,388,987.

Staff Expert/Witness: Ali Arabian

D. Maintenance Normalization Adjustments

1. Main Break Expense

A main break occurs when a water pipe (main) breaks and/or separates completely, or when a leak is detected which requires a portion of the main to be repaired or replaced. Both, the number of main breaks and the cost associated with repairing these breaks varies from period to period. In previous rate cases, Staff calculated an ongoing level of main break expense by multiplying an average number of main breaks by an average cost of repairs on a per-break basis. Staff normalized the expense level associated with main break repairs and replacements based on a three-year average for the St. Louis area and an 18-month average for outside the St. Louis area for its revenue requirement calculation.

In Case Nos. WR-2017-0285 and WR-2015-0301, main break expense was limited to the St Louis area because the Company only recorded the number of and associated costs for St Louis area main breaks. However, in January 2019, the Company began recording the number of main breaks and associated expenses for service areas outside of the St. Louis area. Staff normalized the number of main breaks for all service areas in this case. Staff applied a percentage based on test year analysis to spread costs across all profit centers.

In the course of its audit, Staff determined that MAWC does not record valve and hydrant maintenance expense separately from main break expense. MAWC has proposed adjustments in this case for its valve and hydrant maintenance programs. However, due to the constraint of limited data, Staff has been unable to separate these expense items. The hydrant and valve maintenance programs as discussed in more detail in the Hydrant and Valve Expense section of this report. Staff recommends recording these costs separately from main break expense in the future. Staff included a main break expense in the amount of $2,919,864 in its recommendation.

Staff Expert/Witness: Angela Niemeier

2. Tank Painting Expense

Staff used a five-year average of tank painting and inspection costs for the five 12-month periods ending December 31, 2019, to determine a normalized level of $1,437,740 for tank painting and inspection expense to include in the cost of service. Staff allocated the normalized tank painting and inspection expense by using an allocation factor determined by the square footage of the tanks in each profit center.

Staff Expert/Witness: Angela Niemeier

E. Other Non-Labor Expenses

1. Rate Case Expenses

A utility company incurs various expenses in bringing a rate case before the Commission. Rate case expense includes costs related to securing outside legal counsel and retaining expert consultants, as well as miscellaneous items such as copying costs, travel expenses, and rate case publication costs.

a. Normalization

Staff reviewed MAWC's rate case expense attributable to this case for the prudence of all services secured and all costs incurred. Staff calculated a normalized level of the rate case expense based on the amounts incurred by MAWC for the current rate case through September 30, 2020. Staff recommends a normalization of rate case expense over 36 months due to the fact that MAWC has consistently filed its general rate cases every three years. Staff has excluded AWWSC expense (rate case discovery/rate case preparation) until further supporting information can be reviewed that has been requested in Staff Data Request No. 0217.3. At the time of the filing of this report, Staff is awaiting this data request response to determine the appropriate level of AWWSC expense to include in the rate case. In addition, Staff has also applied a 50/50 sharing mechanism between ratepayers and MAWC to the normalized level of rate case expense.

MAWC is also required by statute to perform a depreciation study every five years. Staff has excluded the depreciation study cost from the sharing mechanism and has included the depreciation study expense normalized over five years in the cost of service. Staff will

continue to review the prudency of the rate case expenses incurred throughout the remainder of this case. Staff's calculation for allowable rate case expense is $56,657.

Staff Expert/Witness: Paul K. Amenthor

b. Sharing Recommendation

Rate case expense is a sum of the incremental costs a utility incurs in preparing and filing a rate case. It is MAWC's position that all rate case expense should be recovered from its ratepayers. However, Staff recommends assigning MAWC's discretionary rate case expense to both ratepayers and shareholders based upon a 50/50 split and full recovery of any depreciation studies over five years. This allocation was utilized by the Commission in the recent rate case for The Empire District Electric Company (Empire Electric), Case Number ER-2019-0374.

Rate case expense is defined as all incremental costs incurred by a utility directly related to an application to change its general rate levels. These applications are usually initiated by the utility, but rate case expenses may also be incurred as a result of the filing of an earnings complaint case by another party. The largest amounts of rate case expenses usually consist of costs associated with use of outside witnesses, consultants, and external attorneys hired by the utility to participate in the rate case process.

Generally, utility management has a high degree of control over rate case expense. Attorneys, consultants, and other services can either be provided by in-house personnel or can be acquired from an outside party. Rate case expenses subject to a sharing mechanism do not include internal labor costs as these are included in the cost of service through the payroll annualization and are not incremental expenses resulting from the rate case process. These costs are fully paid for by ratepayers.

In 2011, the Commission established Case No. AW-2011-0330 to investigate current rules and practices regarding recovery of rate case expense by Missouri utility companies. Sharing of rate case expense, both based upon a 50/50 split and based on the percentage ordered rate increase versus requested the rate increase sought by the utility, was discussed in that report. Recently, the Commission has ordered each sharing methodology.

The Commission ordered a sharing of Kansas City Power & Light's (KCPL) rate case expenses in its Report and Order in Case No. ER-2014-0370:

> The Commission finds that in order to set just and reasonable rates under the facts of this case, the Commission will require KCPL shareholders to cover a portion of KCPL's rate case expense. One method to encourage

> KCPL to limit its rate case expenditures would be to link KCPL's percentage recovery of rate case expense to the percentage of its rate increase request the Commission finds just and reasonable. The Commission determines that this approach would directly link KCPL's recovery of rate case expense to both the reasonableness of its issue positions and the dollar value sought from customers in this rate case.
> The Commission concludes that KCPL should receive rate recovery of its rate case expenses in proportion to the amount of revenue requirement it is granted as a result of this Report and Order, compared to the amount of its revenue requirement rate increase originally requested. This amount should be normalized over three years. The Commission also finds that it is appropriate to require a full allocation to ratepayers of the expenses for KCPL's depreciation study, recovered over five years, because this study is required under Commission rules to be conducted every five years. [**Footnotes omitted.**][54]

The footnote omitted in the above reference further clarifies the Commission's conclusions concerning recovery of rate case expenses:

> It is understood that some of the issues litigated in this case do not directly affect the overall revenue requirement granted by the Commission; but it is also clear that the vast majority of litigated issues do have a direct or indirect impact on the revenue requirement. Accordingly, percentage sharing is a reasonable approach to correlating recovery of rate case expense to the relationship between the amount of litigation that benefited both ratepayers and shareholders and that which benefited only shareholders. [55]

More recently, in the Empire Electric rate case, the Commission ordered a 50/50 split of rate case expenses:

> Therefore, it is just and reasonable that the shareholders and the ratepayers, who both benefited from the rate case, share in the rate case expense. The Commission finds that in order to set just and reasonable rates under the facts in this case, the Commission will require Empire's shareholders to cover a portion of Empire's rate case expense. The Commission will assign Empire's discretionary rate case expense to both ratepayers and shareholders based upon a 50/50 split.[56]

For this case, Staff recommends a 50/50 sharing of rate case expense based on the following rationale:

1) Rate case expense sharing creates an incentive and eliminates a disincentive on the utility's part to control rate case expenses to

[54] *Report and Order*, Case No. ER-2014-0370 page 72.
[55] *Report and Order*, Case No. ER-2014-0370 page 72, Footnote 251.
[56] *Report and Order*, Case No. ER-2019-0374, page 83.

reasonable levels. MAWC has a great deal of control over how much rate case expense it has incurred. MAWC determined when and how it would file this case. Further, in filing this case, MAWC has hired several outside consultants and attorneys to help present MAWC's case instead of using in-house personnel.

2) Both ratepayers and shareholders benefit from the rate case process. The ratepayer is receiving the opportunity to be provided safe and adequate service at a just and reasonable rate and the shareholder is receiving an opportunity to receive an adequate return on investment. In this case MAWC is requesting an ROR of 7.78% while Staff is requesting 6.33%. The higher RORs benefit the shareholders versus the ratepayers. MAWC has also requested the elimination of credit card fees, capitalization of tank painting expense and other items that MAWC wants in its cost of service.

3) It is fair and equitable to expect shareholders to carry a reasonable portion of the rate case burden. Staff has not applied the 50/50 sharing mechanism to the cost of the required depreciation study. There is a high probability that some recommendations advocated by MAWC through the rate case process will ultimately be found by the Commission to not be in the public interest. In this case, MAWC has proposed the issues of future test year and RSM. Future test year is an issue that has not been accepted by the Commission in any previous rate case.

Staff reviewed the individual costs incurred as rate case expense by MAWC, as well as the facts and circumstances in MAWC's filing. MAWC has hired outside consultants to help present MAWC's case. Based upon this review, Staff recommends the Commission order a 50/50 sharing of rate case expense.

Staff Expert/Witness: Caroline Newkirk

2. <u>PSC Assessment</u>

The operations of the Public Service Commission are funded by assessments levied upon regulated utility companies. The funding required from each utility is evaluated yearly and a new assessment is billed on July 1st. These assessments are used to reimburse the Commission for its operating costs. Staff has annualized the PSC assessment expense to reflect the most current assessment issued on July 1, 2020. Staff's annualization calculates the ongoing PSC assessment expense at $2,129,742.

Staff Expert/Witness: Jane C. Dhority

3. Lobbying Expense

Staff has a long-standing policy of excluding all amounts related to lobbying expenses by utilities since these activities are generally entered into to promote shareholder interests and not the interests of ratepayers. Staff reviewed the general ledger and responses to data requests to ensure all lobbying costs are excluded from the cost of service. Staff disallowed all costs related to lobbying expenses and/or associated personnel (including payroll, taxes, benefits, etc.). Staff's total disallowance for lobbying expense is $21,448.

Staff Expert/Witness: Courtney Barron

4. Purchased Water

Staff annualized purchased water for the St. Louis County, Parkville, Jefferson City, Spring Valley, and City of Lawson water profit centers. These profit centers purchase water from the City of St. Louis, Kansas City Water Services, Callaway County Water District #1, Ozark Water System, and City of Excelsior Springs, respectively. When demand is higher than what the systems in each of these profit centers are capable of pumping from their own sources, they must purchase water from a third-party water provider. Staff used a five year average for usage for each of the profit centers, except for Parkville and the City of Lawson. Parkville built a new plant and it went into service as of December 27, 2017. Staff used an 18-month average for Parkville. For the City of Lawson, Staff used a 22-month average since Lawson started to purchase water in September 2018. Staff's annualized system delivery for each profit center is based on the same amount of months/years as used for the usage as explained above as well as the current costs in the contracts between MAWC and the water providers listed above. Staff's annualized total amount for purchased water at $1,070,362.

Staff Expert/Witness: Ashley Sarver

5. Fuel and Power Expense

The Company's fuel and power expense is composed of electricity, natural gas, and miscellaneous purchased fuel costs MAWC purchases from other utilities to use in the delivery of water and treatment of sewer. This adjustment does not include electricity or natural gas expense for office use. Office utility expense is addressed in the Building Maintenance Expense section in this report. Staff annualized the fuel and power expense for each profit center based on the current costs and the normalized system delivery. Staff developed a rate for power cost per 1,000 gallons of water for each profit center. This number is based on current electricity

costs during the test year for each individual profit center. If a system did not have 12-months of data, Staff annualized using the data that was available up through June 30, 2020. Using this value, Staff applied it to the annualized system delivery to calculate the annualized cost of fuel and power expense for each profit center. This value also takes into consideration the normalized water loss that occurred at each profit center. Staff's annualized level for fuel and power expense is $10,803,010.

Staff Expert/Witness: Ashley Sarver

6. <u>Chemical Expense</u>

Staff based normalized chemical expense for each profit center on multiple factors. Staff annualized the level of chemical expense by using the current price for each type of chemical and, depending on the number of years of data available, applied this to a two to five year average level of chemical usage used in the water treatment process where the usage fluctuated upward or downward from year to year. Staff used the 12-months ending June 30, 2020, chemical usage for some profit centers where a discernable upward or downward trend was exhibited in the year-to-year level of chemicals usage. Staff then determined the cost of chemicals for every 1,000 gallons of water. Staff applied this value to the adjusted system delivery factor to calculate the annualized level of chemical expense for each profit center.

Staff based an adjusted system delivery factor on system delivery after annualized water loss. System delivery is the amount of water that was pumped for each system. This total includes all water sold to the customers including export to wholesale customers or other MAWC systems, as well as any water lost due to leaks, broken pipes, theft or unauthorized use, unmetered authorized use, or other unaccounted for water. Staff used a five-year average, or an average of the available data that represented a full 12 months for each year for all profit centers which have been on the system less than five years, to normalize the water loss percentage. Staff applied this water loss percentage to the normalized level of system delivery for the purpose of calculating chemical costs. Staff currently has an outstanding data request asking the Company to update its system delivery data through the end of the true-up period as of December 31, 2020. Once this data is available, Staff may propose a further adjustment to the water loss percentages for any of MAWC's systems as part of its true-up audit. Staff's calculation for chemical expense is $9,630,797.

Staff Expert/Witness: Ashley Sarver

7. Lease Expense

MAWC incurs lease expense for the use of buildings, as well as items such as copy machines and postal equipment that are needed to perform daily business activities. Staff reviewed all directly charged existing and new contracts through the time period ending June 30, 2020, in order to remove any expired leases. Staff also annualized the direct level of lease expense based on the ongoing level of expense to include in the cost of service. Staff witness Kimberly K. Bolin will address lease expense allocated from the MAWC corporate level and AWWSC in a different section of this report. Staff's calculation for allowable lease expense is $447,352. Staff will continue to review this issue through the true-up period of December 31, 2020 in this case.

Staff Expert/Witness: Paul K. Amenthor

8. Allocated Lease Expense

MAWC is allocated a portion of property and equipment that is leased by AWWSC. AWWSC leases this property and equipment from Laurel Oaks Property, an affiliate of MAWC and AWWSC. Per MAWC's response to Staff Data Request No. 0223, during the test year MAWC was allocated $2,905,728 for equipment and furniture leased by AWWSC. The costs being allocated to MAWC are for equipment and furniture located at MAWC's affiliated utilities in other states and jurisdictions. If this equipment and furniture is not being used by MAWC or to benefit MAWC, it should not be allocated to MAWC. Likewise, any of MAWC's equipment or furniture that is not used for other jurisdictions' operations should not be allocated to others.

Another concern is Staff was also unable to determine where these costs are being recorded in MAWC's general ledger for 2019. Staff has outstanding data requests concerning this issue and based upon the responses provided, Staff may propose an adjustment in its rebuttal testimony for allocated lease expense.

Staff Expert/Witness: Kimberly K. Bolin

9. Transportation Expense and Fuel Expense

MAWC incurs transportation expense associated with fleet vehicles, trucks, and vans as well as heavy equipment such as forklifts and tractors that are used in its daily operations to travel to and maintain its systems. Transportation expense consists of fuel expense and third

party management of the vehicle fleet and this cost is incurred for all subsidiaries of AWC. The choice of vendor for vehicle management is made at the AWC level in order to take advantage of any mass discounts. In addition to the monthly fees for the third party service, costs are also incurred for maintenance, registration, and repairs expense directly tied to vehicles owned by MAWC.

MAWC's transportation expense also includes mileage reimbursement for those instances when employees utilize their own vehicle for work purposes. In some instances, MAWC needs to rent heavy equipment to use in operations and construction that is used on a less frequent basis, the infrequent use of this heavy equipment makes renting it, as necessary, more cost beneficial than owning the equipment. MAWC currently owns all its vehicles and equipment and uses third party companies Element and/or Automotive Rentals Inc. (ARI) for fleet management. MAWC began using ARI in 2006 but shifted to Element. However, it has come to Staff's attention that as of October 1, 2020, MAWC has decided to revert back to receiving services from ARI and that will be the only company managing their fleets moving forward. Staff learned that during the time that Element provided services to MAWC, ARI was still managing 54 of MAWC's vehicles. It has been relayed to Staff that MAWC intends on disposing of these 54 vehicles managed by ARI by the end of 2021, even though ARI will be managing the fleet moving forward.

Due to MAWC returning to ARI for management of its fleet during the true-up period, Staff has included test year transportation expense in the cost of service until such time as it can analyze all transportation costs under the new contract through the December 31, 2020 true-up period.

MAWC incurs fuel costs for its vehicle fleet and Staff has included $778,282 in the cost of service. Staff will also continue to review fuel expense through the true-up cutoff in this case.

Staff Expert/Witness: Paul K. Amenthor

10. <u>Insurance Expense</u>

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 to minimize their liability associated with unanticipated losses. Staff reviewed the Company's most current, effective insurance

policies to annualize insurance expense and adjust for the test year. This review included analyzing policies that exist at the MAWC operations levels as well as those that may be allocated to MAWC from the corporate or affiliate levels. Staff adjusted MAWC's insurance expense to reflect the current cost associated with all insurance premiums currently in effect at June 30, 2020. Staff's adjustment results in a total insurance expense of $5,819,031. Staff will review all insurance policies through the true-up period ending December 31, 2020, and will recommend any necessary adjustments to reflect changes to insurance premiums that may occur in the true-up period.

Staff Expert/Witness: Caroline Newkirk

11. Building Maintenance Expense

Staff reviewed invoices related to electricity, grounds keeping, heating oil/gas, janitorial, security, trash removal, and water/wastewater expenses to determine an annualized level of expense for building maintenance.

MAWC provided invoices and information as responses to Staff's data requests, emails, and discussions with Staff. However, this information has been difficult to audit. In some instances, MAWC divided invoices across multiple accounts. In other instances, it added multiple invoices together for one entry in its general ledger. MAWC also added a use tax to the total of some invoices, but did not note the dollar amount of the use tax for the general ledger entry on the invoice. As of the filing of this report, Staff continues to analyze information as it is received from MAWC. That being said, Staff annualized building maintenance expenses and made adjustments to remove late fees and moved expenses to proper accounts. At this time, Staff has included a building maintenance expense in the amount of $1,057,717 in its recommendation.

Staff Expert/Witness: Angela Niemeier

12. Maintenance Supplies and Service Expense

Staff reviewed invoices related to material supplies, miscellaneous maintenance, miscellaneous maintenance permits, and contract service expenses to determine an annualized level of expense for maintenance supplies and service expense.

Staff had difficulty when reviewing costs for this issue. MAWC provided invoices and information as responses to Staff's data requests, emails, and discussions with Staff. The

information has been difficult to audit. In some instances, MAWC divided invoices across multiple accounts. In other instances, it added multiple invoices together for inclusion as a single entry in its general ledger. MAWC also added a use tax to the total of some invoices, but did not note the dollar amount of the use tax for the general ledger entry on the invoice. As of the filing of this report, Staff continues to analyze information as it has received from MAWC. Staff recommends in the future MAWC record the invoice number on every general ledger entry and write on the invoice each account number in which the transaction was recorded. These steps will reduce any confusion when invoices are broken out to multiple accounts. Staff annualized accounts for Maintenance Supplies and Service expense and made adjustments to move pavement and yard restorations from building maintenance to maintenance supplies and services. At this time, Staff has included a maintenance supplies and service expense in the amount of $3,555,760 in its recommendation.

Staff Expert/Witness: Angela Niemeier

13. <u>Telecommunication Expense</u>

MAWC incurs telecommunication expense related to the daily use of telephone, telemetering, cell phone and data lines that the utility company uses for operation of its systems and for administrative and general office purposes. MAWC incurs monthly service charges and monthly data rates. Telecommunication expense is recorded mainly in two ways, either through direct charge based on specific phone numbers or through general allocation to the profit centers from the MAWC corporate level.

Staff reviewed the current telecommunications contracts as well as any new contracts to determine the ongoing level of these costs. Staff also analyzed the direct cost that was charged to the profit centers as well as the amount allocated from AWWSC or MAWC corporate levels. Staff proposes to include the telecommunications costs incurred during test year in the cost of service at this time; however several new service territory acquisitions have and will start incurring costs during the update and true-up period. Staff will continue to review telecommunications expense through the true-up period of December 31, 2020, and may propose adjustments at that time.

Staff Expert/Witness: Paul K. Amenthor

14. Dues and Donations

Staff reviewed the listings of various membership dues and charitable donations paid by MAWC during the test year ending December 31, 2019. Staff disallowed donations such as MAWC's sponsorship of the World Bird Sanctuary's "Wings Over Water" program and the cost of a table for the United Way's Campaign Kickoff breakfast. Any recovery in rates of these disallowed donations would be an involuntary contribution on behalf of the rate paying customer. Staff disallowed any dues and donations that did not provide a direct benefit to ratepayers, and which are not necessary to provide safe and reliable service to its customers.

In ***Re: Missouri Public Service, a Division of UtiliCorp United, Inc.,*** Case Nos. ER-97-394, et al., Report and Order, 7 Mo.PSC.3d 178, 212 (1998), the Commission stated:

> The Commission has traditionally disallowed donations 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 also disallowed amounts pertaining to any lobbying expense or governmental affairs membership dues that pertained to lobbying, and governmental affairs related activities, including the amount paid to The Missouri Society of Governmental Consultants for an individual lobbyist.

During Staff's review, it came to Staff's attention that MAWC is not seeking recovery of several items and thus Staff also did not include those same items in its cost of service calculations. Staff also did not include the sales tax pertaining to the items MAWC is not seeking recovery of, as well as sales taxes related to the items disallowed by Staff.

At the time of filing this direct report, Staff Data Requests Nos. 0199.1 and 0199.2 have been responded to by MAWC, but are considered deficient by Staff. Due to this, Staff disallowed the items related to these data request responses until such time as Staff receives the information it needs to make a determination regarding certain charges. Once Staff receives the information needed, it can determine if those charges should be included in MAWC's cost of service at that time. Staff has disallowed $492,279, including the amounts of those items recorded above the line for which MAWC is not seeking recovery.

Staff Expert/Witness: Jane C. Dhority

15. Promotional Giveaway Expenses

MAWC distributes several promotional giveaway items at various events such as jackets, bags, magnets, wireless speakers, etc., with MAWC's logo on it. Staff evaluated each promotional giveaway item and determined the benefit each provides to the ratepayers. Staff recommends the exclusion of the cost of any promotional giveaway item that does not provide a benefit to the ratepayers and also are not necessary for the provision of safe and adequate utility service to its customers. Staff disallowed $31,428 of promotional items based on the criteria explained above.

Staff Expert/Witness: Courtney Barron

16. Advertising Expense

In determining the proper level of advertising expense in this proceeding, Staff relied on the principles outlined by the Commission in its 1986 Report and Order issued 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). In its order, the Commission classified advertisements into five categories and provided separate rate treatment for each. The five categories of advertisements recognized by the Commission in the above order 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.

Classifying a utility's advertisements into these categories ensures that a utility's revenue requirement: (1) always includes the reasonable and necessary cost of general and safety advertisements; (2) never includes the cost of institutional or political advertisements; and (3) includes the cost of promotional advertisements only to the extent the utility can provide cost-justification for those advertisements.

Staff recommends excluding all advertising expense based on the response by MAWC to Staff Data Request No. 0104, that stated that the Company did not record any costs to

advertising expense during the twelve months ending December 31, 2019, updated through June 30, 2020. After review of the general ledger and Data Request responses, Staff found MAWC did book advertising expense, mostly to Corporate. Therefore, an adjustment was made to remove all expense related to advertising of $240,499.

Staff Expert/Witness: Courtney Barron

17. Outside Services

Staff reviewed MAWC's expenses pertaining to outside services including those allocated from AWWSC.[57] Staff normalized the amounts of outside services on a going forward basis by calculating a three-year average of MAWC's incurred costs for outside services. Staff's calculation for outside service expense is $5,806,375.

Staff Expert/Witness: Courtney Barron

18. Waste Disposal

Waste removal and disposal expenses are a result of the treatment of water and wastewater. The treatments leave behind byproducts that must be periodically removed from the treatment facilities. The waste removal and disposal costs and methods vary by treatment facility.

Staff reviewed the historical waste disposal cost incurred by MAWC for the years 2015 through the test year and update period of June 2020. Staff determined that the waste disposal expense incurred in 2019 was lower than the levels incurred in 2017 and 2018 but the expense incurred during the 2017 and 2018 time period were higher than the surrounding years' expense. MAWC's response to Staff Data Request No. 0314 provided context for why the waste disposal expense incurred in 2017 and 2018 was higher than previous and subsequent time periods. MAWC started using a new waste disposal vendor for its St. Joseph and Joplin service territories that was able to complete the cleaning for a significantly lower amount than the previous vendor, as well as allowing extended time between cleanings. In addition, the Arnold service territory utilizes waste disposal treatment through the Metropolitan Sewer District (MSD) based on the level of waste disposal flows that are treated. Arnold experienced flooding

[57] MAWC response to Staff Data Request No. 0139.

during the 2017/2018 time period which increased the waste disposal flows that were to be treated, and that resulted in higher than normal costs incurred during that time.

Due to the fact that the 2017 and 2018 waste disposal costs are based on vendors and methods that are no longer in use in some service territories, as well as flooding in another, Staff believes that any average of waste disposal would be inappropriately skewed as MAWC has procured a more cost beneficial method of waste disposal. Also, MAWC has acquired several new service territories which began to incur expense in 2020. Thus, Staff included an annualized waste disposal level of $2,797,916 representing the twelve months ending June 30, 2020, in the cost of service. Staff will continue to evaluate this issue, including analyzing the waste disposal costs of the newer acquisitions, as part of its true-up audit.

Staff Expert/Witness: Christopher D. Caldwell

19. Postage Expense

Staff annualized postage expense by applying the current postage rate from the United States Postal Service to the 2019 number of mailings that MAWC provided in response to Data Request No. 0108. Staff calculated the allocation factors using the number of customer bills from MAWC's income statement direct workpaper to spread the postage expense to all profit centers. Staff's calculation for postage expense is $1,867,491.

Staff Expert/Witness: Courtney Barron

20. Central Lab Expense

The Central Lab, operated by AWWSC, provides a full suite of water analyses and related services to MAWC and AWC subsidiaries to meet required environmental regulations. In January 2012, a new Laboratory Information Management System (LIMS) was implemented at the Central Lab that subsequently resulted in efficiencies that reduced staffing, lessened testing turnaround time, and increased on-time delivery.

The function of the Central Lab facility is exclusively for water sample testing to comply with required regulations. Therefore, Staff has consistently recommended using the number of test analyses as a basis of allocation because it represents a direct measurement of the work that is actually being performed at Central Lab for MAWC in relation to the work being performed by the lab for AWC subsidiaries in total. Furthermore, the amount of testing required for each

subsidiary is dependent upon the type of facilities operated and the environment of the service area rather than the number of customers served.

According to MAWC's response to Staff Data Request No. 0180, MAWC has adopted Staff's methodology of allocating lab costs and workload based solely on the analytical testing required by each AWC subsidiary. Central Lab directly charges each entity for its respective services, testing, and research. The direct charge is based on a monthly query of LIMS for work performed and summarizes the services provided to each entity for the prior month. The services are then directly charged to each entity on AWWSC billing. All labor and related costs, as well as the majority of the other expenses, use a direct charge Work Breakdown Structure (WBS) element. Occasionally, other allocable lab expenses will be charged based on a customer count allocation factor when the direct charge formula is not applicable, such as for safety inspections, calibrations, housekeeping, or training. The overhead costs are assigned based on the labor costs as stated in AWWSC's BAM filed with the Commission by MAWC on March 20, 2020.

Staff reviewed the expenses associated with the Central Laboratory and calculated the total expense reflecting the allocation of indirect costs between AWC affiliates that is applicable to MAWC. Staff used the percentage of test samples to allocate these indirect costs and calculated the total amount of MAWC assigned indirect charges to be $34,978.

Staff Expert/Witness: Caroline Newkirk

21. Uncollectibles Expense

Uncollectibles expense, or bad debt expense, is the portion of revenues that MAWC 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 if under $50,000 and turned over to collection agencies if over $50,000. If MAWC is subsequently able to successfully collect some portion of previously written off delinquent amounts owed, then those collected amounts reduce current write-offs. Offsetting successful collection agency recoveries against total write-offs creates the "net write-off" amount used to determine the annualized level of bad debt expense

Staff examined the actual level of net-write-offs (write-offs less collection agency recoveries) for the July 1, 2017, through June 30, 2020, period. Based upon that examination,

Staff normalized the level of uncollectible expense for each of MAWC's profit centers by calculating a three-year average. Staff's recommended calculated total amount of uncollectible expense is $2,976,054.

Staff Expert/Witness: Caroline Newkirk

22. Credit Card Fee Expense

a. Current Payment Methods and Fees

Customers currently have several payment options including credit card, direct debit/auto pay, E-Checks, Collection Agency, over the counter and drop box. Customers currently pay per-transaction fees for the following: credit card payments ($1.95), E-Checks paid outside of the portal "MyWater" ($1.95), collection agency ($1.95) and up to $2.00 for over the counter payments. Customers currently pay no transaction fees for the following payments: direct debit/ACH, lockbox, and E-Checks made through the portal "MyWater." MAWC are assessed charges for all payment types. MAWC is charged $.0187 for electronic payments and $.1428 for paper payments per transaction.[58] According to MAWC, every three years MAWC negotiates reduced credit card transaction fees with its current vendor, and explores other vendors for credit card fees. This negotiation is made through a request for proposal ("RFP") process.[59]

b. Analysis

Every payment option has costs associated with it by both the customer and MAWC. For example, if a customer pays by a paper check, the customer will pay for a stamp to mail the payment and the Company will be assessed $.1428 to have that payment processed.[60] MAWC does not pass that fee on to the individual customer. The fee is shared by every customer in the rates they pay whether or not that customer utilizes the paper check option. In The Empire District Electric Company's (Empire) most recent rate case, Case No. ER-2019-0374, the Commission stated, "As bank fees are already recovered in the cost of service, credit card transaction fees should be similarly treated."[61]

[58] MAWC Response to Staff Data Request No. 0246.2.
[59] MAWC Response to Staff Data Request Response No. 0247.
[60] MAWC Response to Staff Data Request Response No. 0246.2.
[61] Case No. ER-2019-0374, Amended Report and Order, Page 76, Line 1-2.

The Commission currently allows credit card fees in the overall cost of service for other utilities. The Commission started allowing credit card fees in overall cost of service in 2006 for Kansas City Power and Light Company (now Evergy Missouri Metro, Inc.),[62] and most recently for Empire in 2020.[63] Currently Evergy Missouri Metro, Inc., Every West, Inc., Spire Missouri, Inc., and Empire have credit card fees included its overall cost of service.

b. Recommendation

Consistent with the Commission's treatment for other similarly situated utilities, Staff recommends including credit card fees in MAWC's overall cost of service. Staff has included an annualized amount of $ 706,464 for credit card processing fees for MAWC. Staff calculated this number by using the number of actual credit card payments occurring during the updated test year, multiplied by $1.50, which is the fee MAWC will be charged by the third party processor per credit card transaction.

However, Staff recommends MAWC track performance, savings, usage, and communication plans associated with the inclusion of these fees in its cost of service. If the Commission approves this treatment, Staff recommends that the Company be ordered to track performance and savings to the Company and its customers from this initiative. Staff further recommends that MAWC be required to monitor the level of customers using the credit card option, along with other questions such as: Have the number of payments by credit card increased? If so, by how much? Has eliminating a fee to pay by credit card resulted in savings to the customer and/or to the Company? If so, how much? How will the Company inform customers that there is no fee to pay their bill by credit card? Staff witness Kimberly K. Bolin is sponsoring the adjustments proposed by Staff in regard to inclusion in cost of service of customer credit card payment processing costs.

Staff Experts/Witnesses: Scott J. Glasgow & Kimberly K. Bolin

23. <u>Property Tax Expense</u>

For property tax assessment purposes, a utility is required to file a valuation of its utility property as of January 1 of each year with its taxing authority. Later in the year, the utility receives the "assessed values" of the property as well as property tax rates from the taxing

[62] Case No. ER-2006-0314.
[63] Case No. ER-2019-0374.

authority. Finally, the utility receives a property tax bill late in the calendar year with a due date of December 31 of that year.

Staff determined its property tax adjustment by analyzing the 2019 property tax assessments and supporting documentation provided by the Company to determine the appropriate level of property tax expense to be included in the cost of service. Prior to year-end 2020 the Company will receive its 2020 property tax bills from its various taxing authorities. As part of its true-up audit, Staff will review these 2020 property tax assessments and foresees utilizing these assessed values to annualize property tax expense. Staff will also review any known material changes in how the taxing authorities assess MAWC's property that will become effective January 1, 2021 to consider whether the financial impact of those changes should be reflected in the true-up audit results as well. Staff's calculation for property tax expense is $25,421,771.

Staff Expert/Witness: Courtney Barron

G. Current and Deferred Income Tax

1. Current Income Tax

Staff calculated the current income tax generally consistent with the methodology used in the four prior rate cases, Case Nos. WR-2010-0131, WR-2011-0337, WR-2015-0301, and WR-2017-0285. The calculation starts with Staff's adjusted net operating income before taxes amount and adds to or subtracts from it various tax timing differences to obtain a net taxable income amount for ratemaking purposes. A tax timing difference occurs when the timing used in reflecting a cost (or revenue) for financial reporting purposes (book purposes) is different than the timing required by the IRS in determining taxable income (tax purposes).

Tax timing differences can be either "normalized" or "flowed through" for purposes of setting rates. The "normalization" tax method defers the tax deduction for ratemaking purposes until the item is recognized on the utility's income statement for financial reporting purposes. The flow-through tax method essentially provides for the same tax deduction taken as a deduction for ratemaking purposes at the same time as it is taken for tax purposes.

Staff's current income tax calculation reflects timing differences consistent with the timing required by the IRS. The tax timing differences used in calculating taxable income for computing current income tax are as follows:

- **Add Back to Operating Income Before Taxes:**
- Book Depreciation Expense
- Advances for Construction
- Contributions in Aid of Construction
- Miscellaneous Non-deductible Expenses
- 50% Meals & Entertainment

- **Subtractions from Operating Income Before Taxes:**
- Interest Expense - Weighted Cost of Debt times Rate Base
- Straight-Line Tax Depreciation
- Excess Tax Depreciation

The resulting net taxable income for ratemaking is then multiplied by the appropriate federal and state tax rates to obtain the current liability for income taxes. Staff used the current federal tax rate of 21 percent and the current Missouri state income tax rate of four (4) percent for calculating MAWC's income tax liability. This composite tax rate (state and federal combined together) is 23.8401 percent**.**

Staff's calculation of current income tax provides flow-through treatment to the following tax timing differences: book depreciation, advances for construction, miscellaneous non-deductible expense, 50% meals and entertainment expenses, and straight-line tax depreciation. Staff's calculation also provides normalization treatment to the excess-tax depreciation timing difference. The difference between the calculated current income tax provision and the per book income tax provision is the current income tax provision adjustment. *Staff Expert/Witness: Keith D. Foster*

2. <u>Taxable Advances and Contributions in Aid of Construction</u>

As a result of the 2018 Tax Cut and Jobs Act, Advances and CIAC became taxable income for MAWC. Before the TCJA, Advances and CIAC were not considered taxable

income. As a result of this change, MAWC filed, in Case No. WT-2019-0054, a tariff[64] that stated the following:

> Any Federal, State or Local income tax incurred by the Company due to the receipt of taxable Advances or Contributions in Aid of Construction, as defined by the Internal Revenue Service, the State of Missouri, or other taxing authority, and not otherwise paid by a third party, will be paid by the Company. Such income taxes shall be segregated in a deferred account for inclusion in rate base in the Company's next general rate proceeding.

Staff recommended in that case, that MAWC file an amended Taxable Advances and CIAC Tariff (Sheet R 65) in its next general rate case. The Commission allowed the tariff to go into effect on December 7, 2018.

MAWC has not booked any deferred amounts associated with taxable advances and CIAC, and thus, Staff does not recommend any be included in MAWC's revenue requirement for this case. Further, Staff recommends MAWC's Taxable Advances and CIAC tariff be discontinued.

Staff Expert/Witness: Kimberly K. Bolin

3. Straight Line Tax Depreciation

Annualized book depreciation is a result of multiplying the plant investment at June 30, 2020, the end of the test year update period for this proceeding, by the book depreciation rates recommended by Staff witness Cedric E. Cunigan of the Industry Analysis Division, Engineering Analysis Department.

The IRS allows a regulated utility, like any other corporation, to use an accelerated depreciation method in calculating its current income tax liability. However, with regard to a regulated utility, Congress intended for the additional cash flow (lower current income tax), resulting from an accelerated depreciation method, to be retained by the utility. As a result, under IRS rules for a regulated utility, the additional deduction resulting from the use of an accelerated depreciation method cannot be currently reflected in rates. Ratepayers receive the tax deduction benefit associated with depreciation expense over the same period used for book

[64] P.S.C. Mo. No. 13, 2nd Revised Tariff Sheet No. R 65 Cancelling 1st Revised Sheet No. R 65.

accounting purposes. The straight-line tax depreciation amount is the result of applying the current authorized book depreciation rates to the adjusted tax basis MAWC plant balances.

In this MAWC rate case, Staff's book depreciation and straight-line tax depreciation are different. Staff applied a straight-line tax ratio to MAWC's book depreciation to calculate MAWC's straight-line tax depreciation.

Staff Expert/Witness: Keith D. Foster

4. <u>Deferred Income Tax Expense</u>

MAWC's deferred tax reserve is, in effect, a prepayment of income taxes by MAWC's customers before payment by MAWC. As an example, because MAWC may choose 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 a "book-tax timing difference," and creates a deferral of income taxes to the future. The net credit balance in the deferred tax reserve is a source of cost-free funds to MAWC. Therefore, to avoid having customers pay a return on funds that are provided cost-free to the Company, Staff's calculation reduces MAWC's rate base by the deferred tax reserve balance. Generally, deferred income taxes associated with all book-tax timing differences created through the ratemaking process should be reflected in rate base. Staff took this approach in this case, to calculate the deferred income tax rate base offset amount. Staff included in rate base the deferred income taxes for all of MAWC's operating profit centers.

When a current year timing difference is deferred and recognized for ratemaking purposes 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.

For most utilities, it is necessary to break out a utility's tax depreciation into two separate components: straight-line tax depreciation and excess tax depreciation. Straight-line tax depreciation is different from straight-line book depreciation due to the different tax basis of property allowed under the tax code. Excess tax depreciation differs from straight-line book depreciation due to the higher depreciation rates allowed in the early years of an asset's life

under the current tax code. Most tax basis differences were eliminated for assets placed into service after 1986 due to the Tax Reform Act enacted that year.

Staff's typical deferred income tax adjustment consists of three components:

1. IRS "Schedule M" timing differences - contributions in aid of construction and advances for construction: These amounts have been flowed through;
2. The tax timing difference between straight-line tax depreciation expense and excess tax depreciation expense: This amount has been normalized; and
3. Excess deferred income taxes resulting from the 1986 Tax Reform Act, which created excess deferred tax amounts associated with depreciation timing differences: As such, an amortization has been created to amortize excess deferred taxes created from the change in tax rates back to customers over time.

In this case, a combination of the above three components make up the amounts recorded as deferred income tax expense by MAWC.

Staff Expert/Witness: Keith D. Foster

5. <u>Amortization of Excess ADIT</u>

The Tax Cuts and Job Act was signed into law in December 2017, and as part of that law a reduction in the federal corporate tax rate required the revaluation of accumulated deferred tax timing differences that were previously recorded assuming a 35% federal tax rate to be revalued at the new 21% federal tax rate. Also, effective January 1, 2020, the Missouri state corporate tax rate was reduced from 6.25% to 4 %. This also caused a need for additional revaluation of accumulated tax timing differences.

The excess federal deferred tax value is required to be returned to customers over a time period based on whether the excess deferred taxes are protected or unprotected. Protected excess ADIT is the portion associated with accelerated depreciation tax timing differences that must be "normalized" for ratemaking purposes. The flow back of excess ADIT cannot be returned to a customer any more quickly than over the estimated remaining life of the assets that gave rise to the ADIT. Unprotected federal excess ADIT is the portion of the deferred tax reserve that resulted from normalization treatment of tax timing differences other than accelerated depreciation. Unprotected federal excess ADIT is to be flowed back to customers over a period of time set by the Commission at its discretion.

There is no distinction between protected and unprotected status for state excess ADIT, and the entire balance of that amount can be flowed back to customers over a period of time set by the Commission at its discretion.

During its last rate case (Case No. WR-2017-0285), MAWC was in the beginning stages of evaluating its ability to use Average Rate Assumption Method ("ARAM") as the method for computing and normalizing excess protected ADIT. Since then, MAWC has confirmed it is able to use the ARAM method for purposes of calculating an amortization period for protected excess ADIT.[65]

In the Stipulation and Agreement filed March 1, 2018, in that case, MAWC agreed to create a tracker that would capture the flow back of excess ADIT that would have occurred starting on January 1, 2018 and continuing until the next rate case. At that time, the tracker balance would be amortized over five years. Recovery of the deferred excess ADIT beyond the next rate case was not addressed.

In this case, Staff recommends amortization of the unprotected excess ADIT (plant and non-plant) over a five-year period. Staff believes a five-year amortization is appropriate as the TCJA became effective on January 1, 2018, and MAWC customers have yet to receive any of the return of the Excess ADIT since. Several other Missouri utilities have already begun returning Excess ADIT to their ratepayer.

The following are the amortization amounts included in Staff' cost of service and reflected on the Income Tax Schedule in Staff's Accounting Schedules:

Federal Protected Plant	$ 3,006,185
Federal Unprotected Plant	$23,527,662
State Unprotected Plant	$ 7,207,588
Federal Unprotected Non-Plant	$ (9,083,280)
State Unprotected Non-Plant	$ (1,326,106)
Total	$23,332,049

[65] *Report Concerning ARAM Accounting* filed on February 21, 2019, in Case No. WR-2017-0285.

The above table shows that a net return to customers of excess federal and state ADIT of over $23 million has been included in Staff's case. Pursuant to the agreement in the last rate case, this $23 million also includes the five-year amortization of the excess ADIT that would have incurred by MAWC from January 1, 2018 through the effective date of this rate case if MAWC's current rates had been set to reflect enactment of the TCJA.

Staff Expert/Witness: Kimberly K. Bolin

IX. COVid-19 AAO Recovery Cost Recovery

In the Nonunanimous Stipulation and Agreement filed in Case No. WU-2020-0417, which the Commission approved on October 28, 2020, the parties agreed to an accounting authority order (AAO) in which MAWC was allowed to track and defer into a regulatory asset the following costs associated with the COVID-19 pandemic beginning March 1, 2020 until March 31, 2021:

1. New or incremental operating and maintenance expense, limited to the following eligible costs:
    a. Additional cleaning of facilities and vehicles;
    b. Personal protective equipment;
    c. Sanitizers;
    d. Signage related to pandemic safety;
    e. Rental equipment, to include vehicles, portable hand washing stations, portable lavatories, and temporary office trailers;
    f. Other incremental COVID-related costs as agreed to by the parties or Order of the Commission;
2. Increase bad debt expense to the extent total bad debt expense exceeds $2,600,000 on an annual basis;
3. Interest expense on MAWC's approximately $70.0 million 364 day term loan entered into on March 20, 2020, with an interest rate of London Interbank offered Rate (LIBOR) plus 80 basis points;
4. Late payment fees waived during the moratorium period up to $785,351;

5. Reconnection charges and disconnection charges waived during the moratorium period up to $783,200.

MAWC was also to track and record operating and maintenance cost reductions associated with the pandemic in a separate regulatory asset. Operating and maintenance costs reductions to be deferred are the following:

1. Travel expense (hotels, airfare, meals, entertainment);
2. Training expense;
3. Conferences;
4. Office Supplies;
5. Utility service provided to facilities leased or owned by MAWC;
6. Staff reductions after March 1, 2020 and throughout the AAO accumulated period;
7. Reduced employee compensation and benefits after March 1, 2020, and throughout the accumulated period;
8. Any taxable net operating loss that is carried back to previous tax years per the CARES Act, and;
9. Any direct federal or state assistance MAWC, American Water Works Company or any other affiliate that allocates costs to MAWC receives related to COVID-19 relief, and;
10. Other incremental COVID-related savings as agreed to by the parties by Order of the Commission.

MAWC was also to provide a report within two weeks of the Commission issuing an order approving the Nonunanimous Stipulation and Agreement, quantifying all costs, revenues, and savings described above related to the pandemic that have been identified to date. The report was filed on November 12, 2020. As of the date of this cost of service report, Staff has not been able to complete its review of all the costs, revenues, and savings provided in the report because of the short time lag between receipt of the report and the cost of service report filing date. Staff will address the appropriateness of recovery of the costs and savings in Staff's rebuttal testimony in this case. As part of its review, Staff will verify that any costs deferred in the AAO

have not already been included in the cost of service. Staff will also address the appropriate amortization period for this item in rebuttal testimony.

Staff Expert/Witness: Kimberly K. Bolin

X. Appendices

Appendix 1: Staff Credentials

Appendix 2: Support for Staff Cost of Capital Recommendation – Seoung Joun Won, PhD

Appendix 3: Customer Usage per Day - Jarrod J. Robertson
Recommended Depreciation Rates – Cedric E. Cunigan

Appendix 4: *Future Test Years: Challenges Posed for State Utility Commissions* (July 2013)
Future Test Years: Evidence from State Utility Commissions (October 2013)

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF PAUL K. AMENTHOR

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW PAUL K. AMENTHOR and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Paul K. Amenthor
PAUL K. AMENTHOR

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF ALI ARABIAN

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW ALI ARABIAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Ali Arabian
ALI ARABIAN

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF COURTNEY BARRON

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW COURTNEY BARRON and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Courtney Barron
COURTNEY BARRON

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF KIMBERLY K. BOLIN

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW KIMBERLY K. BOLIN and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Kimberly K. Bolin
KIMBERLY K. BOLIN

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF CHRISTOPHER D. CALDWELL

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW CHRISTOPHER D. CALDWELL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Christopher D. Caldwell
CHRISTOPHER D. CALDWELL

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF CEDRIC E. CUNIGAN

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW CEDRIC E. CUNIGAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Cedric E. Cunigan
CEDRIC E. CUNIGAN

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF JANE C. DHORITY

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW JANE C. DHORITY and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Jane C. Dhority
JANE C. DHORITY

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF KEITH D. FOSTER

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW KEITH D. FOSTER and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Keith D. Foster
KEITH D. FOSTER

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF SCOTT J. GLASGOW

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW SCOTT J. GLASGOW and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Scott J. Glasgow
SCOTT J. GLASGOW

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF AMANDA C. McMELLEN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COME NOW AMANDA C. McMELLEN and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Amanda C. McMellen
AMANDA C. McMELLEN

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF CAROLINE NEWKIRK

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW CAROLINE NEWKIRK and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Caroline Newkirk
CAROLINE NEWKIRK

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF ANGELA NIEMEIER

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW ANGELA NIEMEIER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Angela Niemeier
ANGELA NIEMEIER

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF JARROD J. ROBERTSON

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW JARROD J. ROBERTSON and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Jarrod J. Robertson
JARROD J. ROBERTSON

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF ASHLEY SARVER

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW ASHLEY SARVER and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to her best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Ashley Sarver
ASHLEY SARVER

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2020-0344

AFFIDAVIT OF SEOUNG JOUN WON, PhD

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COME NOW SEOUNG JOUN WON, PhD and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Report - Cost of Service*; and that the same is true and correct according to his best knowledge and belief, under penalty of perjury.

Further the Affiants sayeth not.

/s/ Seoung Joun Won
SEOUNG JOUN WON, PhD