

Exhibit No.:  
Issues: Service Company Costs  
Witness: Patrick L. Baryenbruch  
Exhibit Type: Direct  
Sponsoring Party: Missouri-American Water Company  
Case No.: WR-2017-0285  
SR-2017-0286  
Date: June 30, 2017

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. WR-2017-0285  
CASE NO. SR-2017-0286**

**DIRECT TESTIMONY**

**OF**

**PATRICK L. BARYENBRUCH**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

Exhibit No. 4  
Date 3/5/18 Reporter MR  
File No. WR-2017-0285

Exhibit 4  
WR-2017-0285  
Direct Testimony of Patrick L.  
Baryenbruch

**DIRECT TESTIMONY  
PATRICK L. BARYENBRUCH  
MISSOURI-AMERICAN WATER COMPANY  
CASE NO. WR-2017-0285  
CASE NO. SR-2017-0286**

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BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN )	
WATER COMPANY FOR AUTHORITY TO )	
FILE TARIFFS REFLECTING INCREASED )	CASE NO. WR-2017-0285
RATES FOR WATER AND SEWER )	CASE NO. SR-2017-0286
SERVICE )	

AFFIDAVIT OF PATRICK L. BARYENBRUCH

Patrick L. Baryenbruch, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Patrick L. Baryenbruch"; that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

  
Patrick L. Baryenbruch

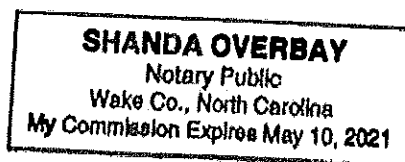
State of North Carolina  
County of Wake

SUBSCRIBED and sworn to

Before me this 5 day of June 2017.

  
Notary Public

My commission expires:



**DIRECT TESTIMONY**

**PATRICK L. BARYENBRUCH**

**I. INTRODUCTION**

1

2

3 **Q. Please state your name and business address.**

4 A. Patrick L. Baryenbruch, 2832 Claremont Road, Raleigh, North Carolina 27608.

5

6 **Q. Please describe your educational and professional background.**

7 A. I received a Bachelors degree in Accounting from the University of Wisconsin-Oshkosh  
8 in 1974 and a Masters in Business Administration degree from the University of  
9 Michigan in 1979.

10 I am a management consultant, a Certified Public Accountant (CPA) and a  
11 Certified Information Technology Professional (CITP). I also hold a Global Information  
12 Assurance Certification (GIAC) in cybersecurity from the SANS Institute. I am a  
13 member of the American Institute of Certified Public Accountants and the North Carolina  
14 Association of Certified Public Accountants.

15 I began my career with Arthur Andersen & Company where I performed financial  
16 audits of utilities, banks and finance companies. After three years I left to pursue an  
17 M.B.A. degree. Upon graduation from business school, I worked with the consulting  
18 firms of Theodore Barry & Associates and Scott Consulting Group (now ScottMadden).

19 During my consulting career, I have performed consulting assignments for  
20 approximately 50 utilities and 10 public service commissions. I have participated as

1 project manager, lead or staff consultant for 24 commission-ordered management and  
2 prudence audits of public utilities. Of these, I have been responsible for evaluating the  
3 area of affiliate charges and allocation of corporate expenses in the Commission-ordered  
4 audits of Connecticut Light and Power, Connecticut Natural Gas, General Water  
5 Corporation (Pennsylvania Operations), Philadelphia Suburban Water Company (now  
6 Aqua America) and Pacific Gas & Electric Company.

7 My firm has performed the commission-ordered audit of Southern California  
8 Edison's 2002, 2003, 2004 and 2005 transactions with its non-regulated affiliate  
9 companies.

10

11 **Q. What are your duties and responsibilities in your current position?**

12 A. I am the President of my own consulting practice, Baryenbruch & Company, LLC, which  
13 was established in 1985. In that capacity, I provide consulting services to utilities and  
14 their regulators.

15

16 **Q. Please describe the reason for your testimony in this case.**

17 A. I am presenting the results of my study which evaluated the services provided by  
18 American Water Works Service Company, Inc. (Service Company) during the 12 months  
19 ended December 31, 2016 to Missouri American Water Company (MAWC). This study  
20 was undertaken in conjunction with MAWC's rate case and is true to the best of my  
21 knowledge and belief. The study is attached as Schedule PLB-1.

22

23

24

1 **II. SERVICE COMPANY COSTS**

2 **Q. What services does the Service Company provide to MAWC?**

3 A. Please refer to Section II (Background) of Schedule PLB-1 for an overview of the Service  
4 Company.

5  
6 **Q. What were the objectives of your study?**

7 A. This study was undertaken to answer four questions concerning the services provided by  
8 the Service Company to MAWC, each of which bears on the reasonableness of those  
9 charges as incurred during 2016. First, were the Service Company's charges to MAWC  
10 during 2016 reasonable? Second, was MAWC charged the lower of cost or market value  
11 for managerial and professional services provided by the Service Company during 2016?  
12 Third, were 2016 costs of the Service Company's customer accounts services, including  
13 those of the National Call Centers, comparable to those of other utilities? Fourth, are the  
14 services MAWC receives from the Service Company necessary?

15  
16 **Q. What conclusions were you able to draw concerning question number 1, whether  
17 the Service Company charges to MAWC were reasonable?**

18 A. The Service Company's 2016 cost per MAWC customer is reasonable compared to cost  
19 per customer for electric and combination electric/gas service companies. During 2016  
20 MAWC was charged \$61 per customer for administrative and general (A&G)-related  
21 services provided by the Service Company. This compares to an average of \$102 per  
22 customer for service companies reporting to the Federal Energy Regulatory Commission  
23 (FERC). Fifteen of the 25 utility service companies that filed a FERC Form 60 for 2015  
24 had higher per-customer A&G costs than MAWC's charges from the Service Company.

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**Q. What conclusions were you able to draw concerning question number 2, whether MAWC was charged the lower of cost or market services provided by the Service Company?**

A. I was able to draw the following conclusions:

- (1) MAWC was charged the lower of cost or market for managerial and professional services during 2016.
- (2) On average, the hourly rates for outside service providers are 30% higher than the Service Company’s hourly rates.
- (3) The managerial and professional services provided by the Service Company are vital and could not be procured externally by MAWC without careful supervision on the part of MAWC. If these services were contracted entirely to outside providers, MAWC would have to add at least three positions to manage activities of outside firms. These positions would be necessary to ensure the quality and timeliness of services provided.
- (4) If all the managerial and professional services now provided by the Service Company had been outsourced during 2016, MAWC and its ratepayers would have incurred almost \$9.8 million in additional expenses. This amount includes the higher cost of outside providers and the cost of three MAWC positions needed to direct the outsourced work.
- (5) This study’s hourly rate comparison actually understates the cost advantages that accrue to MAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company exempt

1 personnel, on the other hand, charge a maximum of 8 hours per day even when  
2 they work more hours. If all overtime hours of Service Company personnel were  
3 factored into the hourly rate calculation, the Service Company would have had  
4 an even greater annual dollar advantage than the \$9.8 million cited above.

5 (6) It would be difficult for MAWC to find local service providers with the same  
6 specialized water and wastewater industry expertise as that possessed by the  
7 Service Company staff. Service Company personnel spend substantially all their  
8 time serving operating water and wastewater companies. This specialization  
9 brings with it a unique knowledge of water and wastewater utility operations and  
10 regulation that is most likely unavailable from local service providers.

11 (7) Service Company fees do not include any profit markup. Only its actual cost of  
12 service is being recovered from MAWC ratepayers.

13  
14 **Q. What conclusions were you able to draw concerning question number 3, whether**  
15 **2016 costs of the Service Company's customer account services, including those**  
16 **of the National Call Centers, were reasonable?**

17 **A.** The cost of the Service Company's customer accounts services, including those provided  
18 by the National Call Centers, is well below the average of the neighboring electric utility  
19 comparison group. As will be explained further in my report, this group of companies  
20 provides a reasonable proxy group for comparison to a regulated utility of the size and  
21 scope of the Service Company and MAWC. During 2016, the cost of customer accounts  
22 services for MAWC customers was \$22.79 compared to the 2015 average of \$33.63 for



1 neighboring electric utilities. The highest comparison group per customer cost was  
2 \$50.14 and the lowest \$11.64.

3

4 **Q. What conclusions were you able to draw concerning question number 4, whether**  
5 **the services MAWC receives from the Service Company are necessary?**

6 A. I was able to draw the following conclusions:

7 (1) The services that the Service Company provides are necessary and would be  
8 required even if MAWC were a stand-alone water and wastewater utility.

9 (2) Furthermore, there is no redundancy or overlap in the services provided by the  
10 Service Company to MAWC.

11

12 **Q. Does this complete your testimony?**

13 A. Yes.

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**Market to Cost Comparison of Service Company Charges to  
Missouri American Water Company  
12 Months Ended December 31, 2016**

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May 2017

**Missouri American Water Company  
Market to Cost Comparison of Service Company Charges  
12 Months Ended December 31, 2016**

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### **Purpose of This Study**

This study was undertaken to answer four questions concerning the services provided by American Water Works Service Company, Inc., (Service Company) to Missouri American Water Company (MAWC):

1. Were the Service Company's charges to MAWC during 2016 reasonable?
2. Was MAWC charged the lower of cost or market for managerial and professional services provided by the Service Company during 2016?
3. Were 2016 costs of the Service Company's customer accounts services, including those of the National Call Centers, comparable to those of other utilities?
4. Are the services MAWC receives from the Service Company necessary?

### **Study Results**

Concerning question 1, the following conclusion was reached:

- The Service Company's 2016 cost per MAWC customer is reasonable compared to costs per customer for electric and combination electric/gas service companies. During 2016 MAWC was charged \$61 per customer for administrative and general (A&G)-related services provided by the Service Company. This compares to an average of \$102 per customer for service companies reporting to the Federal Energy Regulatory Commission (FERC). Fifteen of the 25 utility service companies that filed a FERC Form 60 for 2015 had higher per customer A&G costs than MAWC's charges from the Service Company.

Concerning question 2, the following conclusions were drawn from this study:

- MAWC was charged the lower of cost or market for managerial and professional services during 2016.
- On average, the hourly rates for outside service providers are 30% higher than the Service Company's hourly rates.
- The managerial and professional services provided by the Service Company are vital and could not be procured externally by MAWC without careful supervision on the part of MAWC. If these services were contracted entirely to outside providers, MAWC would have to add at least three positions to manage activities of outside firms. These positions would be necessary to ensure the quality and timeliness of services provided.
- If all the managerial and professional services now provided by the Service Company had been outsourced during 2016, MAWC and its ratepayers would have incurred almost \$9.8 million in additional expenses. This amount includes the higher cost of outside providers and the cost of three MAWC positions needed to direct the outsourced work.
- This study's hourly rate comparison actually understates the cost advantages that accrue to MAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company exempt personnel, on the other hand, charge a maximum of 8 hours per day even when they work more hours. If all overtime hours of Service Company personnel were factored into the hourly rate calculation, the Service

## I – Introduction

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Company would have had an even greater annual dollar advantage than the \$9.8 million cited above.

- It would be difficult for MAWC to find local service providers with the same specialized water and wastewater industry expertise as that possessed by the Service Company staff. Service Company personnel spend substantially all their time serving operating water and wastewater companies. This specialization brings with it a unique knowledge of water and wastewater utility operations and regulation that is most likely unavailable from local service providers.
- Service Company fees do not include any profit markup. Only its actual cost of service is being recovered from MAWC ratepayers.

Concerning question 3, the following conclusion was reached:

- The cost of the Service Company's customer accounts services, including those provided by the National Call Centers, is well below the average of the neighboring electric utility comparison group. As will be explained further herein, this group of companies provides a reasonable proxy group for comparison to a regulated utility of the size and scope of the Service Company and MAWC. During 2016, the cost of customer accounts services for MAWC customers was \$22.79 compared to the 2015 average of \$33.63 for neighboring electric utilities. The highest comparison group per-customer cost was \$50.14 and the lowest \$11.64.

Concerning question 4, the following conclusions were drawn:

- The services that the Service Company provides are necessary and would be required even if MAWC were a stand-alone water and wastewater utility.
- Furthermore, there is no redundancy or overlap in the services provided by the Service Company to MAWC. For all of the services provided (Exhibit 13), there was only one entity primarily responsible for the service.

## II – Background

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### Overview of American Water Works Service Company

American Water's Service Company exists to provide certain shared services to American Water subsidiaries. It follows a service company model used by many utility holding companies that own multiple regulated utilities. By consolidating executive and professional services into a single service company, utility holding companies are able to realize the following benefits for ratepayers:

- **Purchasing Economies** – Common expenses (e.g., insurance, chemicals, piping) can be procured on a much larger scale, thereby providing greater bargaining power for the combined entity compared to individual utility operating companies. A service company facilitates corporate-wide purchasing programs through its procurement and contract administration functions.
- **Operating Economies of Scale** – A service company is able to deliver services more efficiently because workloads can be balanced across more persons and facilities. For instance, American Water's Service Company is able to maintain one principal data center for the entire corporation. This is much more cost-efficient than each operating utility funding its own data center with large fixed hardware, software and staffing costs.
- **Continuity of Service** – Centralizing service company personnel who perform similar services facilitates job cross-training and sharing of knowledge and expertise. This makes it easier to deal with staff turnover and absences and to sustain high levels of service to operating utilities. An individual operating utility might experience considerable disruption if a key professional left and it were necessary to hire outside to fill the vacancy.
- **Maintenance of Corporate-Wide Standards** – Personnel in American Water's Service Company establish standards for many functions (e.g., engineering designs, operating procedures and maintenance practices). It is easier to ensure these standards are followed by every operating utility because their implementation is overseen by the Service Company.
- **Improved Governance** – American Water's Service Company provides another dimension of management and financial oversight that supplements local operating utility management. The Service Company facilitates standard planning and reporting, which helps ensure that operating utilities meet the requirements of their customers in a cost-effective manner.
- **Retention of Personnel** – A service company organization provides operating utility personnel with another career path beyond what may be available on a local level. These opportunities tend to improve employee retention.

American Water follows the model for other utility service companies in another important regard: Its services are provided to affiliate operating utilities, like MAWC, at cost. American Water's Service Company is not a profit-making entity. It assigns only its actual expenses to the American Water subsidiaries it services.

## II – Background

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The Service Company provides services to American Water operating companies from the following locations:

- Corporate Headquarters – Provides corporate governance and service functions, including executive management, audit, finance, external affairs and human resources. The corporate headquarters is located in Voorhees, New Jersey.
- Central Lab – The national trace substance laboratory is located in Belleville, Illinois, and performs testing for all American Water operating companies.
- Customer Service Centers – Provides customer call center and billing services from two locations: Alton, Illinois and Pensacola, Florida.
- Customer Relations Centers – Provides customer relations and field resource coordination services from two locations: Belleville, Illinois and Wilkes Barre, Pennsylvania.
- Hershey Technology & Innovation Services Center – American Water's principal data center, located in Hershey, Pennsylvania, supports the IT infrastructure required to run corporate and operating company business applications and communications systems.
- Haddon Heights Technology & Innovation Services Center - American Water's data center, located in Haddon Heights, New Jersey, maintains data servers for back-up and disaster recovery.
- Woodcrest Office – The Woodcrest Office, located in Cherry Hill, New Jersey, provides individual operating companies with accounting, human resources and benefits and supply chain services. The Woodcrest office is American Water's main T&I center for employees, provides software delivery and enhancements for SAP and non-SAP (legacy) systems, provides local on-site support as well as the T&I Service Desk for remote assistance for all employees using personal computers in the performance of their day to day activities, supports mission-critical systems such as SCADA as well as emerging technologies such as geographic information systems and mobility, and provides technical expertise in project governance and release management while ensuring compliance with all governmental regulations.
- Regional Support Services – Operating companies are provided with certain support services that are delivered more effectively on a regional basis because individual operating company workloads are not sufficient to warrant maintaining their own full-time staff for these activities. These services require closer proximity to operating companies and therefore are located closer to the operating companies the employees provide service to instead of one of the corporate locations.

## II – Background

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### Service Company Accounting

Service Company maintains an accounting ledger for recording transactions (e.g., labor, expenses, overhead, capital and other assets, liabilities and equity) in a Service Company ledger separate from Affiliates' ledgers. Monthly financial statements are prepared that summarize month-to-date and year-to-date costs, budgets and prior year, with variances and explanations, by category and function. Accounting categories by transaction type are described below.

- **Service Company Labor:** The Service Company utilizes a system that tracks time and attendance. Employees electronically enter hours worked (including vacation, sick, FMLA, etc.) and accounting information (e.g., business unit; formula; pay type) and electronically submit the timesheet for approval. Submitted timesheets are electronically routed to authorized approvers. Time sheets require approval (of hours and accounting information such as formulas, etc.) by an authorized timesheet approver in the employee's home business unit.
- **Service Company Expenses:** Expenditures (i.e., standard invoices, purchase orders, electronic disbursements, Miscellaneous Invoices, Recurring Invoices, Recurring Vouchers, and procurement cards) and journal entries require a preparer to enter accounting coding details (e.g., cost center, cost element and work breakdown structure) and a reviewer to approve the information in accordance with the corporate Delegation of Authority Policy. Expenditures are processed electronically and are automatically routed to the employee's supervisor for approval. Costs are posted many times daily, in detail, in the business unit selected. Journal entries are submitted as prepared to the appropriate reviewer and posted as approved.
- **Service Company Assets:** Service Company assets are procured directly by Service Company or through a capital leasing arrangement with Laurel Oak Properties (LOP). Service Company capitalizes these LOP leases as Non-Utility Plant assets in accordance with GAAP. Generally speaking, Service Company assets (including hardware, servers, laptops, desktops, servers, storage racks, furniture, laboratory and test equipment, security cameras, monitors, and leasehold improvements) are acquired through LOP via a capital lease. LOP, on behalf of the Service Company, will acquire the necessary materials and services to build the assets that are needed for the Company to meet its business needs.
- **Service Company Overhead:** Costs for support personnel (e.g., administrative assistants, mailroom clerks), rents, facility expenses, pension, medical insurance, taxes, general office supplies and other similar expenses are recorded in the ledger of the cost center responsible for incurring the charge. Overhead expenditures are posted using the labor and expense processes noted above, and are recorded, in detail, in the ledger of the cost center responsible for the charge using an overhead WBS element.

### Service Company Billing and Clearing

Service Company has developed a billing system which charges directly or allocates costs for services provided to Affiliates. Service Company billing is processed monthly and includes all Service Company costs charged to Affiliates using the Work Breakdown Structure (WBS) element selected for each transaction.

- **WBS element:** Every Service Company transaction (vouchers, journal entries, payroll batch, etc.) requires a WBS element within the account coding string. Each WBS element is configured in SAP with the following: Affiliate(s) to be charged, percent of charge to be billed to each Affiliate (total must equal 100%), receiving object (e.g., Affiliate's cost center xx0000) for O&M costs or an Affiliate's WBS element for Capex Costs. WBS elements are



## II – Background

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configured in SAP with an end date (month/year) to prevent transactions from using an expired WBS during data input.

- **Affiliate Billing Process:** AW Service Company billing is a two-step process that first calculates allocations of transactions for all non-overhead WBS elements. The second step calculates overhead transaction allocations using the ratio of direct labor (Cost Element 5012000) allocations to Affiliates from the first step above multiplied by the pool of overhead expenses by physical location.
- **Bill Clearing Process:** Service Company billings are cleared through American Water Capital Corporation, Inc., (an Affiliate) monthly via an intercompany journal entry to GL Account 23120000 (Notes Payable – Associated Companies) posted on the last day of the month. Payments are estimated for each Affiliate using the prior month actual billing (current month estimate) with adjustment for prior month actual to estimate (previous month funding) true-up.

### III – Service Company Cost Comparison Approach

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#### Service Company Test Period Charges

During 2016, the Service Company billed MAWC a total of \$37.5 million, as shown in the table below. These charges were subjected to a market to cost comparison.

	2016
Management Fees - O&M	\$ 30,232,391
Management Fees - Capital	\$ 7,312,962
Total Service Company Charges	\$ 37,545,353

For purposes of comparing these charges to certain outside benchmarks, Service Company services were placed into two categories:

- Managerial and Professional Services – Includes such services as management, accounting, legal, human resources, information technology and engineering.
- Customer Accounts Services – Includes customer-related services, such as call center, credit, billing, collection and payment processing.

Total 2016 Service Company charges break down between management/professional services and customer account services as follows:

	2016	
	Amount	Hours
Management and Professional Services	\$ 31,399,757	143,379
Customer Account Services	\$ 6,145,596	127,627
Total Service Company Charges	\$ 37,545,353	271,006

#### Service Company Cost Comparison Approach

This study's first question—whether the Service Company 2016 charges were reasonable—was determined by comparing MAWC's A&G-related Service Company charges per customer to the same charges for utility companies that must file the Federal Energy Regulatory Commission (FERC) Form 60 – Annual Report of Service Companies.

The second question—whether the Service Company charges during 2016 were at the lower of cost or market—was evaluated by comparing the cost per hour for managerial and professional services provided by Service Company personnel to hourly billing rates that would be charged by outside providers of equivalent services. Service Company costs per hour were based on actual charges to MAWC during 2016. Outside providers' billing rates came from surveys or other information from professionals who could perform the services now provided by the Service Company.

### III – Service Company Cost Comparison Approach

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The third question—whether Service Company's 2016 customer account services charges, including National Call Center costs, were comparable to other utilities—was addressed by comparing MAWC's customer accounts services expenses to those of neighboring investor-owned electric utilities. This utility comparison group was selected because the cost of outside providers of customer accounts services is proprietary and not publicly available. Comparison to electric utilities is appropriate because all utilities, regardless of service type, must perform customer account services activities, including updating customer records for meter reads, printing and mailing bills, and the collection and processing of customer payments. Electric utility costs are available from the FERC Form 1; thus, there is appropriate data transparency. The selection of electric utilities from Missouri and neighboring states provides a sufficiently sized comparison group.

The fourth question—the necessity of Service Company services—was investigated by defining the services provided to MAWC and determining if these services would be required if MAWC were a stand-alone utility.

## IV – Question 1 – Reasonableness of Service Company Charges

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### Methodology

Utility service companies deliver a variety of services. Some support their regulated utility affiliate's operations-related functions (e.g., transmission, distribution). All utility service companies, however, provide A&G services to their affiliates. This is true because there are considerable economies of scale derived from centralizing the management of corporate A&G services such as technology and innovation (T&I), finance and human resources. Because A&G-related services are consistently delivered by utility service companies, this study uses A&G charges per customer as the metric by which to test the reasonableness of affiliate charges.

### MAWC's Service Company A&G Cost per Customer

During 2016 MAWC was charged \$61 per customer by the Service Company for A&G-related services. The calculation of this amount, shown in the table below, starts with total Service Company charges and adjusts for capital and non-A&G function (e.g., engineering, operations and water quality) charges. These adjustments are necessary to develop a per-customer cost that can be compared to the cost of the utility service company comparison group.

	2016
Total Service Company charges	\$ 37,545,353
Less: Capital charges	\$ (7,312,962)
Less: Non-A&G charges	
Engineering	\$ (710,370)
Operations	\$ (556,574)
Water Quality	\$ (123,179)
Net A&G Service Company Charges	\$ 28,842,268
MAWC Customer Count	476,071
MAWC A&G SC Charges per Customer	\$ 61

### Comparison Group Cost Per Customer

Every centralized service company in a holding company system subject to regulation by the FERC must file a Form 60 in accordance with the Public Utility Holding Company Act of 2005, Section 1270, Section 390 of the Federal Power Act, and 18 Code of Federal Regulations paragraph 366.23. This report is designed to collect financial information from service companies that are subject to regulation by the FERC.

Charges to utility affiliates for the comparison group service companies were obtained from Schedule XVI – Analysis of Charges for Service Associate and Non-Associate Companies (p. 303 to 306) of each entity's FERC Form 60. Information from Form 60 schedule Account 457 – Analysis of Billing – Associate Companies was also used to isolate and eliminate charges to non-regulated affiliates from the cost pool used to calculate A&G expenses per regulated service customer.

For 2015, a Form 60 was filed by service companies associated with 25 utility holding companies. These service companies support utilities that provide regulated electric and, in some cases, gas service to retail customers.

## IV – Question 1 – Reasonableness of Service Company Charges

FERC Form 60 shows service company charges to affiliates by FERC account. The table below shows a list of FERC A&G accounts and designates which correspond to services the Service Company provides to MAWC. Amounts in the designated FERC accounts are included in the calculation of service company A&G expenses per regulated customer.

FERC Account	Included In Cost Calculation
901 - Supervision	X
902 - Meter reading expenses	
903 - Customer records and collection expenses	X
904 - Uncollectible accounts	
905 - Miscellaneous customer accounts expenses	X
907 - Supervision	
908 - Customer assistance expenses	
909 - Informational And Instructional Advertising Expenses	
910 - Miscellaneous Customer Service And Informational Exp	X
911 - Supervision	
912 - Demonstrating and Selling Expenses	
913 - Advertising Expenses	
916 - Miscellaneous Sales Expenses	
920 - Administrative and General Salaries	X
921 - Office Supplies and Expenses	X
923 - Outside Services Employed	X
924 - Property Insurance	X
925 - Injuries and Damages	
926 - Employee Pensions and Benefits	X
928 - Regulatory Commission Expenses	
930.1 - General Advertising Expenses	
930.2 - Miscellaneous General Expenses	X
931 - Rents	X
935 - Maintenance of Structures and Equipment	X

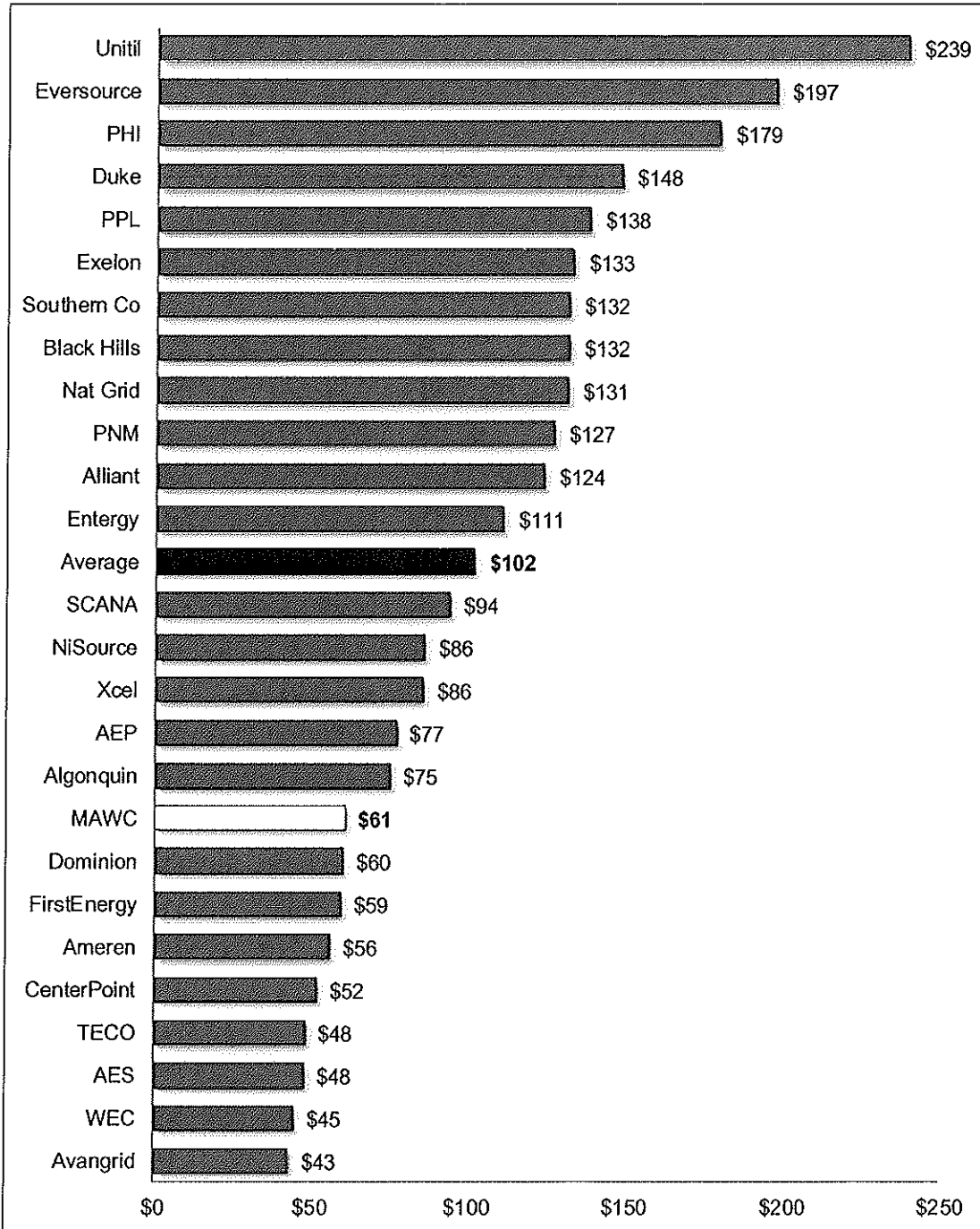
The A&G expenses per regulated utility customer for the 25 utility companies that filed a Form 60 for 2015 are calculated in Exhibit 1 (page 11).

Exhibit 1 (page 12) shows MAWC's 2016 Service Company cost per customer of \$61 to be considerably lower than the average of \$102 per customer for the comparison group service companies. Fifteen of the 25 comparison group service companies had higher per customer A&G costs than MAWC's charges from the Service Company. Based on this result, it is possible to conclude that the Service Company's 2016 charges to MAWC were reasonable.

Missouri American Water Company  
Calculation of 2015 Service Company A&G Expenses Per Customer

Utility Company	2015 Regulated		Cost per Customer
	Retail Service Company A&G Expenses	Regulated Retail Customers	
AEP	\$415,745,805	5,400,000	\$ 77
AES	\$47,677,757	995,000	\$ 48
Algonquin	\$28,870,928	385,000	\$ 75
Alliant	\$168,389,438	1,360,000	\$ 124
Ameren	\$184,864,686	3,300,000	\$ 56
Avangrid	\$133,983,738	3,100,000	\$ 43
Black Hills	\$99,248,008	754,439	\$ 132
CenterPoint	\$285,438,402	5,494,377	\$ 52
Dominion	\$228,538,751	3,800,000	\$ 60
Duke	\$1,172,520,930	7,905,000	\$ 148
Entergy	\$337,515,023	3,044,000	\$ 111
Eversource	\$716,944,462	3,636,274	\$ 197
Exelon	\$1,050,687,891	7,900,000	\$ 133
FirstEnergy	\$358,580,370	6,028,000	\$ 59
Nat Grid	\$1,102,006,204	8,400,000	\$ 131
NiSource	\$332,762,061	3,861,416	\$ 86
PHI	\$355,634,520	1,982,000	\$ 179
PNM	\$96,421,638	759,658	\$ 127
PPL	\$367,387,896	2,661,000	\$ 138
SCANA	\$191,590,890	2,038,362	\$ 94
Southern Co	\$598,048,418	4,546,000	\$ 132
TECO	\$77,303,830	1,605,000	\$ 48
Unitil	\$43,531,510	182,018	\$ 239
WEC	\$195,349,391	4,364,000	\$ 45
Xcel	\$471,427,231	5,500,000	\$ 86
<b>Total</b>	<b>\$9,060,469,777</b>	<b>89,001,544</b>	<b>\$ 102</b>

**Missouri American Water Company  
Comparison of Service Company A&G Expenses Per Customer**



## V – Question 2 – Provision of Services at the Lower of Cost or Market

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### **Methodology**

The lower-of-cost-or-market comparison is accomplished by comparing the cost per hour for Service Company managerial and professional services to those of outside service providers to whom these duties could be assigned. Based on the nature of the Service Company services, it was determined that the following outside providers could perform the categories of services indicated below:

- Management Consultants – executive and administrative management, risk management, human resources and communications services
- Attorneys – legal services
- Certified Public Accountants – accounting, financial and rates and revenues services
- T&I Professionals – information technology services
- Professional Engineers – engineering, operations and water quality services.

The services provided by the Belleville lab are assumed to be transferable to professional engineers for purposes of this cost comparison. This was done for two reasons. First, there is no readily available survey of hourly billing rates for testing services such as those performed by Belleville. Second, Belleville personnel have similar scientific educational backgrounds as Service Company engineering personnel. Thus, it is appropriate to compare the hourly rates of Belleville services to those of outside engineering firms.

Service Company's hourly rate were calculated for each of the five outside service provider categories, based on the dollars and hours charged to MAWC during 2016. Hourly billing rates for outside service providers were developed using third party surveys or directly from information furnished by outside providers themselves.

It should be noted that by using the Service Company's hours charged MAWC during 2016, its hourly rates are actually overstated because some Service Company personnel charge a maximum of 8 hours per day even when they work more. Outside service providers generally bill for every hour worked. If all overtime hours of Service Company personnel had been factored into the hourly rate calculation, Service Company hourly rates would have been lower.

The last step in the lower-of-cost-or-market comparison was to compare the Service Company's average cost per hour to the average cost per hour for outside providers.

### **Service Company Hourly Rates**

Exhibit 3 (page 15) details the assignment of 2016 management and professional Service Company charges by outsider provider category. Exhibit 4 (page 16) shows the same assignment for Service Company management and professional hours charged to MAWC during 2016.

Certain adjustments to these dollar amounts were necessary to calculate Service Company hourly rates that are directly comparable to those of outside providers. Adjustments were made to the following 2016 test period non-labor Service Company charges:

- Contract Services – 2016 Service Company charges to MAWC include expenses associated with the use of outside professional firms to perform certain corporate-wide services (e.g., legal, financial audit, actuarial services). These professional fees are



## V – Question 2 – Provision of Services at the Lower of Cost or Market

excluded from the Service Company hourly rate calculation because the related services have effectively been out-sourced already.

- **Travel Expenses** – In general, client-related travel expenses incurred by outside service providers are not recovered through their hourly billing rates. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, it is appropriate to remove these Service Company charges from the hourly rate calculation.
- **T&I Infrastructure Expenses** – Included in 2016 Service Company charges to MAWC are leases, maintenance fees and depreciation related to American Water's enterprise computing and network infrastructure and corporate business applications. An outside provider that would take over operation of this infrastructure would recover these expenses over and above the cost of personnel necessary to operate the data center.
- **Non-Service Related Expenses** – These are corporate expenses such current and deferred income tax expense, line of credit fees and board expenses. These are not related to the provision of services by Service Company personnel and have been excluded.

Exhibit 5 (page 17) shows how contract services, travel expenses, T&I infrastructure and non-service-related Service Company charges are assigned to the four outside provider categories.

Based on the assignment of expenses and hours shown in Exhibits 2 and 3 and the excludable items shown in Exhibit 4, the Service Company's equivalent costs per hour for 2016 are calculated below.

	Attorney	Management Consultant	Certified Public Accountant	T&I Professional	Professional Engineer	Total
Total management, professional & technical services charges	\$ 1,620,734	\$ 10,397,217	\$ 4,788,063	\$ 12,852,433	\$ 1,741,309	\$ 31,399,757
Less: Exclusions						
Contract services	\$ 459,302	\$ 736,334	\$ 443,823	\$ 4,789,780	\$ 128,870	\$ 6,558,109
Travel expenses	\$ 3,858	\$ 24,155	\$ 22,432	\$ 60,080	\$ 27,746	\$ 138,271
IT infrastructure expenses	\$ 823	\$ 2,751,020	\$ 31,151	\$ 1,477,330	\$ 19,939	\$ 4,280,264
Non-service related expenses	\$ 156,116	\$ 1,146,765	\$ 125,241	\$ 21,479	\$ 43,601	\$ 1,493,192
Total Exclusions	\$ 620,099	\$ 4,658,263	\$ 622,647	\$ 6,348,669	\$ 220,156	\$ 12,469,835
Net Service-Related Charges (A)	\$ 1,000,635	\$ 5,738,954	\$ 4,165,416	\$ 6,503,764	\$ 1,521,153	\$ 18,929,921
Total Hours (B)	4,305	25,987	43,457	54,147	15,483	143,379
<b>Average Hourly Rate (A / B)</b>	<b>\$ 232</b>	<b>\$ 221</b>	<b>\$ 96</b>	<b>\$ 120</b>	<b>\$ 98</b>	

**Missouri American Water Company**  
**Analysis of 2016 Service Company Charges by Location and Function**

		12 Months Ended December 31, 2016 Service Company Charges						
Location	Function	Attorney	Management Consultant	Certified Public Accountant	T&I Professional	Professional Engineer	Total	
Bellefonte Lab	Water Quality					\$ 125,530	\$ 125,530	
Call Center	Human Resources		\$ 62,692				\$ 62,692	
Corporate	Accounting			\$ 1,881,474			\$ 1,881,474	
	Administration		\$ 5,763,713				\$ 5,763,713	
	Audit			\$ 286,493			\$ 286,493	
	Business Development		\$ 420,465				\$ 420,465	
	Communications		\$ 432,991				\$ 432,991	
	Engineering					\$ 1,615,714	\$ 1,615,714	
	External Affairs		\$ 304,137				\$ 304,137	
	Finance			\$ 1,566,078			\$ 1,566,078	
	Human Resources		\$ 1,715,340				\$ 1,715,340	
	Information Technology					\$ 466,104	\$ 466,104	
	Legal		\$ 1,226,010				\$ 1,226,010	
	Operations			\$ 608,395			\$ 608,395	
	Procurement				\$ 573,019		\$ 573,019	
	Rates & Regulatory			\$ 150,337			\$ 150,337	
	Risk Management			\$ 267,875			\$ 267,875	
	Division Offices	Administration		\$ 278,597				\$ 278,597
		Business Development		\$ 128,942				\$ 128,942
Engineering						\$ 65	\$ 65	
External Affairs			\$ 121,171				\$ 121,171	
Finance				\$ 275,114			\$ 275,114	
Human Resources			\$ 142,561				\$ 142,561	
Legal			\$ 394,724				\$ 394,724	
Info Technology	Rates & Revenue			\$ 205,885			\$ 205,885	
	Information Technology				\$ 12,388,329		\$ 12,388,329	
<b>Total Dollars Charged</b>		<b>\$ 1,620,734</b>	<b>\$ 10,397,217</b>	<b>\$ 4,788,063</b>	<b>\$ 12,852,433</b>	<b>\$ 1,741,309</b>	<b>\$ 31,399,757</b>	

**Missouri American Water Company  
Analysis of 2016 Service Company Hours by Location and Function**

		12 Months Ended December 31, 2016 Service Company Hours						
Location	Function	Attorney	Management Consultant	Certified Public Accountant	T&I Professional	Professional Engineer	Total	
Bellefonte Lab	Water Quality					987	987	
Call Center	Human Resources		819				819	
Corporate	Accounting			19,926			19,926	
	Administration		2,738				2,738	
	Audit			1,667			1,667	
	Business Development		1,366				1,366	
	Communications		2,571				2,571	
	Engineering					14,496	14,496	
	External Affairs		305				305	
	Finance			12,891			12,891	
	Human Resources			12,407			12,407	
	Information Technology					3,275	3,275	
	Legal		2,414				2,414	
	Operations			897			897	
	Procurement				6,047		6,047	
	Rates & Regulatory			706			706	
	Risk Management			2,850			2,850	
	Division Offices	Administration		38				38
		Business Development		863				863
Engineering							-	
External Affairs			220				220	
Finance				1,808			1,808	
Human Resources				207			207	
Legal			1,892				1,892	
Info Technology	Rates & Revenue			1,118			1,118	
	Information Technology				50,871		50,871	
<b>Total Hours Charged</b>		<b>4,305</b>	<b>25,987</b>	<b>43,457</b>	<b>54,147</b>	<b>15,483</b>	<b>143,379</b>	

**Missouri American Water Company  
Analysis of 2016 Service Company Charges Excludable from the Hourly Rate Calculation**

Charges By Function	Exclusions From Hourly Rate Calculation					Total	Outside Service Provider Category
	Contract Services	Travel Expenses	T&I Infrastructure	Non-Services-Related Items			
Accounting	\$ 280,278	\$ 4,703	\$ 23,688	\$ 11,704	\$ 320,373	Certified Public Accountant	
Administration	\$ 326,904	\$ 2,494	\$ 2,742,524	\$ 1,111,208	\$ 4,183,130	Management Consultant	
Audit	\$ 110,209	\$ 373	\$ 5,644		\$ 116,227	Certified Public Accountant	
Business Development	\$ 13,174	\$ 6,303	\$ 899	\$ 13,042	\$ 33,418	Management Consultant	
Communications	\$ 72,281	\$ 869	\$ 2,293	\$ 2,298	\$ 77,741	Management Consultant	
Engineering	\$ 77,934	\$ 24,919	\$ 19,802	\$ 11,653	\$ 134,308	Professional Engineer	
External Affairs	\$ 26,006	\$ 4,464	\$ 340	\$ 8,900	\$ 39,709	Management Consultant	
Finance	\$ 48,466	\$ 12,061	\$ 1,754	\$ 66,363	\$ 128,643	Certified Public Accountant	
Human Resources	\$ 275,467	\$ 8,251	\$ 2,637	\$ 10,949	\$ 297,303	Management Consultant	
Information Technology	\$ 4,789,780	\$ 60,080	\$ 1,477,330	\$ 21,479	\$ 6,348,669	IT Professional	
Legal	\$ 459,302	\$ 3,858	\$ 823	\$ 156,116	\$ 620,099	Attorney	
Operations	\$ 58,095	\$ 2,781		\$ 2,587	\$ 63,463	Professional Engineer	
Procurement	\$ 3,252	\$ 3,578	\$ 66	\$ 8,707	\$ 15,602	Certified Public Accountant	
Rates & Regulatory	\$ 1,618	\$ 1,717		\$ 38,467	\$ 41,802	Certified Public Accountant	
	\$ 20,776	\$ 1,549	\$ 2,068	\$ 299	\$ 24,692	Management Consultant	
Risk Management	\$ 1,727	\$ 225	\$ 260	\$ 58	\$ 2,270	Management Consultant	
Water Quality	\$ (7,158)	\$ 46	\$ 136	\$ 29,361	\$ 22,385	Professional Engineer	
<b>Total</b>	<b>\$ 6,558,109</b>	<b>\$ 138,271</b>	<b>\$ 4,280,264</b>	<b>\$ 1,493,192</b>	<b>\$ 12,469,835</b>		

Recap By Outside Provider	Exclusions From Hourly Rate Calculation					Total
	Contract Services	Travel Expenses	T&I Infrastructure	Non-Services-Related Items		
Attorney	\$ 459,302	\$ 3,858	\$ 823	\$ 156,116	\$ 620,099	
Management Consultant	\$ 736,334	\$ 24,155	\$ 2,751,020	\$ 1,146,755	\$ 4,658,263	
Certified Public Accountant	\$ 443,823	\$ 22,432	\$ 31,151	\$ 125,241	\$ 622,647	
IT Professional	\$ 4,789,780	\$ 60,080	\$ 1,477,330	\$ 21,479	\$ 6,348,669	
Professional Engineer	\$ 128,870	\$ 27,746	\$ 19,939	\$ 43,601	\$ 220,156	
<b>Total</b>	<b>\$ 6,558,109</b>	<b>\$ 138,271</b>	<b>\$ 4,280,264</b>	<b>\$ 1,493,192</b>	<b>\$ 12,469,835</b>	

## V – Question 2 – Provision of Services at the Lower of Cost or Market

### Outside Service Provider Hourly Rates

The next step in the lower-of-cost-or-market comparison was to obtain the average billing rates for outside service providers. The source of this information and the determination of the average rates are described in the paragraphs that follow.

It should be noted that professionals working for three of the five outside provider categories may be licensed to practice by state regulatory bodies. However, not every professional working for these firms is licensed. For instance, among US certified public accounting firms, only more experienced staff are predominantly CPAs (see table below). Some Service Company employees also have professional licenses. Thus, it is valid to compare the Service Company's hourly rates to those of the outside professional service providers included in this study.

Position	US Average
Partners/Owners	98%
Directors (11+ years experience)	87%
Managers (6-10 years experience)	79%
Sr Associates (4-5 years experience)	50%
Associates (1-3 years experience)	22%
New Professionals	10%

Source: AICPA's National PCPS/TSCPA Management of an Accounting Practice Survey (2010)

### Attorneys

The Missouri State Bar does not survey its members as to their hourly billing rates. In addition, publicly available billing rate information could not be found for Missouri attorneys. Therefore, an estimate of Missouri attorney rates was developed from a 2014 billing rate survey from National Law Journal. As shown in Exhibit 6 (pages 20-22), data from this survey has been adjusted for cost-of-living differences between each law firm's location and St. Louis, Missouri. The National Law Review Billing survey data is as of December 31, 2014. The calculated average rate was escalated to June 30, 2016—the midpoint of 2016.

### Management Consultants

The cost per hour for management consultants was developed from a 2016 survey performed by the Association of Management Consulting Firms—an industry trade organization. The survey includes rates that were in effect during 2015 for firms throughout the United States. Consultants typically do not limit their practice to any one region and must travel to a client's location. Thus, in this case the U.S. national average is appropriate for comparison.

The first step in the calculation, presented in Exhibit 7 (page 23), was to determine an average rate by consultant position level. From these rates, a single weighted average hourly rate was calculated based upon the percent of time that is typically applied to a consulting assignment by each consultant position level. The calculated average rate was escalated to June 30, 2016—the midpoint of 2016.

## V – Question 2 – Provision of Services at the Lower of Cost or Market

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### **Certified Public Accountants**

The average hourly rate for Missouri CPAs was developed from a 2016 survey performed by the American Institute of Certified Public Accountants (AICPA). The Missouri version of this survey was used to develop hourly rates for member firms in Missouri.

As shown in Exhibit 8 (page 24), a weighted average hourly rate was developed based on a set of accountant positions and a percent of time that is typically applied to an accounting assignment. This survey includes rate information in effect during 2015. The calculated average rate was escalated to June 30, 2016—the midpoint of 2016.

### **Technology and Innovation Professionals**

The average hourly rate for information technology consultants and contractors was developed from T&I industry hourly billing rate data gathered by Baryenbruch & Company, LLC. As shown in Exhibit 9 (page 25), that data was compiled and a weighted average was calculated based on a percent of time that is typically applied to an T&I consulting assignment based on Baryenbruch & Company's experience.

### **Professional Engineers**

The Company provided hourly rate information for outside engineering firms that provided MAWC with bids. As presented in Exhibit 10 (page 26), an average rate was developed for each engineering position level. Then, using a typical percentage mix of project time by engineering position, a weighted average cost per hour was calculated.

Missouri American Water Company  
Estimated Billing Rates for Missouri Attorneys

2014 Hourly Billing Rates		2014 Avg Billing Rates			Weighted Average Rate Calculation			Cost of Living (COL) Adjustment			Adjusted Rate
Firm Name	Location	Partner	Associate	(A)		Weighted Average	(B)				
				Partner	Associate		Law Firm Location	NAWCO - St. Louis, Mo	COL Adjustment		
Adams and Rees	New Orleans, LA	\$ 420	\$ 270	\$ 105	\$ 203	\$ 308	98.2	92.7	94.4%	\$ 290	
Alerman	Miami, FL	\$ 535	\$ 305	\$ 134	\$ 229	\$ 363	107.2	92.7	86.6%	\$ 313	
Alan Gump Strauss Heuer & Feld	Washington, DC	\$ 785	\$ 525	\$ 190	\$ 394	\$ 590	141.6	92.7	65.6%	\$ 366	
Alston & Bird	Atlanta, GA	\$ 675	\$ 425	\$ 169	\$ 319	\$ 458	93.5	92.7	99.1%	\$ 453	
Andrews Kurth	Houston, TX	\$ 690	\$ 670	\$ 223	\$ 603	\$ 725	99.0	92.7	93.7%	\$ 678	
Archer & Greiner	Haddonfield, NJ	\$ 400	\$ 245	\$ 100	\$ 184	\$ 284	121.2	92.7	76.5%	\$ 217	
Arnt Fox	Washington, DC	\$ 650	\$ 395	\$ 163	\$ 296	\$ 459	141.6	92.7	65.5%	\$ 300	
Arnold & Porter	Washington, DC	\$ 815	\$ 500	\$ 204	\$ 375	\$ 579	141.6	92.7	65.5%	\$ 379	
Arnstain & Lehr	Chicago, IL	\$ 465	\$ 250	\$ 116	\$ 168	\$ 304	117.4	92.7	78.9%	\$ 240	
Baker & Hostetler	Cleveland, OH	\$ 449	\$ 272	\$ 112	\$ 204	\$ 316	98.2	92.7	94.4%	\$ 299	
Baker & McKenzie	Chicago, IL	\$ 755	\$ 395	\$ 189	\$ 296	\$ 455	117.4	92.7	78.9%	\$ 383	
Baker, Donelson, Bearman, Caldwell	Memphis, TN	\$ 400	\$ 295	\$ 100	\$ 221	\$ 321	84.9	92.7	109.2%	\$ 351	
Ballard Spahr	Philadelphia, PA	\$ 475	\$ 315	\$ 119	\$ 236	\$ 355	121.2	92.7	76.5%	\$ 272	
Barnes & Thornburg	Indianapolis, IN	\$ 480	\$ 320	\$ 120	\$ 240	\$ 360	91.1	92.7	101.6%	\$ 366	
Benesch, Friedlander, Coplan & Aronoff	Cleveland, OH	\$ 455	\$ 280	\$ 114	\$ 210	\$ 324	98.2	92.7	94.4%	\$ 306	
Best Best & Krieger	Riverside, CA	\$ 455	\$ 280	\$ 114	\$ 210	\$ 324	112.0	92.7	82.6%	\$ 268	
Bingham McCutchen	Boston, MA	\$ 765	\$ 450	\$ 199	\$ 338	\$ 536	140.1	92.7	66.2%	\$ 355	
Blank Rome	Philadelphia, PA	\$ 640	\$ 350	\$ 160	\$ 263	\$ 423	121.2	92.7	78.5%	\$ 323	
Bond, Schoenack & King	Syracuse, NY	\$ 355	\$ 225	\$ 89	\$ 169	\$ 258	104.5	92.7	68.7%	\$ 228	
Bowles Rice	Charleston, WV	\$ 230	\$ 135	\$ 58	\$ 101	\$ 159	93.7	92.7	88.9%	\$ 157	
Bracewell & Giuliani	Houston, TX	\$ 760	\$ 440	\$ 190	\$ 330	\$ 520	99.0	92.7	93.7%	\$ 487	
Bradley Arant Boult Cummings	Birmingham, AL	\$ 430	\$ 260	\$ 108	\$ 195	\$ 303	65.9	92.7	107.9%	\$ 326	
Brownstein Hyatt Farber Schreck	Denver, CO	\$ 620	\$ 305	\$ 130	\$ 229	\$ 359	104.0	92.7	89.1%	\$ 320	
Bryan Cave	St. Louis, MO	\$ 620	\$ 405	\$ 155	\$ 304	\$ 459	94.4	92.7	88.2%	\$ 450	
Buchalter Nemer	Los Angeles, CA	\$ 605	\$ 365	\$ 151	\$ 274	\$ 425	131.0	92.7	70.7%	\$ 301	
Burr & Forman	Birmingham, AL	\$ 371	\$ 241	\$ 93	\$ 181	\$ 274	65.9	92.7	107.9%	\$ 295	
Cadwalader, Wickersham & Taft	New York, NY	\$ 930	\$ 605	\$ 233	\$ 454	\$ 686	221.3	92.7	41.9%	\$ 287	
Cole, Schatz, Meisel, Forman & Leonard	Hackensack, NJ	\$ 653	\$ 302	\$ 163	\$ 227	\$ 390	133.0	92.7	69.7%	\$ 272	
Connell Foley	Roseland, NJ	\$ 425	\$ 265	\$ 106	\$ 199	\$ 305	128.4	92.7	72.2%	\$ 220	
Coolby	Palo Alto, CA	\$ 820	\$ 515	\$ 205	\$ 358	\$ 591	159.9	92.7	58.0%	\$ 343	
Coventry & Burling	Washington, DC	\$ 760	\$ 415	\$ 195	\$ 311	\$ 506	141.6	92.7	65.6%	\$ 331	
Cozen O'Connor	Philadelphia, PA	\$ 670	\$ 355	\$ 143	\$ 266	\$ 409	121.2	92.7	76.5%	\$ 313	
Curtis, Maler-Prevost, Cot & Morse	New York, NY	\$ 800	\$ 450	\$ 200	\$ 360	\$ 560	221.3	92.7	41.9%	\$ 235	
Davis Graham & Stubbs	Denver, CO	\$ 435	\$ 255	\$ 109	\$ 191	\$ 300	104.0	92.7	89.1%	\$ 267	
Davis Polk & Wardwell	New York, NY	\$ 975	\$ 615	\$ 244	\$ 461	\$ 705	221.3	92.7	41.9%	\$ 285	
Debevoise & Plimpton	New York, NY	\$ 1,055	\$ 490	\$ 264	\$ 368	\$ 631	221.3	92.7	41.9%	\$ 264	
Dechert	New York, NY	\$ 900	\$ 530	\$ 225	\$ 398	\$ 623	221.3	92.7	41.9%	\$ 261	
Dentons	New York, NY	\$ 700	\$ 425	\$ 175	\$ 319	\$ 494	221.3	92.7	41.9%	\$ 297	
Dickstein Shapiro	Washington, DC	\$ 760	\$ 475	\$ 168	\$ 356	\$ 544	141.6	92.7	65.6%	\$ 356	
Dinmore & Shohl	Cincinnati, OH	\$ 411	\$ 238	\$ 103	\$ 179	\$ 281	91.8	92.7	101.0%	\$ 284	
DLA Piper	New York, NY	\$ 765	\$ 510	\$ 191	\$ 333	\$ 574	221.3	92.7	41.9%	\$ 240	
Dorsey & Whitney	Minneapolis, MN	\$ 435	\$ 315	\$ 109	\$ 236	\$ 345	110.3	92.7	84.0%	\$ 290	
Duane Morris	Philadelphia, PA	\$ 589	\$ 373	\$ 147	\$ 260	\$ 427	121.2	92.7	76.5%	\$ 327	
Edwards Wildman Palmer	Boston, MA	\$ 658	\$ 325	\$ 134	\$ 244	\$ 378	140.1	92.7	66.2%	\$ 280	
Faegre Baker Daniel's	Minneapolis, MN	\$ 455	\$ 260	\$ 114	\$ 185	\$ 309	110.3	92.7	84.0%	\$ 259	
Foley & Lardner	Milwaukee, WI	\$ 600	\$ 335	\$ 150	\$ 251	\$ 401	101.7	92.7	91.2%	\$ 366	
Foley Hoag	Boston, MA	\$ 670	\$ 325	\$ 168	\$ 244	\$ 411	140.1	92.7	66.2%	\$ 272	
Fox Rothschild	Philadelphia, PA	\$ 530	\$ 310	\$ 133	\$ 233	\$ 365	121.2	92.7	76.5%	\$ 279	
Fried, Frank, Harris, Shriver & Jacobson	New York, NY	\$ 1,000	\$ 595	\$ 250	\$ 446	\$ 696	221.3	92.7	41.9%	\$ 292	
Frost Brown Todd	Cincinnati, OH	\$ 387	\$ 234	\$ 97	\$ 176	\$ 272	91.8	92.7	101.0%	\$ 276	
Gardner Wynne Sewell	Dallas, TX	\$ 635	\$ 303	\$ 159	\$ 227	\$ 356	66.7	92.7	86.6%	\$ 374	

Missouri American Water Company  
Estimated Billing Rates for Missouri Attorneys

2014 Hourly Billing Rates		Weighted Average Rate Calculation					Cost of Living (COL) Adjustment			(A x B) Adjusted Rate
Firm Name	Location	2014 Avg Billing Rates		Weighted Average			COL Indices			
		Partner	Associate	Partner	Associate	Average	Law Firm Location	MAWC - St. Louis, Mo	COL Adjustment	
Gibbons	Newark, NJ	\$ 560	\$ 360	\$ 140	\$ 270	\$ 410	128.4	92.7	72.2%	\$ 256
Gibson, Dunn & Crutcher	New York, NY	\$ 680	\$ 580	\$ 245	\$ 443	\$ 668	221.3	92.7	41.6%	\$ 288
Gordon Rees Scuffy Mansukhani	San Diego, CA	\$ 420	\$ 300	\$ 105	\$ 225	\$ 330	129.2	92.7	71.7%	\$ 297
Greenberg Traurig	New York, NY	\$ 763	\$ 470	\$ 191	\$ 353	\$ 543	221.3	92.7	41.6%	\$ 228
Harris Beach	Rochester, NY	\$ 348	\$ 230	\$ 87	\$ 173	\$ 260	99.9	92.7	92.8%	\$ 241
Hartar Sacrest & Emery	Rochester, NY	\$ 385	\$ 250	\$ 96	\$ 188	\$ 284	99.9	92.7	92.8%	\$ 263
Haynes and Boone	Dallas, TX	\$ 670	\$ 405	\$ 168	\$ 304	\$ 471	95.7	92.7	96.8%	\$ 456
Holland & Hart	Denver, CO	\$ 442	\$ 277	\$ 111	\$ 208	\$ 318	104.0	92.7	89.1%	\$ 284
Holland & Knight	Washington, DC	\$ 628	\$ 340	\$ 156	\$ 255	\$ 411	141.6	92.7	65.5%	\$ 269
Hongman Mier Schwartz and Cohn	Detroit, MI	\$ 390	\$ 220	\$ 98	\$ 165	\$ 263	96.1	92.7	96.4%	\$ 253
Hughes Hubbard & Reed	New York, NY	\$ 690	\$ 555	\$ 223	\$ 416	\$ 639	221.3	92.7	41.6%	\$ 268
Husch Blackwell	St. Louis, MO	\$ 449	\$ 275	\$ 112	\$ 206	\$ 319	94.4	92.7	98.2%	\$ 313
Ice Miller	Indianapolis, IN	\$ 450	\$ 270	\$ 113	\$ 203	\$ 315	91.1	92.7	101.6%	\$ 321
Irell & Manella	Los Angeles, CA	\$ 690	\$ 535	\$ 223	\$ 401	\$ 624	131.0	92.7	70.7%	\$ 441
Jackson Kelly	Charleston, WV	\$ 345	\$ 243	\$ 96	\$ 182	\$ 269	93.7	92.7	98.9%	\$ 266
Jackson Lewis	Los Angeles, CA	\$ 380	\$ 290	\$ 96	\$ 218	\$ 313	131.0	92.7	70.7%	\$ 221
Jackson Walker	Dallas, TX	\$ 622	\$ 335	\$ 156	\$ 261	\$ 407	95.7	92.7	96.8%	\$ 394
Jenner & Block	Chicago, IL	\$ 745	\$ 465	\$ 186	\$ 349	\$ 535	117.4	92.7	78.9%	\$ 422
Jones Day	New York, NY	\$ 745	\$ 435	\$ 186	\$ 306	\$ 513	221.3	92.7	41.6%	\$ 215
Jones Walker	New Orleans, LA	\$ 385	\$ 225	\$ 96	\$ 169	\$ 265	98.2	92.7	94.4%	\$ 260
Kasowitz, Benson, Torres & Friedman	New York, NY	\$ 835	\$ 340	\$ 209	\$ 255	\$ 464	221.3	92.7	41.6%	\$ 194
KaZen Much Rosenman	Chicago, IL	\$ 615	\$ 455	\$ 164	\$ 341	\$ 495	117.4	92.7	78.9%	\$ 391
Kaye Scholer	New York, NY	\$ 860	\$ 597	\$ 215	\$ 448	\$ 663	221.3	92.7	41.6%	\$ 278
Kelley Drye & Warren	New York, NY	\$ 640	\$ 430	\$ 160	\$ 323	\$ 483	221.3	92.7	41.6%	\$ 202
Kilpatrick Townsend & Stockton	Atlanta, GA	\$ 560	\$ 365	\$ 138	\$ 269	\$ 426	93.5	92.7	99.1%	\$ 422
King & Spalding	Atlanta, GA	\$ 775	\$ 460	\$ 194	\$ 345	\$ 539	93.5	92.7	99.1%	\$ 534
Kirkland & Ellis	Chicago, IL	\$ 825	\$ 540	\$ 206	\$ 405	\$ 611	117.4	92.7	78.9%	\$ 483
Kroebbe Martens Olson & Bear	Irvine, CA	\$ 575	\$ 360	\$ 144	\$ 270	\$ 414	140.7	92.7	65.9%	\$ 273
Kramer Levin Nafis & Frankel	New York, NY	\$ 921	\$ 675	\$ 230	\$ 506	\$ 737	221.3	92.7	41.6%	\$ 309
Lane Powell	Seattle, WA	\$ 516	\$ 331	\$ 129	\$ 215	\$ 377	117.5	92.7	78.9%	\$ 298
Latham & Watkins	New York, NY	\$ 990	\$ 605	\$ 248	\$ 454	\$ 701	221.3	92.7	41.6%	\$ 254
Latrop & Gage	Kansas City, MO	\$ 420	\$ 250	\$ 105	\$ 168	\$ 263	99.5	92.7	103.6%	\$ 303
Lewis Roca Rodriguez	Phoenix, AZ	\$ 565	\$ 400	\$ 126	\$ 300	\$ 426	97.3	92.7	95.3%	\$ 406
Lindquist & Vennum	Minneapolis, MN	\$ 520	\$ 365	\$ 139	\$ 274	\$ 404	110.3	92.7	84.0%	\$ 339
Litler Mendelson	San Francisco, CA	\$ 550	\$ 290	\$ 133	\$ 218	\$ 355	159.9	92.7	58.0%	\$ 206
Lovenshijn Sander	Roseland, NJ	\$ 785	\$ 450	\$ 191	\$ 338	\$ 529	128.4	92.7	72.2%	\$ 392
McCarter & English	Newark, NJ	\$ 530	\$ 300	\$ 133	\$ 225	\$ 358	128.4	92.7	72.2%	\$ 258
McElroy, Dausch, Mulvaney & Carpenter	Morristown, NJ	\$ 445	\$ 295	\$ 111	\$ 221	\$ 333	133.0	92.7	69.7%	\$ 232
McGuireWoods	Richmond, VA	\$ 595	\$ 360	\$ 149	\$ 270	\$ 419	99.7	92.7	93.0%	\$ 389
McKenna Long & Aldridge	Atlanta, GA	\$ 530	\$ 395	\$ 133	\$ 296	\$ 429	93.5	92.7	99.1%	\$ 425
Michael, Best & Friedrich	Mwaukee, WI	\$ 445	\$ 283	\$ 111	\$ 212	\$ 324	101.7	92.7	91.2%	\$ 255
Miles & Stockbridge	Baltimore, MD	\$ 478	\$ 290	\$ 120	\$ 218	\$ 337	111.3	92.7	83.3%	\$ 261
Moore & Van Allen	Charlotte, NC	\$ 480	\$ 260	\$ 123	\$ 210	\$ 333	96.1	92.7	96.4%	\$ 321
Morgan, Lewis & Bockius	Philadelphia, PA	\$ 620	\$ 390	\$ 155	\$ 293	\$ 448	121.2	92.7	76.5%	\$ 342
Morrison & Foerster	San Francisco, CA	\$ 865	\$ 525	\$ 216	\$ 394	\$ 610	169.9	92.7	58.0%	\$ 354
Nelson Mullins	Columbia, SC	\$ 444	\$ 271	\$ 111	\$ 203	\$ 314	95.7	92.7	96.8%	\$ 304
Noon Peabody	Boston, MA	\$ 520	\$ 300	\$ 130	\$ 225	\$ 355	140.1	92.7	66.2%	\$ 235
Norris McLaughlin & Marcus	Bridgewater, NJ	\$ 495	\$ 275	\$ 124	\$ 206	\$ 330	122.2	92.7	75.8%	\$ 250
Norton Rose Fulbright	Houston, TX	\$ 775	\$ 400	\$ 194	\$ 300	\$ 494	99.0	92.7	93.7%	\$ 463
Nossaman	Los Angeles, CA	\$ 579	\$ 340	\$ 145	\$ 255	\$ 400	131.0	92.7	70.7%	\$ 283
Nutter McClennen & Fish	Boston, MA	\$ 575	\$ 376	\$ 144	\$ 281	\$ 425	140.1	92.7	66.2%	\$ 261



Missouri American Water Company  
Estimated Billing Rates for Missouri Attorneys

2014 Hourly Billing Rates

Firm Name	Location	2014 Avg Billing Rates					Weighted Average Rate Calculation			Cost of Living (COL) Adjustment			Adjusted Rate
		2014 Avg Billing Rates		0.25		0.75	(A)		COL Indices		(B)		
		Partner	Associate	Partner	Associate	Weighted Average	Law Firm Location	MAWC - St Louis, Mo	COL Adjustment				
Ogletree Deakins	Atlanta, GA	\$ 360	\$ 280	\$ 90	\$ 165	\$ 285	93.5	92.7	99.1%	\$ 282			
Orrick Herrington & Sutcliffe	New York, NY	\$ 845	\$ 560	\$ 211	\$ 420	\$ 631	221.3	92.7	41.9%	\$ 264			
Paul Hastings	New York, NY	\$ 815	\$ 540	\$ 204	\$ 405	\$ 609	221.3	92.7	41.9%	\$ 255			
Paul, Weiss, Ruffolo, Wharton & Garrison	New York, NY	\$ 1,040	\$ 678	\$ 260	\$ 609	\$ 769	221.3	92.7	41.9%	\$ 322			
Pepper Hamilton	Philadelphia, PA	\$ 845	\$ 390	\$ 161	\$ 293	\$ 454	121.2	92.7	78.5%	\$ 347			
Perkins Cole	Seattle, WA	\$ 615	\$ 425	\$ 154	\$ 319	\$ 473	117.5	92.7	78.5%	\$ 379			
Pillsbury Winthrop Shaw Pittman	Washington, DC	\$ 665	\$ 520	\$ 218	\$ 390	\$ 606	141.6	92.7	65.5%	\$ 397			
Pol'semi	Kansas City, MO	\$ 435	\$ 279	\$ 109	\$ 209	\$ 318	89.5	92.7	103.6%	\$ 330			
Proskauer Rose	New York, NY	\$ 890	\$ 465	\$ 220	\$ 349	\$ 569	221.3	92.7	41.9%	\$ 238			
Quarles & Brady	Milwaukee, WI	\$ 519	\$ 335	\$ 130	\$ 251	\$ 331	101.7	92.7	91.2%	\$ 347			
Quinn Emanuel Urquhart & Sullivan	New York, NY	\$ 915	\$ 410	\$ 229	\$ 308	\$ 536	221.3	92.7	41.9%	\$ 226			
Reed Smith	Pittsburgh, PA	\$ 737	\$ 420	\$ 184	\$ 315	\$ 499	92.2	92.7	100.5%	\$ 502			
Richards, Layton & Finger	Wilmington, DE	\$ 678	\$ 414	\$ 170	\$ 311	\$ 450	108.4	92.7	65.5%	\$ 411			
Riker Danzig Scherer Hyland & Peretti	Morristown, NJ	\$ 455	\$ 250	\$ 114	\$ 183	\$ 301	133.0	92.7	69.7%	\$ 210			
Robinson & Cole	Hartford, CT	\$ 500	\$ 300	\$ 125	\$ 225	\$ 350	122.5	92.7	75.7%	\$ 265			
Rutan & Tucker	Costa Mesa, CA	\$ 490	\$ 320	\$ 123	\$ 240	\$ 363	140.7	92.7	65.9%	\$ 239			
Saul Ewing	Philadelphia, PA	\$ 546	\$ 344	\$ 137	\$ 258	\$ 395	121.2	92.7	78.5%	\$ 302			
Sedgwick	San Francisco, CA	\$ 425	\$ 325	\$ 106	\$ 244	\$ 350	159.9	92.7	58.0%	\$ 203			
Seward & Kissel	New York, NY	\$ 735	\$ 400	\$ 184	\$ 300	\$ 484	221.3	92.7	41.9%	\$ 203			
Seyfarth Shaw	Chicago, IL	\$ 610	\$ 365	\$ 153	\$ 274	\$ 426	117.4	92.7	78.6%	\$ 330			
Sheppard Mullin Rother & Hampton	Los Angeles, CA	\$ 685	\$ 415	\$ 171	\$ 311	\$ 483	131.0	92.7	70.7%	\$ 341			
Shumaker Loop & Kendrick	Toledo, OH	\$ 413	\$ 256	\$ 103	\$ 192	\$ 295	93.5	92.7	99.1%	\$ 293			
Shutts & Bowen	Miami, FL	\$ 430	\$ 260	\$ 109	\$ 195	\$ 303	107.2	92.7	86.5%	\$ 262			
Skadden, Arps, Slate, Meagher & Flom	New York, NY	\$ 1,035	\$ 620	\$ 259	\$ 465	\$ 724	221.3	92.7	41.9%	\$ 303			
Snell & Wilmer	Phoenix, AZ	\$ 525	\$ 280	\$ 131	\$ 210	\$ 341	97.3	92.7	65.3%	\$ 325			
Squire Patton Boggs	Washington, DC	\$ 655	\$ 355	\$ 164	\$ 266	\$ 430	141.6	92.7	65.5%	\$ 282			
Steme, Kessler, Goldstein & Fox	Washington, DC	\$ 577	\$ 346	\$ 144	\$ 260	\$ 404	141.6	92.7	65.5%	\$ 264			
Stoel Rives	Portland, OR	\$ 492	\$ 287	\$ 123	\$ 215	\$ 338	119.1	92.7	77.6%	\$ 263			
Strasburger & Price	Dallas, TX	\$ 435	\$ 270	\$ 109	\$ 203	\$ 311	95.7	92.7	96.8%	\$ 301			
Stroock & Stroock & Lavan	New York, NY	\$ 960	\$ 549	\$ 240	\$ 412	\$ 652	221.3	92.7	41.9%	\$ 273			
Taft Stettinius & Hofer	Cincinnati, OH	\$ 415	\$ 285	\$ 104	\$ 214	\$ 318	91.8	92.7	101.0%	\$ 321			
Thompson & Knight	Dallas, TX	\$ 535	\$ 370	\$ 134	\$ 278	\$ 411	95.7	92.7	96.8%	\$ 329			
Thompson Coburn	St. Louis, MO	\$ 440	\$ 270	\$ 110	\$ 203	\$ 313	94.4	92.7	98.2%	\$ 327			
Troutman Sanders	Atlanta, GA	\$ 620	\$ 340	\$ 155	\$ 255	\$ 410	93.5	92.7	99.1%	\$ 426			
Venable	Washington, DC	\$ 660	\$ 430	\$ 165	\$ 323	\$ 488	141.6	92.7	65.5%	\$ 319			
Vinson & Elkins	Houston, TX	\$ 600	\$ 390	\$ 150	\$ 293	\$ 443	99.0	92.7	93.7%	\$ 415			
Water Landen Dortch & Davis	Nashville, TN	\$ 460	\$ 245	\$ 115	\$ 184	\$ 299	88.3	92.7	107.4%	\$ 321			
Weil, Gotshal & Manges	New York, NY	\$ 930	\$ 600	\$ 233	\$ 450	\$ 683	221.3	92.7	41.9%	\$ 286			
White & Case	New York, NY	\$ 875	\$ 525	\$ 219	\$ 394	\$ 613	221.3	92.7	41.9%	\$ 257			
Wiley Rein	Washington, DC	\$ 665	\$ 445	\$ 166	\$ 334	\$ 500	141.6	92.7	65.5%	\$ 327			
Williams Mullen	Richmond, VA	\$ 385	\$ 265	\$ 96	\$ 221	\$ 318	92.7	92.7	93.0%	\$ 295			
Wiske Farr & Gallagher	New York, NY	\$ 960	\$ 550	\$ 238	\$ 435	\$ 673	221.3	92.7	41.9%	\$ 282			
Winnier Cutler Pickering Hale and Dorr	Washington, DC	\$ 905	\$ 290	\$ 226	\$ 218	\$ 444	141.6	92.7	65.5%	\$ 291			
Winston & Strawn	Chicago, IL	\$ 800	\$ 520	\$ 200	\$ 390	\$ 590	117.4	92.7	78.5%	\$ 466			
Woff & Samson	West Orange, NJ	\$ 400	\$ 340	\$ 100	\$ 255	\$ 355	128.4	92.7	72.2%	\$ 266			
Overall 2014 Average Hourly Billing Rate											\$ 311		
Escalation to Test Period Midpoint (June 30, 2016)													
CPI at December 31, 2014											234.8		
CPI at June 30, 2016											241.0		
Inflation/Escalation (Note B)											2.6%		
Average Hourly Billing Rate for Attorneys During 2016											\$ 320		

Note A: Source is National Law Journal 2014 Billing Survey  
 Note B: Cost of Living Index, Source Council for Community and Economic Research  
 Note C: Source is U.S. Bureau of Labor Statistics (<http://data.bls.gov/cgi-bin/surveymost>)

Missouri American Water Company  
Billing Rates of U.S. Management Consultants

Survey billing rates in effect in 2015 (Note A)						
A. Calculation of Average Hourly Billing Rate by Consultant Position						
	Average Hourly Rates (Note A)					
	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner	
Average	\$ 173	\$ 227	\$ 280	\$ 323	\$ 388	
B. Calculation of Overall Average Hourly Billing Rate Based on a Typical Distribution of Time on an Engagement						
	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner	
Average Hourly Billing Rate (from above)	\$ 173	\$ 227	\$ 280	\$ 323	\$ 388	
Percent of Consulting Assignment	25%	25%	25%	15%	10%	Weighted Average
	\$ 43	\$ 57	\$ 70	\$ 48	\$ 39	\$ 258
<u>Escalation to Test Period Midpoint (June 30, 2016)</u>						
						CPI at December 31, 2015
						236.5
						CPI at June 30, 2016
						241.0
						Inflation/Escalation (Note B)
						1.9%
						Avg Hourly Billing Rate For Management Consultants During 2016
						\$ 262

Note A: Source is "Operating Ratios For Management Consulting Firms, 2016 Edition," Association of Management Consulting Firms

Note B: Source is U.S. Bureau of Labor Statistics (<http://data.bls.gov/cgi-bin/surveymost>)

**Missouri American Water Company**  
**Billing Rates of Missouri Certified Public Accountants**

<b>A. Calculation of Average Hourly Billing Rate by Public Accounting Position</b>					
Survey billing rates were those in effect in 2015 (Note A)					
	<b>Average Hourly Billing Rate (Note A)</b>				
	Staff Accountant	Senior Accountant	Director/ Manager	Partner	
Average Hourly Billing Rate by CPA Firm Position	\$ 97	\$ 123	\$ 181	\$ 218	
Percent of Accounting Assignment	30%	30%	20%	20%	Weighted Average
	\$ 29	\$ 37	\$ 36	\$ 44	\$ 146
	<u>Escalation to Test Period Midpoint (June 30, 2016)</u>				
					CPI at December 31, 2015 236.5
					CPI at June 30, 2016 241.0
					Inflation/Escalation (Note B) 1.9%
					<b>Average Hourly Billing Rate For CPAs During 2016 \$ 149</b>

Note A: Source is AICPA's 2016 National PCPS/TSCPA Management of an Accounting Practice Survey (Missouri edition)

Note B: Source is U.S. Bureau of Labor Statistics (<http://data.bls.gov/cgi-bin/surveymost>)

**Missouri American Water Company  
Billing Rates of Information Technology Professionals**

A. Calculation of Average Hourly Billing Rate by Technology and Innovation Position  
Survey billing rates were those in effect in 2016 (Note A)

		Average Hourly Billing Rate (Note A)				
		Contractor Positions		Consultant Positions		
		Contractor	Senior Contractor	Associate	Manager	Partner
Average Hourly Billing Rate by T&I Position Category		\$ 101	\$ 150	\$ 263	\$ 371	\$ 464
Percent of T&I Assignment		30%	30%	20%	10%	10%
		\$ 30	\$ 45	\$ 53	\$ 37	\$ 46
Average Hourly Billing Rate For T&I Professionals During 2016						\$ 211

Note A: Source is Baryenbruch & Company, LLC

**Missouri American Water Company  
Billing Rates of Missouri Engineers**

A. Calculation of Average 2016 Hourly Rate by Engineer Position (Note A)				
Firm	Average Hourly Billing Rates			
	Technician	Engineer	Project Manager	Officer
	Senior Technician	Design Engineer Project Engineer	Sr. Mgr. Engineer	Principal Engineer
Firm #1	\$132	\$129	\$184	\$228
Firm #2	\$88	\$105	\$171	\$219
Firm #3	\$74	\$125	\$159	\$240
Firm #4	na	\$119	\$210	\$195
Firm #5	\$132	\$175	\$227	\$235
Firm #6	\$80	\$102	\$188	\$231
Firm #7	\$85	\$102	\$192	\$280

B. Calculation of Overall Average Engineering Hourly Billing Rate					
	Technician	Engineer	Project Manager	Officer	Weighted Average
	Senior Technician	Design Engineer Project Engineer	Sr. Mgr. Engineer	Principal Engineer	
Average Hourly Billing Rate (From Above)	\$98	\$122	\$190	\$233	
Typical Percent of Time on an Engineering Assignment	30%	35%	25%	10%	
	\$29	\$43	\$48	\$23	<b>\$143</b>

Note A: Information provided by Missouri American Water Company

V – Question 2 – Provision of Services at the Lower of Cost or Market

**Service Company versus Outside Provider Cost Comparison**

As shown in the table below, Service Company costs per hour are considerably lower than those of outside providers.

Service Provider	12 Months Ended December 31, 2016		
	Service Company	Outside Provider	Difference-- Service Co. Greater(Less) Than Outside
Attorney	\$ 232	\$ 320	\$ (88)
Management Consultant	\$ 221	\$ 262	\$ (41)
Certified Public Accountant	\$ 96	\$ 149	\$ (53)
T&I Professional	\$ 120	\$ 211	\$ (91)
Professional Engineer	\$ 98	\$ 143	\$ (45)

Based on these cost-per-hour differentials and the number of managerial and professional services hours billed to MAWC during 2016, outside service providers would have cost \$9,371,655 more than the Service Company (see table below). Thus, on average, outside providers' hourly rates are 30% higher than those of the Service Company (\$9,371,655 / \$31,399,757).

Service Provider	12 Months Ended December 31, 2016		
	Hourly Rate Difference-- Service Co. Greater(Less) Than Outside	Service Company Hours Charged	Dollar Difference
Attorney	\$ (88)	4,305	\$ (378,875)
Management Consultant	\$ (41)	25,987	\$ (1,065,470)
Certified Public Accountant	\$ (53)	43,457	\$ (2,303,224)
T&I Professional	\$ (91)	54,147	\$ (4,927,352)
Professional Engineer	\$ (45)	15,483	\$ (696,734)
Service Company Less Than Outside Providers			\$ (9,371,655)

It should be noted that the cost differential associated with using outside providers is even greater because exempt Service Company personnel do not charge more than 8 hours per day even when they work more. Outside providers generally charge clients for all hours worked. Thus, MAWC would have been charged by outside providers for overtime worked by Service Company personnel who are not paid for that time.

If MAWC were to use outside service providers rather than the Service Company for managerial and professional services, it would incur other additional expenses besides those associated with higher hourly rates. Managing outside firms who would perform more than 143,000 hours of work (around 96 full-time equivalents at 1,500 "billable" hours per FTE per year) would add a significant workload to the existing MAWC management team. Thus, it would be necessary for MAWC to add at least three positions to supervise the outside firms and ensure they deliver quality and timely services. The individuals who would fill these positions would need a good understanding of each profession being managed. The persons must also have management experience and the authority necessary to give them credibility with the outside firms. As calculated in the table below, these positions would add more than \$447,000 per year to MAWC's personnel expenses.

V – Question 2 – Provision of Services at the Lower of Cost or Market

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Cost of Adding 3 Professional Positions To MAWC's Staff

	<u>Total</u>
New Positions' Salary	\$ 100,000
Benefits (at 49%)	\$ 49,000
Office Expenses (15%)	\$ 15,000
Total Cost per Position	\$ 149,000
Number of Positions Required	<u>3</u>
Total Cost of Added MAWC Staff	\$ 447,000

Thus, the total effect on the ratepayers of MAWC of contracting all services now provided by Service Company would be an increase in their costs of \$9,818,655 (\$9,371,655 + \$447,000). Based on the results of this comparison, it is possible to conclude that the Service Company charged MAWC at the lower of cost or market for services provided during 2016.

## VI - Question 3 - Reasonableness of Customer Accounts Services Costs

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### Background

Customer Accounts Services involve the processes that occur from the time meter-read data is recorded in the customer information system through the printing and mailing of bills, concluding with the collection and processing of customer payments. Customer Accounts Services are accomplished by the following utility functions:

- Customer Call Center Operations – customer calls/contact, credit, order taking/disposition, bill collection efforts and outage calls
- Customer Call Center Maintenance – support of phone banks, voice recognition units, call center software applications and telecommunications
- Customer billing – bill printing, stuffing and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – processing customer payments at locations where customers can pay their bills in person

Neighboring electric utility cost information comes from the FERC Form 1 that each utility subject to FERC regulation must file. FERC's chart of accounts is defined in Chapter 18, Part 101 of the Code of Federal Regulations. FERC accounts that contain expenses related to customer accounts services are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 11 provides FERC's definition of the type of expenses that should be recorded in these accounts.

In addition to the charges in these FERC accounts, labor-related overhead charged to the following FERC accounts must be added to the labor components of Accounts 903 and 905:

- Account 926 Employee Pension and Benefits
- Account 408 Taxes Other Than Income (employer's portion of FICA)

### Comparison Group

Electric utilities included in the comparison group are shown in the table below. These are companies whose FERC Form 1 reports show amounts for accounts 903 and 905.

Missouri	<ul style="list-style-type: none"> <li>• Ameren Missouri</li> <li>• Empire District Electric</li> </ul>	<ul style="list-style-type: none"> <li>• Kansas City Power &amp; Light (L&amp;P)</li> <li>• Kansas City Power &amp; Light (MPS)</li> </ul>
Illinois	<ul style="list-style-type: none"> <li>• Ameren Illinois</li> <li>• Commonwealth Edison</li> </ul>	<ul style="list-style-type: none"> <li>• MidAmerica Energy</li> </ul>
Kentucky	<ul style="list-style-type: none"> <li>• Duke Energy Kentucky</li> <li>• Kentucky Power</li> </ul>	<ul style="list-style-type: none"> <li>• Kentucky Utilities</li> <li>• Louisville Gas &amp; Electric</li> </ul>
Tennessee	<ul style="list-style-type: none"> <li>• Kingsport Power</li> </ul>	
Arkansas	<ul style="list-style-type: none"> <li>• Entergy Arkansas</li> <li>• Empire District Electric</li> </ul>	<ul style="list-style-type: none"> <li>• Oklahoma Gas &amp; Electric</li> </ul>
Oklahoma	<ul style="list-style-type: none"> <li>• Empire District Electric</li> <li>• Oklahoma Gas &amp; Electric</li> </ul>	<ul style="list-style-type: none"> <li>• Public Service Company of Oklahoma</li> </ul>
Kansas	<ul style="list-style-type: none"> <li>• Empire District Electric</li> <li>• Kansas City Power &amp; Light</li> </ul>	<ul style="list-style-type: none"> <li>• Kansas Gas &amp; Electric</li> <li>• Westar Energy</li> </ul>
Nebraska	<ul style="list-style-type: none"> <li>• No investor-owned utilities</li> </ul>	
Iowa	<ul style="list-style-type: none"> <li>• Interstate Power &amp; Light</li> </ul>	<ul style="list-style-type: none"> <li>• MidAmerica Energy</li> </ul>



Missouri American Water Company  
FERC Account Descriptions

**903 – Customer Records and Collection Expenses**

This account shall include the cost of labor, materials used and expenses incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Labor

1. Receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the customer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
2. Investigations of customers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off.
3. Receiving, refunding or applying customer deposits and maintaining customer deposit, line extension, and other miscellaneous records.
4. Checking consumption shown by meter readers' reports where incidental to preparation of billing data.
5. Preparing address plates and addressing bills and delinquent notices.
6. Preparing billing data.
7. Operating billing and bookkeeping machines.
8. Verifying billing records with contracts or rate schedules.
9. Preparing bills for delivery, and mailing or delivering bills.
10. Collecting revenues, including collection from prepayment meters unless incidental to meter reading operations.
11. Balancing collections, preparing collections for deposit, and preparing cash reports.
12. Posting collections and other credits or charges to customer accounts and extending unpaid balances.
13. Balancing customer accounts and controls.
14. Preparing, mailing, or delivering delinquent notices and preparing reports of delinquent accounts.
15. Final meter reading of delinquent accounts when done by collectors incidental to regular activities.
16. Disconnecting and reconnecting services because of nonpayment of bills.
17. Receiving, recording, and handling of inquiries, complaints, and requests for investigations from customers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
18. Statistical and tabulating work on customer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular customer accounting routines.
19. Preparing and periodically rewriting meter reading sheets.
20. Determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters.

Materials and expenses

21. Address plates and supplies.
22. Cash overages and shortages.
23. Commissions or fees to others for collecting.
24. Payments to credit organizations for investigations and reports.
25. Postage.
26. Transportation expenses, including transportation of customer bills and meter books under centralized billing procedure.
27. Transportation, meals, and incidental expenses.
28. Bank charges, exchange, and other fees for cashing and depositing customers' checks.
29. Forms for recording orders for services, removals, etc.
30. Rent of mechanical equipment.

Missouri American Water Company  
FERC Account Descriptions

**905 – Miscellaneous Customer Accounts Expenses**

This account shall include the cost of labor, materials used and expenses incurred not provided for in other accounts.

Labor

1. General clerical and stenographic work.
2. Miscellaneous labor.

Materials and expenses

3. Communication service.
4. Miscellaneous office supplies and expenses and stationery and printing other than those specifically provided for in accounts 902 and 903.

## VI - Question 3 - Reasonableness of Customer Accounts Services Costs

### MAWC's Cost per Customer

As calculated below, MAWC's customer accounts services expense per customer was \$22.79 for 2016. The cost pool used to calculate this average includes charges for Service Company services (e.g., call center, billing, payment processing) and postage and forms expenses, which are incurred directly by MAWC. It was necessary to adjust the Service Company's National Call Center charges because electric utilities experience an average of 2.50 calls per customer compared to American Water's 1.05 calls per customer. Thus, National Call Center expenses had to be increased, for comparison purposes, to reflect its costs if it had had 2.50 calls per customer.

Missouri American Water Company	Cost Component	Service Co Charges	Adjustment Fewer Calls For Water Cos. (A)	Adjusted
Service Company	Call Centers	\$ 6,145,596	\$ 2,635,367	\$ 8,780,963
Service Company	Customer payment processing			\$ 294,605 (B)
Operating Company	Postage & forms			\$ 1,776,137
			Cost Pool Total	\$ 10,851,706
			Total Customers	476,071
			<b>2016 Cost Per Missouri American Customer</b>	<b>\$ 22.79</b>

Note A: Adjustment for American Water's fewer calls per customer. This adjustment is necessary because water utilities experience fewer calls per customer than do electric utilities.

Call handling expenses	\$ 1,908,329
Electric utility industry's avg calls/customer	2.50
American Water's avg calls/customer	1.05
Percent different	138% <span style="float: right;">138%</span>
Total Adjustment	\$ 2,635,367

Note B: Estimated customer payment processing expenses

Number of customer bills	3,009,249
Bank charge per item	\$ 0.0979
Total estimated annual expense	\$ 294,605

### Electric Utility Group Cost per Customer

Exhibit 12 (pages 34-37) shows the calculation of customer accounts expense per customer for 2015 for the electric utility comparison group. All of the underlying data was taken from the utilities' FERC Form 1.

## VI - Question 3 - Reasonableness of Customer Accounts Services Costs

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### Summary of Results

As shown in the table below, MAWC's cost per customer is well below than the 2015 average cost of the neighboring electric utility comparison group. It can be concluded that MAWC's 2016 customer accounts expenses, including those of the Alton and Pensacola Call Centers, assigned by the Service Company to MAWC are comparable to those of other utilities.

<b>Customer Account Services Expenses Per Customer</b>	
Interstate Power & Light	\$ 11.64
Ameren Missouri	\$ 12.90
Louisville Gas & Electric	\$ 17.36
<b>Missouri American Water</b>	<b>\$ 22.79</b>
Ameren Illinois	\$ 23.56
MidAmerica Energy	\$ 24.53
Oklahoma Gas & Electric	\$ 25.83
Kingsport Power	\$ 26.84
Westar Energy	\$ 28.39
Public Service of Oklahoma	\$ 29.40
Kentucky Power	\$ 31.53
Kansas Gas & Electric	\$ 33.53
<b>Comparison Group Average</b>	<b>\$ 33.63</b>
KCP&L Missouri	\$ 33.90
Empire District Electric	\$ 35.81
KCP&L	\$ 35.83
Entergy Arkansas	\$ 37.81
Duke Energy Kentucky	\$ 38.74
Kentucky Utilities	\$ 40.02
Commonwealth Edison	\$ 50.14

Missouri American Water Company  
Comparison Group 2015 Customer Accounts Expense Per Customer

	Missouri				Illinois		
	Ameren Missouri	Empire District Electric	KCP&L	KCP&L Missouri	Ameren Illinois	Commonwealth Edison	MdAmerica Energy
<b>Customer Account Management Cost Pool</b>							
FERC Account Balances							
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 14,575,724	\$ 4,230,892	\$ 13,363,911	\$ 7,621,068	\$ 28,265,092	\$ 153,072,657	\$ 15,890,698
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 65,198	\$ 184,108	\$ 1,739,056	\$ 318,077	\$ 181,572	\$ -	\$ 252,402
Subtotal	\$ 14,640,922	\$ 4,414,999	\$ 15,102,967	\$ 8,139,143	\$ 28,446,664	\$ 153,072,657	\$ 16,143,100
Add: Employee Benefits & Employer FICA (not included in above amounts)							
Account 926 - Employee Pension & Benefits	\$ 637,094	\$ 1,398,750	\$ 3,479,905	\$ 2,254,045	\$ 1,584,184	\$ 30,580,156	\$ 1,307,308
Account 498 - Taxes Other Than Income (Employer's Portion of FICA)	\$ 226,100	\$ 241,248	\$ 581,554	\$ 391,098	\$ 781,065	\$ 6,565,954	\$ 652,687
Total Cost Pool	\$ 15,524,116	\$ 6,054,994	\$ 19,144,426	\$ 10,764,284	\$ 28,791,833	\$ 196,218,697	\$ 18,463,695
Total Customers (page 304, line 43)	1,203,539	169,340	534,269	318,151	1,221,668	3,913,493	752,771
Customer Account Services Expense per Customer	\$ 12.90	\$ 35.81	\$ 35.83	\$ 33.80	\$ 23.56	\$ 50.14	\$ 24.53
<b>Note A: Calc of Pension &amp; Benefits Pertaining to Cust Acct Svcs</b>							
Account 926 - Employee Pension & Benefits (page 323, line 187)	\$ 75,762,439	\$ 22,118,103	\$ 81,157,597	\$ 28,787,691	\$ 40,172,215	\$ 163,818,245	\$ 23,994,331
Total O&M Payroll (page 365, line 66)	\$ 351,564,579	\$ 49,606,238	\$ 171,165,374	\$ 65,262,977	\$ 252,265,377	\$ 383,669,314	\$ 218,565,653
Benefits as Percent of Payroll	21.6%	44.4%	47.4%	44.1%	15.9%	42.6%	11.0%
Payroll Applicable to Customer Account Services							
Total Payroll Charged to Customer Accounts Function							
Electric (page 354, line 7)	\$ 7,479,858	\$ 4,634,534	\$ 9,563,878	\$ 7,502,497	\$ 15,634,631	\$ 117,018,240	\$ 15,631,750
Percent Applicable to Customer Accounts Services (903 and 905)							
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 14,575,724	\$ 4,230,892	\$ 13,363,911	\$ 7,821,068	\$ 28,265,092	\$ 153,072,657	\$ 15,890,698
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 65,198	\$ 184,108	\$ 1,739,056	\$ 318,077	\$ 181,572	\$ -	\$ 252,402
Subtotal - Total Charges Applicable to Customer Accounts Services	\$ 14,640,922	\$ 4,414,999	\$ 15,102,967	\$ 8,139,143	\$ 28,446,664	\$ 153,072,657	\$ 16,143,100
Account 902 - Meter Reading Expenses (page 322, line 160)	\$ 22,440,077	\$ 1,937,724	\$ 4,574,355	\$ 3,805,201	\$ 15,247,973	\$ 55,623,720	\$ 4,375,021
Total Charges Applicable to Customer Accounts Svcs & Meter Reading	\$ 37,100,999	\$ 6,362,722	\$ 19,677,322	\$ 11,944,344	\$ 43,694,637	\$ 208,696,376	\$ 20,518,121
Percent Applicable to Customer Accounts Services (903 and 905)	30.5%	69.5%	78.6%	68.1%	63.4%	73.3%	78.7%
Customer Account Services Portion of Total Payroll	\$ 2,955,561	\$ 3,153,543	\$ 7,340,577	\$ 5,112,369	\$ 9,943,828	\$ 85,820,466	\$ 12,456,040
Pension & Benefits Pertaining to Customer Accounts Services	\$ 637,094	\$ 1,398,750	\$ 3,479,905	\$ 2,254,045	\$ 1,584,184	\$ 30,580,156	\$ 1,307,308
<b>Note B: Calculation of Employer's FICA Pertaining to Customer Acct Svcs</b>							
Customer Account Services Portion of Total Payroll	\$ 2,955,561	\$ 3,153,543	\$ 7,340,577	\$ 5,112,369	\$ 9,943,828	\$ 85,820,466	\$ 12,456,040
Employer's Portion of FICA (8.20%) and Medicare (1.45%)	7.65%	7.65%	7.65%	7.65%	7.65%	7.65%	7.65%
Estimated Employer's Portion of FICA	\$ 226,100	\$ 241,248	\$ 581,554	\$ 391,098	\$ 781,065	\$ 6,565,954	\$ 652,687

Missouri American Water Company  
Comparison Group 2015 Customer Accounts Expense Per Customer

	Kentucky				Arkansas		
	Due Energy Kentucky	Kentucky Power	Kentucky Utilities	Louisville G&E	Energy Arkansas	Empire District Electric	Oklahoma G&E
<b>Customer Account Management Cost Pool</b>							
FERC Account Balances:							
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 4,664,976	\$ 5,081,975	\$ 17,412,429	\$ 5,656,201	\$ 21,705,428		
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 1,083	\$ 22,828	\$ 3,399	\$ (699)	\$ 41,220		
Subtotal	\$ 4,666,059	\$ 5,104,803	\$ 17,415,818	\$ 5,655,502	\$ 21,636,643		
Add: Employee Benefits & Employer FICA (not included in above amounts)							
Account 926 - Employee Pension & Benefits	\$ 511,661	\$ 165,317	\$ 3,650,623	\$ 657,931	\$ 4,594,634		
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	\$ 191,118	\$ 69,787	\$ 718,271	\$ 223,622	\$ 190,663		
Total Cost Pool	\$ 5,368,938	\$ 6,339,907	\$ 21,784,712	\$ 6,987,055	\$ 26,622,195		
Total Customers (page 304, line 43)	133,605	170,020	544,307	401,371	704,178		
Customer Account Services Expense per Customer	\$ 38.74	\$ 31.63	\$ 40.02	\$ 17.36	\$ 37.81	see Missouri	see Oklahoma
<b>Note A: Calc of Pension &amp; Benefits Pertaining to Cust Acct Svcs</b>							
Account 926 - Employee Pension & Benefits (page 323, line 187)	\$ 7,606,272	\$ 4,197,814	\$ 41,616,801	\$ 28,405,232	\$ 66,149,161		
Total O&M Payroll (page 365, line 65)	\$ 37,139,237	\$ 29,602,765	\$ 107,035,697	\$ 66,783,131	\$ 48,728,418		
Benefits as Percent of Payroll	20.5%	14.1%	38.9%	29.3%	184.4%		
Payroll Applicable to Customer Account Services							
Total Payroll Charged to Customer Accounts Function							
Electric (page 354, line 7)	\$ 2,956,242	\$ 1,297,628	\$ 12,068,541	\$ 4,111,598	\$ 3,233,695		
Percent Applicable to Customer Accounts Services (903 and 905)							
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 4,664,976	\$ 5,081,975	\$ 17,412,429	\$ 5,656,201	\$ 21,705,428		
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 1,083	\$ 22,828	\$ 3,399	\$ (699)	\$ 41,220		
Subtotal - Total Charges Applicable to Customer Accounts Services	\$ 4,666,059	\$ 5,104,803	\$ 17,415,818	\$ 5,655,502	\$ 21,636,643		
Account 902 - Meter Reading Expenses (page 322, line 160)	\$ 630,040	\$ 539,051	\$ 6,007,040	\$ 2,302,784	\$ 6,495,304		
Total Charges Applicable to Customer Accounts Svcs & Meter Reading	\$ 5,596,099	\$ 5,644,754	\$ 22,422,858	\$ 8,278,286	\$ 28,331,952		
Percent Applicable to Customer Accounts Services (903 and 905)	63.4%	90.4%	77.7%	71.1%	77.1%		
Customer Account Services Portion of Total Payroll	\$ 2,498,284	\$ 1,173,684	\$ 9,389,181	\$ 2,923,163	\$ 2,492,324		
Pension & Benefits Pertaining to Customer Accounts Services	\$ 511,661	\$ 165,317	\$ 3,650,623	\$ 657,931	\$ 4,594,634		
<b>Note B: Calculation of Employer's FICA Pertaining to Customer Acct Svcs</b>							
Customer Account Services Portion of Total Payroll	\$ 2,498,284	\$ 1,173,684	\$ 9,389,181	\$ 2,923,163	\$ 2,492,324		
Employer's Portion of FICA (8.20%) and Medicare (1.45%)	7.65%	7.65%	7.65%	7.65%	7.65%		
Estimated Employer's Portion of FICA	\$ 191,118	\$ 69,787	\$ 718,271	\$ 223,622	\$ 190,663		

Missouri American Water Company  
Comparison Group 2015 Customer Accounts Expense Per Customer

	Oklahoma			Kansas			
	Empire District Electric	Oklahoma G&E	PS of Oklahoma	Empire District Electric	KCP&L	Kansas G&E	Westar Energy
<b>Customer Account Management Cost Pool</b>							
FERC Account Balances:							
Account 003 - Customer Records & Collection (page 322, line 161)		\$ 15,749,157	\$ 15,161,270			\$ 6,415,257	\$ 7,787,740
Account 005 - Misc Customer Accounts (page 322, line 163)		\$ 1,353,022	\$ 32,651			\$ -	\$ 18,495
Subtotal		\$ 17,102,179	\$ 15,194,121			\$ 6,415,257	\$ 7,806,235
Add Employee Benefits & Employer FICA (not included in above amounts)							
Account 026 - Employee Pension & Benefits	Note A	\$ 3,342,577	\$ 559,156			\$ 4,093,120	\$ 2,358,393
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	Note B	\$ 733,992	\$ 214,470			\$ 355,561	\$ 458,332
Total Cost Pool		\$ 21,178,716	\$ 15,967,746			\$ 10,863,937	\$ 10,682,960
Total Customers (page 304, line 43)		820,050	544,110			323,143	378,242
Customer Account Services Expense per Customer		\$ 25.83	\$ 29.40	see Missouri	see Missouri	\$ 33.53	\$ 28.39
<b>Note A: Calc of Pension &amp; Benefits Pertaining to Cust Acct Svcs</b>							
Account 026 - Employee Pension & Benefits (page 323, line 187)		\$ 53,513,158	\$ 11,041,154			\$ 45,630,640	\$ 34,417,499
Total O&M Payroll (page 305, line 66)		\$ 153,559,873	\$ 58,822,545			\$ 52,435,920	\$ 91,687,081
Benefits as Percent of Payroll		34.8%	21.0%			87.4%	37.4%
Payroll Applicable to Customer Account Services							
Total Payroll Charged to Customer Accounts Function							
Electric (page 354, line 7)		\$ 9,724,233	\$ 3,364,202			\$ 6,278,637	\$ 8,840,871
Percent Applicable to Customer Accounts Services (003 and 005)							
Account 003 - Customer Records & Collection (page 322, line 161)		\$ 15,749,157	\$ 15,161,270			\$ 6,415,257	\$ 7,787,740
Account 005 - Misc Customer Accounts (page 322, line 163)		\$ 1,353,022	\$ 32,651			\$ -	\$ 18,495
Subtotal - Total Charges Applicable to Customer Accounts Services		\$ 17,102,179	\$ 15,194,121			\$ 6,415,257	\$ 7,806,235
Account 002 - Meter Reading Expenses (page 322, line 160)		\$ 231,663	\$ 3,038,677			\$ 2,250,423	\$ 3,005,168
Total Charges Applicable to Customer Accounts Svcs & Meter Reading		\$ 17,333,842	\$ 18,232,798			\$ 8,665,680	\$ 10,811,433
Percent Applicable to Customer Accounts Services (003 and 005)		98.7%	83.9%			74.0%	72.2%
Customer Account Services Portion of Total Payroll		\$ 6,504,271	\$ 2,603,524			\$ 4,648,114	\$ 6,383,420
Pension & Benefits Pertaining to Customer Accounts Services		\$ 3,342,577	\$ 559,156			\$ 4,093,120	\$ 2,358,393
<b>Note B: Calculation of Employer's FICA Pertaining to Customer Acct Svcs</b>							
Customer Account Services Portion of Total Payroll		\$ 6,504,271	\$ 2,603,524			\$ 4,648,114	\$ 6,383,420
Employer's Portion of FICA (6.20%) and Medicare (1.45%)		7.65%	7.65%			7.65%	7.65%
Estimated Employer's Portion of FICA		\$ 733,992	\$ 214,470			\$ 355,561	\$ 458,332

**Missouri American Water Company  
Comparison Group 2015 Customer Accounts Expense Per Customer**

	Tennessee			Group Average
	Kingsport Power	Interstate P&L	Mid-America Energy	
<b>Customer Account Services Cost Pool</b>				
FERC Account Balances:				
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 1,215,007	\$ 5,089,429		\$ 341,479,469
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 3,433	\$ 31,735		\$ 4,277,768
Subtotal	\$ 1,218,500	\$ 5,121,164		\$ 345,757,237
Add: Employee Benefits & Employer FICA (not included in above amounts)				
Account 926 - Employee Pension & Benefits	\$ 26,645	\$ 638,652		\$ 68,130,910
Account 408 - Taxes Other Than Income (Employer's Portion of FICA)	\$ 24,193	\$ 213,241		\$ 13,143,162
<b>Total Cost Pool</b>	<b>\$ 1,269,338</b>	<b>\$ 6,873,058</b>		<b>\$ 427,031,309</b>
Total Customers (page 304, line 43)	47,309	513,227		12,059,133
<b>Customer Account Services Expense per Customer</b>	<b>\$ 26.84</b>	<b>\$ 11.64</b>	see Illinois	<b>\$ 33.63</b>
<b>Note A: Calc of Pension &amp; Benefits Pertaining to Cust Acct Svcs</b>				
Account 926 - Employee Pension & Benefits (page 323, line 187)	\$ 143,451	\$ 24,913,608		\$ 774,274,652
Total O&M Payroll (page 355, line 65)	\$ 1,633,646	\$ 108,739,079		\$ 2,276,217,626
Benefits as Percent of Payroll	8.5%	22.9%		34.0%
Payroll Applicable to Customer Account Services				
Total Payroll Charged to Customer Accounts Function				
Electric (page 354, line 7)	\$ 351,627	\$ 7,514,401		\$ 237,516,081
Percent Applicable to Customer Accounts Services (903 and 905)				
Account 903 - Customer Records & Collection (page 322, line 161)	\$ 1,215,067	\$ 5,089,429		\$ 341,479,469
Account 905 - Misc Customer Accounts (page 322, line 163)	\$ 3,433	\$ 31,735		\$ 4,277,768
Subtotal - Total Charges Applicable to Customer Accounts Services	\$ 1,218,500	\$ 5,121,164		\$ 345,757,237
Account 902 - Meter Reading Expenses (page 322, line 169)	\$ 136,340	\$ 8,568,087		\$ 140,599,847
Total Charges Applicable to Customer Accounts Svcs & Meter Reading	\$ 1,354,840	\$ 13,689,251		\$ 486,356,884
Percent Applicable to Customer Accounts Services (903 and 905)	89.6%	30.6%		71.0%
Customer Account Services Portion of Total Payroll	\$ 316,242	\$ 2,787,468		\$ 168,749,724
Pension & Benefits Pertaining to Customer Accounts Services	\$ 26,645	\$ 638,652		\$ 57,428,873
<b>Note B: Calculation of Employer's FICA Pertaining to Customer Acct Svcs</b>				
Customer Account Services Portion of Total Payroll	\$ 316,242	\$ 2,787,468		\$ 168,749,724
Employer's Portion of FICA (8.20%) and Medicare (1.45%)	7.65%	7.65%		7.65%
Estimated Employer's Portion of FICA	\$ 24,193	\$ 213,241		\$ 12,059,354



## VI - Question 4 – Need for Service Company Services

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### **Analysis of Services**

The final aspect of this study was an assessment of whether the services provided to MAWC by the Service Company would be necessary if MAWC were a stand-alone water utility. The first step in this evaluation was to determine specifically what the Service Company does for MAWC. Based on discussions with Service Company personnel, the matrix in Exhibit 13 (pages 37-39) was created showing which entity—MAWC or a Service Company location—is responsible for each of the functions MAWC requires to ultimately provide service to its customers. This matrix was reviewed to determine: (1) if there was redundancy or overlap in the services being provided by the Service Company and (2) if Service Company services are typical of those needed by a stand-alone water utility.

Upon review of Exhibit 13, the following conclusions can be drawn:

- The services that the Service Company provides are necessary and would be required even if MAWC were a stand-alone water utility.
- There is no redundancy or overlap in the services provided by the Service Company to MAWC. For all of the services listed in Exhibit 13, there was only one entity that was primarily responsible for the service.

**Missouri American Water Company  
Designation of Responsibility for Water Utility Functions**

Water Company Function	MAWC	Performed By			
		American Water Service Company			
		Customer Call Center	Central Services	T&I Service Centers	Central Lab
Engineering and Construction Management					
CPS Preparation	P		S		
Five-Year System Planning	P		S		
Engineering Standards & Policies Development			P		
Project Design					
Major Projects (e.g., new treatment plant)	P		S		
Special Projects	P		S		
Minor Projects (e.g., pipelines)	P				
Construction Project Management					
Major Projects	P		S		
Special Projects	P				
Minor Projects	P				
Hydraulics Review	P				
Developers Extensions	P				
Tank Painting	P				
Water Quality and Purification					
Water Quality Standards Development	P (1)		P (1)		S
Research Studies	S		P		S
Water Quality Program Implementation	P		S		S
Water Treatment Operations & Maintenance	P		S		
Compliance Sampling	P				S
Testing/Other Sampling	P				S
Transmission and Distribution					
Preventive Maintenance Program Development	P		S		
System Maintenance	P		S		
Leak Detection	P		S		
Customer Service					
Community Relations	P				
Customer Contact	P (2)	P (2)			
Call Processing		P			
Service Order Processing	P	S			
Customer Credit		P			
Meter Reading	P			S	
Customer Bill Preparation		P		S	
Bill Collection	S	P		S	
Customer Payment Processing	S		P	S	
Meter Standards Development	S			P	
Meter Testing, Maintenance & Replacement	P				

Note 1: MAWC responsible for State regulations, Central Services responsible for Federal regulations  
 Note 2: MAWC provide in-person customer contact while Service Company call centers provide customer phone contact

**Missouri American Water Company  
Designation of Responsibility for Water Utility Functions**

Water Company Function	MAWC	Performed By			
		American Water Service Company			
		Customer Call Center	Central Services	T&I Service Centers	Central Lab
Financial Management					
Financial Planning			P		
Financings--Equity			P		
Financings--Long Term Debt & Preferred			P (3)		
Short Term Lines of Credit Arrangements(Note A)			P		
Investor Relations			P		
Insurance Program Administration			P		
Loss Control/Safety Program Administration			P		
Pension Fund Asset Management			P		
Cash Management/Disbursements			P		
Internal Auditing			P		
Budgeting and Variance Reporting					
Corporate Guidelines & Instructions			P		
Budget Preparation					
Revenue and O&M			P		
Depreciation and Interest Expense			P		
Budget Preparation--Service Company Charges		S	P	S	S
Capital Budget Preparation--Projects	S		P		
Capital Budget Preparation--Non-Project Work	S		P		
Prepare Monthly Budget Variance Report			P		
Prepare Capital Project Budget Status Report			P		
Year-End Projections			P		
Accounting and Taxes					
Accounts Payable Accounting			P		
Payroll Accounting			P		
Work Order Accounting			P		
Fixed Asset Accounting			P		
Journal Entry Preparations--Billing Corrections			P		
Journal Entry Preparation--All Others			P		
Financial Statement Preparation			P		
State Commission Reporting			P		
Income Taxes--State			P		
Income Taxes--Federal			P		
Property Taxes			P		
Gross Receipts (Town) Taxes			P		

Note 3: Lines of credit are the responsibility of American Water Capital Corporation (AWCC). AWCC is also responsible for Corporate financings which may be distributed to the regulated subsidiaries. MAWC has the ability to issue LTD.

**Missouri American Water Company  
Designation of Responsibility for Water Utility Functions**

Water Company Function	MAWC	Performed By			
		American Water Service Company			
		Customer Call Center	Central Services	T&I Service Centers	Central Lab
<b>Rates</b>					
Rate Studies & Tariff Change Administration	P		S		
Rate Case Planning and Preparation	P		S		
Rate Case Administration	P		S		
Commission Inquiry Response	P		S		
<b>Legal</b>	P		S		
<b>Purchasing and Materials Management – National (pipe, chemicals, meters, etc.)</b>					
Specification Development	S		P		
Bid Solicitation	S		P		
Contract Administration	S		P		
<b>Purchasing and Materials Management – State (state supplier service agreements)</b>					
Specification Development	P		S		
Bid Solicitation	P				
Contract Administration	P				
Ordering	P				
Inventory Management	P				
<b>Human Resources Management</b>					
Benefit Program Development			P		
Benefits Program Administration			P		
Management Compensation Administration			P		
Wage & Salary Program Design			P		
Wage & Salary Administration	S		P		
Labor Negotiations–Wages	S		P		
Labor Negotiations–Benefits	S		P		
Labor Negotiations– Work Rules	S		P		
Training Program Development	S		P		
Training–Course Delivery	S		P		
Affirmative Action/EEO–Plan Development	S		P		
Affirmative Action/EEO–Implementation	P		S		
<b>Technology &amp; Innovation Services</b>					
Service Company Data Centers					
System Operations & Maintenance				P	
Software Maintenance				P	
Network Administration				P	
Workstation Acquisition & Support	S			P	
Help Desk				P	

## VI - Question 4 – Need for Service Company Services

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### Governance Practices Associated with Service Company Charges

There are several ways by which MAWC exercises control over Service Company services and charges. The most important of these are described below.

1. **MAWC Company Board Oversight** – The MAWC board of directors includes the MAWC's President, Vice President of Operations, Director of Financial Analysis and Decision Support and external business and community leaders. This diverse board ensures that the needs of MAWC and its customers are a consideration in overseeing the delivery of Service Company services. The MAWC Board meets at a minimum of four times each year and at every meeting financial and operational reports and issues are discussed at length. Besides the quarterly meetings, the Board is a resource the MAWC Leadership Team can call upon throughout the year.
2. **MAWC President Oversight** – MAWC's President is responsible for the overall performance of MAWC and, as such, monitors services and charges received from the Service Company. As a direct report to American Water's President of Regulated Operations, MAWC's President has a significant voice in major business decisions that impact the Service Company's quality and cost of services.
3. **Director of Financial Analysis and Decision Support (FADS)** – The Director of Financial Analysis and Decision Support and supporting staff are responsible for monitoring the overall financial performance of MAWC. This includes overseeing MAWC's financial reporting process, performing revenue and expense analysis, the annual budgeting process, and monitoring internal control performance. Every month, the FADS team performs a detailed expense analysis that includes Service Company charges. Actual and year-to-date actual performance is compared against budget and prior period actuals. The FADS team also reviews and investigates monthly Service Company charges based on the results of the team's analytical procedures in order to determine the appropriateness of the charges.
4. **Service Company Board Oversight** – The Service Company Board of Directors is comprised of 12 members who meet four times a year to oversee activities and bylaws of Service Company. The Board's primary responsibilities include:
  - a. Approve the Business Plan and Operating Budget
  - b. Review Financial Performance
  - c. Review performance metrics for certain functional groups
  - d. Approve American Water policies, procedures and practices as they relate to Service Company.
5. **Service Company Budget Review/Approval** – Several state regulated water utility presidents serve on the Service Company board of directors. The board reviews and approves the Service Company's budget charges for the next year. The Service Company's overall budget is assigned to each operating company which consolidates these charges with its own direct spending to arrive at a total operating company budget. This is presented to the operating company's board of directors (e.g., MAWC) for their approval.
6. **Major Project Review and Approval** – Before major Service Company non-capital projects are undertaken, they must be reviewed and approved by American Water's Executive Leadership Team which includes the President of Regulated Operations. The President of Regulated Operations, with significant input from his direct reports, has the ability to impact all new initiatives and projects before they are authorized. Major non-capital projects and initiatives for the Service Company are approved through the Business Planning process. A 3-year technology roadmap of initiatives is developed from American

## VI - Question 4 – Need for Service Company Services

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Water's vision, strategy, operational objectives and key business programs. The alignment of these initiatives with enterprise goals is approved by the Executive Leadership Team and key business leaders from various operational and functional areas of American Water. The roadmap is updated annually to produce a rolling 3-year roadmap and investment plan.

7. **Capital Investment Management (CIM)** – CIM covers capital and asset planning and is employed throughout American Water, including the Service Company. CIM provides a full range of governance practices, including a formal protocol for assessing system needs, prioritizing capital expenditures, managing the capital program, approving project spending, delivering projects and measuring outputs. CIM ensures that:
  - a. Capital expenditure plans are aligned with the strategic intent of the business
  - b. The impact of capital expenditure and income plans are fully reflected in operating expense plans
  - c. The impacts of these plans on state operating company budgets and operating results are understood
  - d. Effective controls are in place over budgets (through business plans) and individual capital projects (through appropriate authorization thresholds, management and reporting processes).

The CIM process was designed to optimize the effectiveness of asset investment.

8. **Accounting and Financial Reporting** – The Service Company follows the same accounting and financial reporting processes as American Water's regulated utilities. At month-end, the Service Company's Finance team performs detailed expense analysis and variance analysis for monthly actual results (compared to budget and prior year actual results) and year-to-date actual results (compared to budget). Once this is complete, the Service Company bill is run and the actuals allocated and assigned to the state operating companies based on predetermined formulas. A conference call is made each month to discuss Service Company charges and performance before operating companies close their books. The discussion document includes a functional level explanation for expense variances that meet or exceed certain thresholds. Operating companies have the opportunity to inquire about expenses and spending levels to gain a better understanding of results. MAWC's Financial Strategy, Planning and Decision Support personnel review the monthly Service Company bill for accuracy and reasonableness on a monthly basis. Any errors or overcharges are corrected on a subsequent billing.
9. **MAWC Company Budget Variance Analysis** – Each month a Service Company Affiliate Billing Analysis Report is prepared and provided to operating companies. This report allows operating companies to monitor its Service Company budget versus actual charges for the month and year-to-date.