

Exhibit No.:
Issues: Cost Allocation/Rate Design
Witness: Constance E. Heppenstall
Exhibit Type: Rebuttal – Rate Design
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2017-0285
SR-2017-0286
Date: January 24, 2018

MISSOURI PUBLIC SERVICE COMMISSION

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

**REBUTTAL TESTIMONY
COST OF SERVICE RATE DESIGN**

OF

CONSTANCE E. HEPPESTALL

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

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) RATES FOR WATER AND SEWER) SERVICE)		CASE NO. WR-2017-0285 CASE NO. SR-2017-0286
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AFFIDAVIT OF CONSTANCE E. HEPPENSTALL

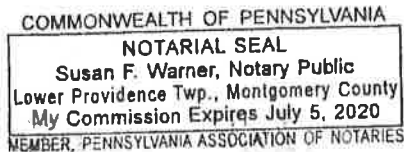
Constance E. Heppenstall, being first duly sworn, deposes and says that she is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony Rate Design of Constance E. Heppenstall"; that said testimony and schedules were prepared by her and/or under her direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, she would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of her knowledge.


Constance E. Heppenstall

Commonwealth of Pennsylvania
County of ~~Cumberland~~ *Montgomery*
SUBSCRIBED and sworn to
Before me this 9th day of January 2018.


Notary Public

My commission expires:



**REBUTTAL TESTIMONY
RATE DESIGN
CONSTANCE E. HEPPENSTALL
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2017-0285
CASE NO. SR-2017-0286**

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1 **I. INTRODUCTION**

2 **Q. Please state your name and address.**

3 A. My name is Constance E. Heppenstall. My business address is 1010 Adams Avenue,
4 Audubon, Pennsylvania.

5 **Q. Have you previously submitted testimony in this proceeding?**

6 A. Yes, I have submitted direct testimony in this proceeding on behalf of Missouri-American
7 Water Company (MAWC or Company).

8 **II. OVERVIEW**

9 **Q. What is the purpose of your rebuttal testimony?**

10 A. I will address the cost of service allocation and rate design issues in the Staff Report on Class
11 Cost of Service and Rate Design, including the testimony of witnesses James A Busch and
12 Curt B. Gately; the direct testimony and exhibits of Missouri Industrial Energy Consumers
13 (MIEC) witnesses Brian Collins and Jessica A. York; Office of the Public Counsel (OPC)
14 witness Geoff Marke; Missouri Department of Economic Development – Division of Energy
15 (DE) witness Martin Hyman; Cities of St. Joseph, Joplin, Jefferson City, Warrensburg,
16 Missouri witness Michael J. McGarry, Sr.; and, City of Riverside Witness Mayor Kathleen
17 L. Rose.

18 **III. COST OF SERVICE**

19 **Q. Please describe Staff's Water Cost of Service allocation.**

20 A. The Staff performs a water cost of service study using the Base-Extra Capacity Method as
21 described in the American Water Works Association manual of water supply practices,
22 Principles of Water Rates, Fees and Charges, Seventh Edition (AWWA M1 Manual) which

1 is also the methodology used by the Company in **Schedule CEH-1**.

2 **Q. Do you agree with Staff's allocations?**

3 A. No. Specifically, Staff did not allocate water production costs to the fire functions. Treated
4 water is used in fire emergencies, therefore a portion of the costs related to source of supply
5 and water treatment should be allocated to these functions.

6 **Q. Do you disagree with any other allocations in Staff's cost of service?**

7 A. Yes. In Districts 2 and 3, Staff incorrectly allocates too large of a portion of transmission and
8 distribution costs to fire protection due to an error in the calculation of Factor 7. Factor 7 is
9 a composite of Factor 3 (used to allocate facilities serving base, max day extra capacity and
10 fire) and Factor 4 (used to allocate facilities serving base, max hour extra capacity and fire).
11 While both Factors 3 and 4 are incorrect in the treatment of the allocation of fire protection,
12 I will focus on the error in Factor 4, which then affects Factor 7.

13 **Q. Please discuss the errors in Staff's calculation of Factor 4.**

14 A. As discuss above, the Staff is in error regarding its fire protection allocation calculations for
15 Districts 2 and 3 in Factor 4. Factor 4's allocation is based on the weights of Factor 4A for
16 average day, maximum hour and fire protection. The Staff's Factor 4A should utilize a rate
17 of flow of gallons per minute for its fire protection weighting. In District 1 (Staff Report –
18 CCOS, Schedule 5, page 2 of 18), the Staff correctly uses 20,000 gallons per minute rate of
19 flow for fire protection demand, which weights fire protection at 0.0523. However, in
20 Districts 2 and 3 (Staff Report – CCOS, Schedule 5, pages 8 and 14 of 18), the Staff uses the
21 gallons per day rate of flow of 4,080,000 (8,500 GPM * 60 minutes * 8 hours = 4,080,000),
22 instead of gallons per minute and, as a result, weights fire protection at 0.9893 in District 2
23 and 0.9919 in District 3. In contrast, the Staff footnotes that the system demand for fire

1 protection in Districts 2 and 3 is 8,500 gallons per minute, however it erroneously did not
2 use this value. If the Staff were to use 8,500 gallons per minute for rate of flow, its calculated
3 weight for fire protection would be much lower and in line with historic cost of service
4 studies. The results of these errors in Factor 4 flow through to the allocations in Factor 7 and
5 greatly increases the cost of service allocated to fire protection in Districts 2 and 3. This
6 error in cost allocation results in Staff proposing increases to private fire protection rates of
7 77.2% in District 2 and 100.34% in District 3 (Staff Report – CCOS – District 2 and 3,
8 Schedule 1, pages 2 and 3), which are much too high.

9 **Q. MIEC witnesses Collins and York recommend a modified water class cost of service**
10 **study. Please describe their modifications.**

11 A. The MIEC witnesses recommend an alternative allocation of Purchased Fuel/Power for
12 Source of Supply and Pumping expense items. Specifically, Ms. York recommends using
13 Factor 2 to allocate purchased power costs associated with Source of Supply and Factor 3 to
14 allocate purchased power costs associated with Power and Pumping. According to Ms. York,
15 these factors reflect each customer’s average load as well as peaking requirements, and in
16 the case of Factor 3, a component for Fire Protection.

17 **Q. MIEC witness York points to the variation in electric costs over the year as a reason to**
18 **allocate these costs based on average load and peaking requirements. Do you agree?**

19 A. No. Ms. York bases her analysis on monthly variations in water use, not daily or hourly
20 variations. The allocation factors that she recommends reflect variations in Purchased Power
21 costs due to daily or hourly demand. In my analysis of MAWC electric bills, it is evident
22 that Purchased Power costs do not change significantly due to excess daily or hourly demand.

23 **Q. Please explain your analysis of purchased power costs.**

1 A. I have conducted an analysis of a sample of the Company’s power bills in the St. Louis Metro
2 area and determined that the bills include a monthly demand charge regardless of the level
3 of service. Generally, electric rates are structured with a customer charge, a demand charge
4 and commodity charges. Depending on the rate schedule, there will be a monthly demand
5 charge every month even when power is at its lowest demand. The amount of the demand
6 charge that fluctuates from month to month would be considered the extra capacity portion
7 of the Company’s power purchases, not the total demand charges.

8 In my analysis of power bills in Schedule CEH-3, the difference between the minimum
9 demand charge for the lowest demand month and the demand charges for the remaining
10 months results in approximately 5.5% of the total purchased power expense attributable to
11 extra demand. Therefore, I would support a refinement to my cost allocation that would
12 allocate 5.5% of purchased power costs to the extra capacity function; however, this
13 refinement would result in a very minor revision to my study.

14 **Q. Does the AWWA Manual M1 support your method of allocating purchased power in
15 this manner?**

16 A. Yes, it does. It states that “the demand portion of power costs should be
17 allocated to extra capacity *to the degree that it varies with the demand pumping
18 requirements.” (emphasis added). It does not suggest that the total demand portion of
19 power costs should be allocated to extra capacity, only to the degree that it varies with
20 pumping requirements.*

21 **Q. What is the result of allocating power costs using your alternative method?**

22 A. As shown on Schedule CEH-4, the result of allocating 5.5% of the power costs on an extra
23 capacity basis reduces the Rate J cost of service by \$24,017 or about 0.14% of the total Rate

1 J costs - a very small and insignificant amount.

2 **Q. Did Mr. Collins recommend a similar adjustment to cost of service in the Company's**
3 **prior rate case?**

4 A. Yes, and his recommendation was rejected by the Commission.

5 **Q. Finally, MIEC witness York attempts to use Schedule JAY-2 to further support her**
6 **allocation. Please comment on this Schedule.**

7 A. In Schedule JAY-2, Ms. York calculates the average monthly purchased power rate for
8 Source of Supply and Pumping based on a cost per 1000-gallon of monthly sendout. She
9 uses this rate to calculate an allocation of purchased power to Rate J customers. Her analysis
10 is flawed as she is comparing "apples to oranges". The consumption in column 1 should be
11 the monthly sales of water, not sendout, as sendout includes non-revenue water. The
12 appropriate comparison is shown in the attached Schedule CEH-5, which substitutes 2016
13 monthly sales of water for monthly sendout. Schedule CEH-5 demonstrates that the
14 allocation of purchased power costs to the Rate J customers in the Company's filed cost of
15 service is correct, within \$42,672 or within 2.8%. This small difference is due to the fact
16 that the filed cost of service allocation uses pro forma consumption rather than 2016 monthly
17 consumption.

18 **IV. WATER RATE DESIGN – CUSTOMER CHARGE**

19 **Q. Please describe Staff witness James A. Busch's and Missouri Department of Economic**
20 **Development Division of Energy (DE) Witness Martin R. Hyman's recommended rate**
21 **design for Water Operations.**

22 A. Both Mr. Busch and Mr. Hyman propose no change to the current statewide customer charge.

1 This includes a monthly 5/8-inch customer charge of \$15.33, and a quarterly customer charge
2 of \$22.35 (or an effective rate of \$7.45 monthly).

3 **Q. How does this affect the Company’s customers who are currently billed quarterly and**
4 **will be billed monthly in the future?**

5 A. Using Mr. Busch’s rate structure, the customers who will be moving from a quarterly bill to
6 a monthly bill will incur a \$7.88 increase to their customer charge (\$15.33 minus \$7.45), a
7 106% increase. Mr. Busch does not discuss this impact in his testimony. In the Company’s
8 proposed rate design, the Company voluntarily lowered the monthly 5/8-inch customer
9 charge to \$10.00, and set its quarterly charge equal to \$30.00, or three times the proposed
10 monthly customer charge. This rate design would increase the quarterly customer’s monthly
11 customer charge by \$2.55 (\$10.00 minus \$7.45), mitigating the increase in customer charge
12 for these customers as they are moved from quarterly billing to monthly billing. The
13 Company’s proposal to lower the monthly customer charge to \$10.00 is specifically
14 contingent upon its proposal to move quarterly billed customers to monthly billing. If for
15 any reason the Company is not permitted to move from quarterly to monthly billing, then it
16 proposes to maintain the customer charges at current levels.

17 **V. WATER RATE DESIGN – INCLINING BLOCK RATES**

18 **Q. Staff Witness Gateley and DE Witness Hyman discuss the implementation of Inclining**
19 **Block Rates. Please explain their positions.**

20 A. Mr. Gateley describes the uncertainties involved with implementing inclining block rates
21 (Staff Report – CCOS, p. 7, ln. 27 - p. 9, ln. 2) and recommends not implementing such a
22 rate structure at this time. DE Witness Martin Hyman recommends not implementing an
23 inclining block rate structure at this time as well. In fact, he recommends a “temporary lower

1 tail (i.e. final) block rate designed to apply to customers at the 95th percentile...” (Hyman
2 Dir., p. 18, ln. 13-14), which would result in a declining block rate for certain large use
3 customers.

4 **Q. Please describe the purpose of Inclining block rate structure.**

5 A. Inclining block rates are implemented to promote water conservation by residential
6 customers. Conservation is encouraged through price signals, as the more water customers
7 use through the blocks, the higher the rate. DE witness Hyman does not recommend
8 implementing an inclining block rate structure “unless such rates would not result in
9 significantly adverse bill impact” (Hyman Dir., p. 19, ln. 5-6). However, there is no reason
10 to implement inclining block rates unless there is a bill impact that sends the customer an
11 appropriate price signal.

12 **Q. Can a price signal be sent without using inclining block rate structure?**

13 A. Yes. Any rate structure that is based on volumetric rates sends a price signal to the customer.
14 The Company’s current rate structure encourages conservation as every additional 100
15 gallons used increases the customer’s bill. In fact, if the Company is permitted to move from
16 quarterly to monthly billing, the Company’s proposed rate structure further encourages
17 conservation as it lowers the customer charge and increases the consumption charge.
18 Therefore, a larger portion of the customer’s bill is variable or based on consumption,
19 sending a stronger price signal to the customer.

20 **Q. What is the Company’s position regarding implementation of an inclining block rate
21 schedule?**

22 A. Though not recommended in my direct testimony, if there is interest in implementing an
23 inclining block rate design, the Company proposes to utilize a pilot program with inclining

1 block rates in the Joplin service area, if an RSM for the Company's entire service area is
2 approved. The approval of the RSM is critical in the implementation of inclining block rates
3 as the mechanism protects MAWC from experiencing lost revenue as a result of customer
4 water conservation.

5 **Q. Why is the Company recommending Joplin for the pilot program?**

6 A. The Joplin service area is the appropriate region for the pilot program for two reasons:

7 1. The Joplin system experiences conditions of strained water supply at times, and an
8 inclining block rate structure may encourage conservation among higher use
9 customers.

10 2. In 2011, the customer base in Joplin experienced a devastating tornado event. In
11 the rebuilding process, affected residents replaced old water fixtures with new water
12 saving fixtures. The change out to water saving fixtures will aid in isolating any
13 resulting reduction in water usage due to price sensitivity, and not due to other
14 conservation methods.

15 **Q. For the pilot program, what is the blocking structure recommended by the Company
16 and how was it determined?**

17 A. The Company performed a consolidated factor report for residential usage for the Joplin
18 service area. This report is attached as Schedule CEH-6. The median usage for the
19 residential class is 3,000 gallons per month. This level was chosen as the first block as it
20 encompasses 55% of the customers' bills and about 53% of the total consumption. The
21 second block includes the next 7,000 gallons per month which will capture many customers
22 who may not be able to conserve below 3,000 gallons due to the number of family members
23 or for other reasons. About 39.3% of customer bills fall in the second block and about 30.2%

1 of the total consumption is priced at the second block rate. The final third block includes
2 usage over 10,000 gallons which encompasses the remaining 5.7% of customer bills and
3 16.8% of residential consumption.

4 **Q. Please describe the rate options developed for the inclining block pilot program for**
5 **Joplin.**

6 A. We developed three different rate options – Lower Inclining, Medium Inclining and Higher
7 Inclining blocking structures, all of which produce the same increase as originally requested
8 and are summarized on Schedule CEH-7. Schedule CEH-8 demonstrates that each option
9 produces the equivalent revenue (column 9) as under filed rates (in column 7). This schedule
10 also calculates the adjustment to consumption as shown in Schedule CEH-6 (2016
11 consolidated factor report) and adjusts consumption for the year ending May 31, 2019 (CAS-
12 11&12).

13 **Q. Describe the structuring of the inclining block rates in the three options.**

14 A. The lower inclining block option increases each consumption block by 20%. For example,
15 the first block was set at \$0.55494, the second block rate is 20% higher than the first block
16 rate or \$0.66593, and the third block rate is 20% higher than the second block rate or
17 \$0.79912. The medium inclining block option increases each block by 30%. The higher
18 inclining block option increases the second block rate by 30% and the third block rate by
19 50%. Schedule CEH-9 demonstrates the bill comparisons for each option as compared to
20 present rates and the filed rates.

21 **VII. DISTRICT SPECIFIC PRICING VS. CONSOLIDATED TARIFF PRICING**

22 **Q. Please describe Staff's position on Consolidated Tariff Pricing.**

1 A. In Staff Witness James A. Busch’s testimony, he lists that one of the primary benefits of
2 District Specific Pricing (DSP) is that “cost-causers pay for their own costs” (Staff Report -
3 CCOS, p. 10, ln. 27-28). Conversely, he also states that one of the primary benefits of
4 Consolidated Tariff Pricing (CTP) is “that it spreads out costs to a large customer base. This
5 helps mitigate the impact of large capital expenditure that need to be made by MAWC in any
6 particular district” (Id., p. 11, ln. 10-12). Staff recommends that the Commission maintain
7 the current three water district structure that was approved in the Company’s prior rate case.
8 Staff adds the systems acquired since the last rate case to District 1 (Jaxon Estates and
9 Wardsville) and District 3 (Woodland Manor). Mr. Busch argues that maintaining the three
10 districts has the benefits of both the DSP and CTP approaches; DSP for maintaining cost
11 causation and CTP for spreading the costs over a larger customer than the original individual
12 districts.

13 **Q. Do you agree with Staff’s arguments?**

14 A. No, I do not. Having three districts does not spread out costs to a sufficiently larger customer
15 base to avoid a larger increase. **Schedule CEH-10** demonstrates the overall increases for
16 each district under DSP as compared CTP. Based on the filed cost of service for each district,
17 the increases under DSP for District 2 and 3 would be 35% and 26.6%, respectively. In
18 contrast, the increases for District 2 and 3 under CTP (using rates as filed) are 4.5% and
19 19.1%, respectively. The increase for District 1 would be higher under CTP versus DSP
20 (38.7% vs. 33.4%). This slightly larger increase under CTP mitigates the overall increase to
21 two other districts. The increase to the monthly average residential bill at 3,000 gallons
22 would equal 4.1% in District 1, negative 2.2% in District 2 and 8.8% in District 3. Though
23 the Company did not submit separate rate designs for DSP, these residential increases would

1 certainly be more on a district-specific basis for District 2 and 3 in order to generate the
2 higher individual revenue requirement for these two districts.

3 **Q. Does the Staff Report - CCOS present the true-up analysis in designing its rates?**

4 A. No, the Staff does not include any additional revenue requirement for true-up which, due to
5 the large capital expenditures which will be included in the true-up, will significantly change
6 the revenue requirements for District 2.

7 **Q. The Witness for the Cities of St. Joseph, Joplin, Jefferson City and Warrensburg,**
8 **Michael J. McGarry, Sr., is also opposed to CTP because he says his clients “having**
9 **borne the costs of their own system upgrades under District-Specific Pricing, the**
10 **Coalition Cities should not now also be required to bear the costs of system upgrades**
11 **in other districts” (McGarry Dir., p. MJM-5, lines 13-15). Do you agree?**

12 A. No, I disagree for two reasons. One, customers pay for system upgrades over time through
13 depreciation expense and return on investment, not when the upgrades are installed.
14 Therefore, these cities have not fully paid for their upgrades under DSP. Two, as discussed
15 above, the customers in the Coalition Cities, with the exception of Jefferson City (which is
16 in District 1), will actually be paying less under CTP than DSP and will benefit under CTP.

17 **Q. Do you agree with Staff Witness Busch, MIEC Witness Collins and OPC Witness Geoff**
18 **Marke that DSP is a preferable structure due to “cost causation”?**

19 A. No, I do not. DSP does not solve inequities or subsidies within a district as to “cost
20 causation”. For example, it is widely acknowledged that a customer who resides near the
21 treatment plant requires little in the way of distribution costs compared to a customer who
22 resides many miles away. Also, certain customers can be served directly from high service
23 pumping at the treatment facility, while others require additional booster pumping and

1 storage facilities in order to receive service at higher elevations. The recommendation by
2 Staff, MIEC and OPC witnesses to maintain the current three districts does not solve the
3 problem of cost-causers paying for service. There will always be inequities. The advantages
4 of CTP of spreading costs over a larger customer base outweigh the concerns related to cost-
5 causation.

6 **Q. MIEC Witness Collins and OPC Witness Marke find fault with comparing the MAWC**
7 **Water operations with an electric utility for pricing purposes. Please comment.**

8 A. The witnesses allege fault with comparing a water utility with an electric utility because,
9 unlike an electric utility, the MAWC water operations are not interconnected. This argument
10 of connectivity is not relevant. What is relevant is that each MAWC residential customer
11 receives the same service, regardless of what district they live in, and should pay the same
12 monthly rate for the same service. Ameren Missouri residential customers pay the same rate
13 for electricity no matter where in the state they live, or the level of their infrastructure costs.
14 For example, a customer living in a highly populated town would be much less expensive to
15 serve than a customer in a remote rural area of the state, yet they are charged the same rate
16 for electric service.

17 In addition, I performed an analysis of the annual cost per residential customers for each
18 district versus the consolidated district and found that the cost is relatively similar for the
19 residential class despite the lack of interconnections.

ANNUAL COST OF WATER - RESIDENTIAL CLASS

	Cost of Service (a)	Number of Customers	Annual Cost
District 1	\$ 207,659,134	335,483	\$ 618.98
District 2	\$ 21,815,819	34,717	\$ 628.39
District 3	\$ 17,491,818	34,223	\$ 511.11
Consolidated District	\$ 250,124,636	404,423	\$ 618.47

(a) Source: Response to data request MIEC 2-002 and Schedule CEH-1.

Q. MIEC Witness Collins recommends maintaining the three pricing districts as currently approved by the Commission. Does Mr. Collins indicate what rates should be implemented if the Company maintains the three pricing districts?

A. He recommends that each District’s class revenue allocation would be equal to its District-specific class cost of service. I agree. In response to data request MIEC 2-002, attached as **Schedule CEH-12**, I developed a cost of service study for each district. If DSP is approved, the cost of service for Rate J customers equals:

District 1 - \$10,932,664

District 2 - \$5,838,613

District 3 - \$3,181,716

Total – \$19,952,992

The cost of service studies based on the current three districts increase the Rate J cost of service from \$17,765,420 (17% increase over present rate revenue of \$15,173,474) to \$19,952,992 (31% increase over present rate revenue), causing an overall Rate J rate increase of \$4,779,517 or 31.5%. The district specific increases are as follows: 30% for District 1, 31% for District 2 and 26.6% increase for District 3, all higher than the projected CTP Rate

1 J increase of 16.5%. This analysis shows that Rate J customers will benefit from CTP yet
2 Mr. Collins does not recommend this rate design. He wrongly assumes that the increase for
3 the Rate J customers under DSP will be the same as calculated in a consolidated cost of
4 service study. If DSP is approved, I recommend rates be set according to the district specific
5 cost of service studies. The response to data request MIEC 2-002, attached as Schedule
6 CEH-12 is included as an attachment to this rebuttal testimony.

7 **Q. How does Mr. Collins address affordability?**

8 A. He recommends rate mitigation for those districts that have affordability issues. The rate
9 mitigation would require a subsidy from one district to another. This method is contrary to
10 Mr. Collins' arguments against CTP, specifically the creation of "unjust cross-subsidies" and
11 the "erosion of system efficiency". CTP is a more efficient and fairer method of addressing
12 affordability of water throughout the MAWC system.

13 **Q. What is the Cities' Witness McGarry's recommendation for rate design?**

14 A. He recommends that the Commission return to an eight-district rate design that existed before
15 the prior case. Alternatively, if CTP is approved, he recommends an off-set mechanism
16 based on "the depreciated capital investment since 2000 for each of the four cities in total
17 and divide that amount by the estimated consumption for the period of the offset. That
18 amount would be applied as a credit to the Coalition Cities on their customer's bills"
19 (McGarry Dir., p. MJM-14-15). This off-set would basically give an annual credit to the
20 customers of the Coalition Cities for all their capital investment each year, potentially paying
21 these customers multiple times over for a one-time investment. In addition, this capital
22 investment is not fully depreciated, so it has not been fully paid for by the customers of the
23 Coalition Cities, but Mr. McGarry is asking for a credit for the entire cost of these assets

1 This off-set in rates would necessitate a subsidy from the non-coalition areas to fund the
2 Coalition Cities' rate base. Mr. McGarry's off-set mechanism is neither workable nor
3 appropriate.

4 **Q. Please describe the position of Riverside Witness Mayor Kathleen L. Rose.**

5 A. Mayor Rose is in favor of CTP. She states, "It is unjust and unreasonable in this day and age
6 for a resident to pay a different amount for her water just because she lives in a particular
7 area" (Rose Dir., p 3, ln. 1-2). I concur with Mayor Rose's statement that equivalent service
8 should reflect equivalent rates.

9 **VIII. LEAD SERVICE LINE REPLACEMENT COST ALLOCATION**

10 **Q. MIEC_Witness Collins and OPC witness Marke raise concerns regarding the**
11 **allocation of lead service line replacement ("LSLR") program costs. How do you**
12 **respond?;**

13 A. As stated on page 37 of Company witness James Jenkins' Rebuttal Testimony, Revenue
14 Requirement, the Company proposes to record these costs in Account 345 – Services. In
15 the cost of service study, this account is allocated based on Factor 9 which allocates costs
16 based on the relative cost of services by size and customer classification (Schedule CEH-1
17 Schedule C page II-22). Since most of the service lines are either residential or non-
18 residential, this factor allocates only 0.0038 of the total to Rate J customers or MIEC
19 customers. See detail below:

Customer Classification	3/4" Dollar Equivalents	Allocation Factor
(1)	(2)	(3)
Residential	432,673	0.7791
Non-Residential	64,996	0.1171
Rate J	2,087	0.0038
Sales for Resale	265	0.0005
Private Fire	<u>55,244</u>	<u>0.0995</u>
Total	<u><u>555,265</u></u>	<u><u>1.0000</u></u>

1

2

Since the Company proposes to record the LSLR program costs as restoration costs

3

normally recorded in Account 345, they should be allocated as they have been historically,

4

based on service equivalents. It is impractical to record work related to services by

5

customer class and therefore a factor based on the weighted number of services is the

6

fairest way to allocate these costs.

7

IX. SEWER COST OF SERVICE AND RATE DESIGN

8

Q. Does Staff perform a cost of service study for the sewer operations?

9

A. No, they do not, as the operations are relatively small and mostly consist of residential

10

customers. The Company also did not provide a cost of service study for the sewer

11

operations.

12

Q. Please describe Staff's proposed sewer rate design for the Arnold system.

13

A. Staff assumes no increase to the rates for the Arnold system, based on an allegation that the

14

in the last rate case the Commission ordered no increase to Arnold customers until 2019.

15

MAWC Witness LaGrand will address this issue in his rate design rebuttal testimony.

16

Q. Please describe Staff's proposed sewer rate design for the other sewer systems.

1 A. Staff Report – CCOS, Schedule 7 shows its proposed rates. In the schedule, Staff allocates
2 \$14,234 in additional costs for each sewer system whose present rates are below the current
3 flat rate of \$66.93 per month. This additional revenue is the same for each area despite each
4 area having a varied number of customers and resulting revenue. This method of allocation
5 results in a disproportionate rate increase for several areas. **Schedule CEH-11** attached to
6 this testimony summarizes the average monthly increase for each sewer district under the
7 Company’s filed rates and under the Staff’s proposed rates. This summary shows a \$25.24
8 monthly increase for Hickory Hills. In contrast, the Company’s rate design results in a
9 maximum bill increase of \$15.39 (Maplewood). In addition, Staff’s rate design creates eight
10 different non-Arnold rates areas, contrary to the Commission recommendation to move the
11 non-Arnold sewer systems toward a single rate. The Company’s rate design moves sewer
12 rates toward CTP through the creation of two non-Arnold rate areas and lowers the monthly
13 sewer rate for 4,037 customers or 63% of the non-Arnold sewer customers. The Company’s
14 sewer rate design is far superior to that proposed by Staff.

15 **X. TAX ADJUSTMENT RATE DESIGN**

16 **Q. In its rebuttal testimony, the Company filed the Pro-Forma Tax Reform Update that**
17 **adjusted the rate base and decreased the revenue requirement. Please describe the**
18 **resulting adjustment to the water cost of service and proposed rates.**

19 A. The adjusted water cost of service is reflected in **Schedule CEH-13**. Proposed
20 consumption rates were adjusted in order to scale back the increase by customer class. The
21 customer charges were not revised. See **Schedule CEH-15** for the revised CAS-11 & 12
22 related to this adjustment.

23 **Q. Please describe the adjustment to the sewer cost of service and rate design.**

1 A. The adjusted sewer cost of service is reflected in **Schedule CEH-14**. As a result of this
2 adjustment, we eliminated the rate increase for the Arnold District, and lowered rates for
3 Cedar Hill, Jefferson City, Wardsville, Emerald Pointe, Incline Village, Ozark Meadows,
4 and Platte County. The sewer rates for Anna Meadows, Maplewood, Fenton, Hickory
5 Hills, and Jaxson Estates would remain as originally proposed. See **Schedule CEH-15** for
6 the revised CAS-11 & 12 related to this adjustment.

7 **Q. Does this conclude your rebuttal testimony?**

8 A. Yes, it does.

MISSOURI AMERICAN WATER COMPANY
ANALYSIS OF PURCHASED POWER

<u>Account</u>	<u>Rate Sched.</u>	<u>Total Power Purchased</u>	<u>Total Demand Charges</u>	<u>Minimum Demand Charge</u>	<u>Excess Demand Charges</u>	<u>Percent Excess Demand to Total Bill</u>
5241003413 Central Plant 1	11M	\$ 3,369,632.87	\$ 1,083,562.19	\$ 791,082.23	\$ 292,479.96	8.68%
6241003519 Central Plant 2	4M	999,322.90	54,729.32	2,760.00	51,969.32	5.20%
1341003022 North Plant	4M	895,220.84	50,195.65	37,174.45	13,021.21	1.45%
3341003119 South Plant 1	4M	656,188.96	36,638.73	28,085.77	8,552.96	1.30%
4341003216 South Plant 2	4M	219,794.19	16,475.22	10,234.08	6,241.14	2.84%
341003915 Ross Booster	4M	101,500.05	9,422.00	502.24	8,919.76	8.79%
9850007413 Airport Booster	3M	24,057.65	3,813.76	3,364.00	449.76	1.87%
790001817 Chesterfield Boosets	3M	99,116.75	12,022.73	8,931.43	3,091.30	3.12%
7241003616 Meramec 1	3M	724,089.11	44,580.19	31,931.10	12,649.09	1.75%
8241003713 Meramec 2	3M	194,074.16	18,639.88	12,789.92	5,849.96	3.01%
Total		7,282,997.48	1,330,079.67	926,855.21	403,224.46	5.54%

MISSOURI-AMERICAN WATER COMPANY
ALL WATER DISTRICTS
REVISED COST OF SERVICE BASED ON MIEC ALLOCATION TO PURCHASED POWER
COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 250,047,247	71.3%	\$ 177,161,196	67.8%	\$ 242,660,412	69.3%	\$ 65,499,216	37.0%
Non-Residential	70,544,482	20.2%	57,675,916	22.0%	76,939,713	22.0%	19,263,797	33.4%
Rate J	17,789,437	5.1%	15,173,474	5.8%	17,681,116	5.1%	2,507,642	16.5%
Sales for Resale	7,089,428	2.0%	6,865,390	2.6%	7,725,641	2.2%	860,251	12.5%
Private Fire	4,536,911	1.3%	5,000,939	1.9%	5,000,181	1.4%	(758)	0.0%
Total Sales	350,007,504	<u>99.9%</u>	261,876,916	<u>100.1%</u>	350,007,064	<u>100.0%</u>	88,130,148	33.7%
Other Revenues	4,154,107		3,420,164		4,154,107		733,943	21.5%
Contract Revenues	5,270,114		5,022,927		5,270,114		247,187	4.9%
Total	<u>\$ 359,431,725</u> *		<u>\$ 270,320,007</u>		<u>\$ 359,431,285</u>		<u>\$ 89,111,278</u>	33.0%

* Includes \$79,471 Hickory Hill Sewer Transfer.

MISSOURI-AMERICAN WATER COMPANY

Allocation of Purchase Power Expense to Rate J
Based on Actual Purchased Power Rates for Pumping

Line	Description	Sale of Water Volume (1,000 gallons) (a) (1)	Purchased Power Cost for Source of Supply & Pumping (2)	Monthly Average Purchased Power Rate (\$/1,000 gallons) (3)	Rate J Monthly Volumes (1,000 gal.) (4)	Rate J Allocated Purchased Power Costs (5)
1	Jan-16	3,524,963	\$ 744,667	0.21	456,857	\$ 95,940
2	Feb-16	3,456,000	748,287	0.22	529,141	116,411
3	Mar-16	3,631,051	641,014	0.18	490,333	88,260
4	Apr-16	3,578,182	698,614	0.20	557,412	111,482
5	May-16	3,542,209	720,905	0.20	508,995	101,799
6	Jun-16	4,384,322	1,302,027	0.30	559,318	167,795
7	Jul-16	4,687,816	1,412,697	0.30	600,291	180,087
8	Aug-16	5,688,401	1,103,129	0.19	736,904	140,012
9	Sep-16	5,732,802	1,370,304	0.24	672,041	161,290
10	Oct-16	4,545,483	764,737	0.17	581,631	98,877
11	Nov-16	4,356,316	640,160	0.15	566,065	84,910
12	Dec-16	3,946,283	792,751	0.20	611,943	122,389
13	Total	<u>51,073,828</u>	<u>\$ 10,939,292</u>		<u>6,870,931</u>	<u>\$ 1,469,252</u>

Allocation as filed 1,511,924
Difference \$ 42,672

(a) MAWC's response to MIEC 1-009.

MISSOURI AMERICAN WATER COMPANY
 CONSOLIDATED FACTOR REPORT - JOPLIN
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

Flow 100 Gallons (1)	Number of Bills (2)	Total Consumption (3)	Cumulative Bills (4)	Cumulative Consumption (5)	Consolidated Factor (6)
0	17,773	0	17,773	0	0
7	21,474	150,318	39,247	150,318	1,676,675
8	598	4,784	39,845	155,102	1,894,726
14	10	140	39,855	155,242	3,199,444
15	31,964	479,460	71,819	634,702	3,416,887
22	34,775	765,050	106,594	1,399,752	4,715,240
23	984	22,632	107,578	1,422,384	4,865,944
29	214	6,206	107,792	1,428,590	5,764,264
30	33,803	1,014,090	141,595	2,442,680	5,913,770
37	27,932	1,033,484	169,527	3,476,164	6,723,691
38	625	23,750	170,152	3,499,914	6,811,462
44	5	220	170,157	3,500,134	7,334,338
45	21,584	971,280	191,741	4,471,414	7,421,479
52	15,246	792,792	206,987	5,264,206	7,880,378
53	584	30,952	207,571	5,295,158	7,930,689
59	124	7,316	207,695	5,302,474	8,229,051
60	11,320	679,200	219,015	5,981,674	8,278,654
67	7,897	529,099	226,912	6,510,773	8,546,635
68	189	12,852	227,101	6,523,625	8,577,021
74	63	4,662	227,164	6,528,287	8,758,203
75	5,709	428,175	232,873	6,956,462	8,788,337
82	4,153	340,546	237,026	7,297,008	8,959,312
83	63	5,229	237,089	7,302,237	8,979,584
89	91	8,099	237,180	7,310,336	9,100,838
90	3,065	275,850	240,245	7,586,186	9,120,956
97	2,228	216,116	242,473	7,802,302	9,240,327
98	115	11,270	242,588	7,813,572	9,255,152
104	48	4,992	242,636	7,818,564	9,343,412
105	1,753	184,065	244,389	8,002,629	9,358,074
112	1,476	165,312	245,865	8,167,941	9,448,437
113	12	1,356	245,877	8,169,297	9,459,870
119	42	4,998	245,919	8,174,295	9,528,396
120	1,129	135,480	247,048	8,309,775	9,539,775
127	942	119,634	247,990	8,429,409	9,611,525
128	15	1,920	248,005	8,431,329	9,620,833

MISSOURI AMERICAN WATER COMPANY
CONSOLIDATED FACTOR REPORT - JOPLIN
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
134	27	3,618	248,032	8,434,947	9,676,591
135	778	105,030	248,810	8,539,977	9,685,857
142	680	96,560	249,490	8,636,537	9,745,273
143	11	1,573	249,501	8,638,110	9,753,081
149	41	6,109	249,542	8,644,219	9,799,863
150	565	84,750	250,107	8,728,969	9,807,619
157	495	77,715	250,602	8,806,684	9,857,956
158	5	790	250,607	8,807,474	9,864,652
164	22	3,608	250,629	8,811,082	9,904,798
165	449	74,085	251,078	8,885,167	9,911,467
172	374	64,328	251,452	8,949,495	9,955,007
173	2	346	251,454	8,949,841	9,960,853
179	24	4,296	251,478	8,954,137	9,995,917
180	340	61,200	251,818	9,015,337	10,001,737
187	293	54,791	252,111	9,070,128	10,040,097
194	260	50,440	252,371	9,120,568	10,076,406
195	17	3,315	252,388	9,123,883	10,081,333
201	2	402	252,390	9,124,285	10,110,793
202	269	54,338	252,659	9,178,623	10,115,701
209	245	51,205	252,904	9,229,828	10,148,174
210	12	2,520	252,916	9,232,348	10,152,568
216	2	432	252,918	9,232,780	10,178,860
217	209	45,353	253,127	9,278,133	10,183,240
224	181	40,544	253,308	9,318,677	10,212,437
225	16	3,600	253,324	9,322,277	10,216,427
231	3	693	253,327	9,322,970	10,240,271
232	194	45,008	253,521	9,367,978	10,244,242
239	175	41,825	253,696	9,409,803	10,270,681
240	20	4,800	253,716	9,414,603	10,274,283
246	2	492	253,718	9,415,095	10,295,775
247	153	37,791	253,871	9,452,886	10,299,355
254	147	37,338	254,018	9,490,224	10,323,344
255	9	2,295	254,027	9,492,519	10,326,624
261	3	783	254,030	9,493,302	10,346,250
262	127	33,274	254,157	9,526,576	10,349,518

MISSOURI AMERICAN WATER COMPANY
CONSOLIDATED FACTOR REPORT - JOPLIN
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
269	133	35,777	254,290	9,562,353	10,371,505
270	6	1,620	254,296	9,563,973	10,374,513
276	6	1,656	254,302	9,565,629	10,392,525
277	142	39,334	254,444	9,604,963	10,395,521
284	95	26,980	254,539	9,631,943	10,415,499
285	4	1,140	254,543	9,633,083	10,418,258
291	10	2,910	254,553	9,635,993	10,434,788
292	99	28,908	254,652	9,664,901	10,437,533
299	88	26,312	254,740	9,691,213	10,456,055
300	1	300	254,741	9,691,513	10,458,613
306	5	1,530	254,746	9,693,043	10,473,955
307	96	29,472	254,842	9,722,515	10,476,507
314	101	31,714	254,943	9,754,229	10,493,699
315	4	1,260	254,947	9,755,489	10,496,054
321	7	2,247	254,954	9,757,736	10,510,160
322	93	29,946	255,047	9,787,682	10,512,504
329	97	31,913	255,144	9,819,595	10,528,261
330	2	660	255,146	9,820,255	10,530,415
336	6	2,016	255,152	9,822,271	10,543,327
337	81	27,297	255,233	9,849,568	10,545,473
344	66	22,704	255,299	9,872,272	10,559,928
345	9	3,105	255,308	9,875,377	10,561,927
351	4	1,404	255,312	9,876,781	10,573,867
352	79	27,808	255,391	9,904,589	10,575,853
359	77	27,643	255,468	9,932,232	10,589,202
366	11	4,026	255,479	9,936,258	10,602,012
367	53	19,451	255,532	9,955,709	10,603,831
374	69	25,806	255,601	9,981,515	10,616,193
381	44	16,764	255,645	9,998,279	10,628,072
382	4	1,528	255,649	9,999,807	10,629,725
389	67	26,063	255,716	10,025,870	10,641,268
396	60	23,760	255,776	10,049,630	10,652,342
403	1	403	255,777	10,050,033	10,662,996
404	42	16,968	255,819	10,067,001	10,664,517
411	57	23,427	255,876	10,090,428	10,674,870

MISSOURI AMERICAN WATER COMPANY
CONSOLIDATED FACTOR REPORT - JOPLIN
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
412	5	2,060	255,881	10,092,488	10,676,292
419	41	17,179	255,922	10,109,667	10,686,211
426	38	16,188	255,960	10,125,855	10,695,843
427	5	2,135	255,965	10,127,990	10,697,181
433	1	433	255,966	10,128,423	10,705,179
434	41	17,794	256,007	10,146,217	10,706,511
441	38	16,758	256,045	10,162,975	10,715,548
448	1	448	256,046	10,163,423	10,724,319
449	28	12,572	256,074	10,175,995	10,725,571
456	34	15,504	256,108	10,191,499	10,734,139
457	2	914	256,110	10,192,413	10,735,329
463	1	463	256,111	10,192,876	10,742,457
464	31	14,384	256,142	10,207,260	10,743,644
471	34	16,014	256,176	10,223,274	10,751,736
478	3	1,434	256,179	10,224,708	10,759,590
479	32	15,328	256,211	10,240,036	10,760,709
486	27	13,122	256,238	10,253,158	10,768,318
487	1	487	256,239	10,253,645	10,769,378
494	27	13,338	256,266	10,266,983	10,776,791
501	29	14,529	256,295	10,281,512	10,784,015
502	1	502	256,296	10,282,014	10,785,018
508	1	508	256,297	10,282,522	10,791,030
509	27	13,743	256,324	10,296,265	10,792,031
516	26	13,416	256,350	10,309,681	10,798,849
523	2	1,046	256,352	10,310,727	10,805,485
524	22	11,528	256,374	10,322,255	10,806,431
531	32	16,992	256,406	10,339,247	10,812,899
532	2	1,064	256,408	10,340,311	10,813,791
538	1	538	256,409	10,340,849	10,819,131
539	34	18,326	256,443	10,359,175	10,820,020
546	12	6,552	256,455	10,365,727	10,826,005
553	3	1,659	256,458	10,367,386	10,831,906
554	19	10,526	256,477	10,377,912	10,832,746
561	22	12,342	256,499	10,390,254	10,838,493
568	16	9,088	256,515	10,399,342	10,844,086

MISSOURI AMERICAN WATER COMPANY
 CONSOLIDATED FACTOR REPORT - JOPLIN
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
569	6	3,414	256,521	10,402,756	10,844,869
576	21	12,096	256,542	10,414,852	10,850,308
583	19	11,077	256,561	10,425,929	10,855,600
584	1	584	256,562	10,426,513	10,856,337
591	25	14,775	256,587	10,441,288	10,861,489
598	16	9,568	256,603	10,450,856	10,866,466
599	2	1,198	256,605	10,452,054	10,867,161
606	18	10,908	256,623	10,462,962	10,872,012
613	14	8,582	256,637	10,471,544	10,876,737
614	1	614	256,638	10,472,158	10,877,398
621	19	11,799	256,657	10,483,957	10,882,018
628	20	12,560	256,677	10,496,517	10,886,505
636	15	9,540	256,692	10,506,057	10,891,473
643	23	14,789	256,715	10,520,846	10,895,715
651	22	14,322	256,737	10,535,168	10,900,379
658	11	7,238	256,748	10,542,406	10,904,306
659	1	659	256,749	10,543,065	10,904,856
666	11	7,326	256,760	10,550,391	10,908,699
673	13	8,749	256,773	10,559,140	10,912,465
681	18	12,258	256,791	10,571,398	10,916,665
688	7	4,816	256,798	10,576,214	10,920,214
689	1	689	256,799	10,576,903	10,920,714
695	1	695	256,800	10,577,598	10,923,708
696	14	9,744	256,814	10,587,342	10,924,206
703	6	4,218	256,820	10,591,560	10,927,594
711	15	10,665	256,835	10,602,225	10,931,418
718	10	7,180	256,845	10,609,405	10,934,659
719	2	1,438	256,847	10,610,843	10,935,112
726	9	6,534	256,856	10,617,377	10,938,269
733	8	5,864	256,864	10,623,241	10,941,363
740	1	740	256,865	10,623,981	10,944,401
741	9	6,669	256,874	10,630,650	10,944,834
748	9	6,732	256,883	10,637,382	10,947,802
755	4	3,020	256,887	10,640,402	10,950,707
756	3	2,268	256,890	10,642,670	10,951,118

MISSOURI AMERICAN WATER COMPANY
 CONSOLIDATED FACTOR REPORT - JOPLIN
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
763	7	5,341	256,897	10,648,011	10,953,974
770	5	3,850	256,902	10,651,861	10,956,781
771	1	771	256,903	10,652,632	10,957,177
778	11	8,558	256,914	10,661,190	10,959,942
785	7	5,495	256,921	10,666,685	10,962,630
786	1	786	256,922	10,667,471	10,963,007
792	1	792	256,923	10,668,263	10,965,263
793	12	9,516	256,935	10,677,779	10,965,638
800	4	3,200	256,939	10,680,979	10,968,179
801	1	801	256,940	10,681,780	10,968,538
807	1	807	256,941	10,682,587	10,970,686
808	14	11,312	256,955	10,693,899	10,971,043
815	7	5,705	256,962	10,699,604	10,973,444
823	7	5,761	256,969	10,705,365	10,976,132
830	9	7,470	256,978	10,712,835	10,978,435
838	5	4,190	256,983	10,717,025	10,980,995
845	9	7,605	256,992	10,724,630	10,983,200
853	7	5,971	256,999	10,730,601	10,985,648
860	11	9,460	257,010	10,740,061	10,987,741
867	1	867	257,011	10,740,928	10,989,757
868	3	2,604	257,014	10,743,532	10,990,044
875	4	3,500	257,018	10,747,032	10,992,032
883	4	3,532	257,022	10,750,564	10,994,272
890	4	3,560	257,026	10,754,124	10,996,204
898	5	4,490	257,031	10,758,614	10,998,380
905	4	3,620	257,035	10,762,234	11,000,249
906	1	906	257,036	10,763,140	11,000,512
913	4	3,652	257,040	10,766,792	11,002,346
920	5	4,600	257,045	10,771,392	11,004,152
921	1	921	257,046	10,772,313	11,004,405
928	6	5,568	257,052	10,777,881	11,006,169
935	5	4,675	257,057	10,782,556	11,007,891
942	8	7,536	257,065	10,790,092	11,009,578
950	8	7,600	257,073	10,797,692	11,011,442
957	2	1,914	257,075	10,799,606	11,013,017

MISSOURI AMERICAN WATER COMPANY
CONSOLIDATED FACTOR REPORT - JOPLIN
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
965	5	4,825	257,080	10,804,431	11,014,801
972	1	972	257,081	10,805,403	11,016,327
979	1	979	257,082	10,806,382	11,017,846
980	3	2,940	257,085	10,809,322	11,018,062
987	3	2,961	257,088	10,812,283	11,019,553
995	4	3,980	257,092	10,816,263	11,021,233
1,002	2	2,004	257,094	10,818,267	11,022,675
1,003	1	1,003	257,095	10,819,270	11,022,879
1,010	4	4,040	257,099	10,823,310	11,024,300
1,017	6	6,102	257,105	10,829,412	11,025,693
1,018	1	1,018	257,106	10,830,430	11,025,886
1,024	1	1,024	257,107	10,831,454	11,027,038
1,025	3	3,075	257,110	10,834,529	11,027,229
1,032	3	3,096	257,113	10,837,625	11,028,545
1,033	2	2,066	257,115	10,839,691	11,028,730
1,040	2	2,080	257,117	10,841,771	11,030,011
1,047	1	1,047	257,118	10,842,818	11,031,278
1,055	2	2,110	257,120	10,844,928	11,032,718
1,062	5	5,310	257,125	10,850,238	11,033,964
1,070	2	2,140	257,127	10,852,378	11,035,348
1,084	1	1,084	257,128	10,853,462	11,037,742
1,085	4	4,340	257,132	10,857,802	11,037,912
1,092	1	1,092	257,133	10,858,894	11,039,074
1,100	1	1,100	257,134	10,859,994	11,040,394
1,107	4	4,428	257,138	10,864,422	11,041,542
1,114	1	1,114	257,139	10,865,536	11,042,662
1,122	3	3,366	257,142	10,868,902	11,043,934
1,129	3	3,387	257,145	10,872,289	11,045,026
1,137	1	1,137	257,146	10,873,426	11,046,250
1,152	1	1,152	257,147	10,874,578	11,048,530
1,159	3	3,477	257,150	10,878,055	11,049,587
1,167	1	1,167	257,151	10,879,222	11,050,771
1,174	1	1,174	257,152	10,880,396	11,051,800
1,175	1	1,175	257,153	10,881,571	11,051,946
1,182	4	4,728	257,157	10,886,299	11,052,961

MISSOURI AMERICAN WATER COMPANY
CONSOLIDATED FACTOR REPORT - JOPLIN
FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
1,197	1	1,197	257,158	10,887,496	11,055,076
1,204	1	1,204	257,159	10,888,700	11,056,056
1,212	2	2,424	257,161	10,891,124	11,057,168
1,219	1	1,219	257,162	10,892,343	11,058,127
1,242	2	2,484	257,164	10,894,827	11,061,255
1,249	4	4,996	257,168	10,899,823	11,062,193
1,257	1	1,257	257,169	10,901,080	11,063,233
1,264	3	3,792	257,172	10,904,872	11,064,136
1,265	1	1,265	257,173	10,906,137	11,064,262
1,279	1	1,279	257,174	10,907,416	11,066,012
1,287	2	2,574	257,176	10,909,990	11,067,004
1,294	2	2,588	257,178	10,912,578	11,067,858
1,302	1	1,302	257,179	10,913,880	11,068,818
1,309	1	1,309	257,180	10,915,189	11,069,651
1,331	2	2,662	257,182	10,917,851	11,072,247
1,346	3	4,038	257,185	10,921,889	11,073,987
1,354	4	5,416	257,189	10,927,305	11,074,891
1,361	1	1,361	257,190	10,928,666	11,075,654
1,369	2	2,738	257,192	10,931,404	11,076,518
1,376	3	4,128	257,195	10,935,532	11,077,260
1,384	1	1,384	257,196	10,936,916	11,078,084
1,391	1	1,391	257,197	10,938,307	11,078,798
1,399	1	1,399	257,198	10,939,706	11,079,606
1,406	1	1,406	257,199	10,941,112	11,080,306
1,414	1	1,414	257,200	10,942,526	11,081,098
1,421	1	1,421	257,201	10,943,947	11,081,784
1,429	1	1,429	257,202	10,945,376	11,082,560
1,459	2	2,918	257,204	10,948,294	11,085,440
1,466	1	1,466	257,205	10,949,760	11,086,098
1,474	1	1,474	257,206	10,951,234	11,086,842
1,481	4	5,924	257,210	10,957,158	11,087,486
1,496	1	1,496	257,211	10,958,654	11,088,806
1,518	2	3,036	257,213	10,961,690	11,090,720
1,526	1	1,526	257,214	10,963,216	11,091,400
1,548	1	1,548	257,215	10,964,764	11,093,248

MISSOURI AMERICAN WATER COMPANY
 CONSOLIDATED FACTOR REPORT - JOPLIN
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
1,563	2	3,126	257,217	10,967,890	11,094,493
1,571	3	4,713	257,220	10,972,603	11,095,141
1,578	2	3,156	257,222	10,975,759	11,095,687
1,593	3	4,779	257,225	10,980,538	11,096,827
1,608	3	4,824	257,228	10,985,362	11,097,922
1,646	1	1,646	257,229	10,987,008	11,100,582
1,661	1	1,661	257,230	10,988,669	11,101,617
1,676	1	1,676	257,231	10,990,345	11,102,637
1,683	1	1,683	257,232	10,992,028	11,103,106
1,690	1	1,690	257,233	10,993,718	11,103,568
1,691	1	1,691	257,234	10,995,409	11,103,633
1,705	1	1,705	257,235	10,997,114	11,104,529
1,713	1	1,713	257,236	10,998,827	11,105,033
1,720	1	1,720	257,237	11,000,547	11,105,467
1,728	1	1,728	257,238	11,002,275	11,105,955
1,742	1	1,742	257,239	11,004,017	11,106,795
1,750	1	1,750	257,240	11,005,767	11,107,267
1,773	1	1,773	257,241	11,007,540	11,108,601
1,780	1	1,780	257,242	11,009,320	11,109,000
1,803	1	1,803	257,243	11,011,123	11,110,288
1,818	2	3,636	257,245	11,014,759	11,111,113
1,825	2	3,650	257,247	11,018,409	11,111,484
1,840	2	3,680	257,249	11,022,089	11,112,249
1,848	3	5,544	257,252	11,027,633	11,112,641
1,877	2	3,754	257,254	11,031,387	11,113,975
1,892	2	3,784	257,256	11,035,171	11,114,635
1,959	1	1,959	257,257	11,037,130	11,117,449
1,960	1	1,960	257,258	11,039,090	11,117,490
1,967	2	3,934	257,260	11,043,024	11,117,770
1,975	1	1,975	257,261	11,044,999	11,118,074
1,982	1	1,982	257,262	11,046,981	11,118,333
1,997	1	1,997	257,263	11,048,978	11,118,873
2,035	1	2,035	257,264	11,051,013	11,120,203
2,049	1	2,049	257,265	11,053,062	11,120,679
2,050	2	4,100	257,267	11,057,162	11,120,712

MISSOURI AMERICAN WATER COMPANY
 CONSOLIDATED FACTOR REPORT - JOPLIN
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2016

<u>Flow 100 Gallons</u>	<u>Number of Bills</u>	<u>Total Consumption</u>	<u>Cumulative Bills</u>	<u>Cumulative Consumption</u>	<u>Consolidated Factor</u>
(1)	(2)	(3)	(4)	(5)	(6)
2,087	1	2,087	257,268	11,059,249	11,121,859
2,102	1	2,102	257,269	11,061,351	11,122,309
2,147	1	2,147	257,270	11,063,498	11,123,614
2,154	1	2,154	257,271	11,065,652	11,123,810
2,177	1	2,177	257,272	11,067,829	11,124,431
2,229	2	4,458	257,274	11,072,287	11,125,783
2,251	2	4,502	257,276	11,076,789	11,126,311
2,289	1	2,289	257,277	11,079,078	11,127,147
2,319	1	2,319	257,278	11,081,397	11,127,777
2,446	1	2,446	257,279	11,083,843	11,130,317
2,506	1	2,506	257,280	11,086,349	11,131,457
2,551	1	2,551	257,281	11,088,900	11,132,267
2,700	1	2,700	257,282	11,091,600	11,134,800
2,992	1	2,992	257,283	11,094,592	11,139,472
3,014	1	3,014	257,284	11,097,606	11,139,802
3,112	1	3,112	257,285	11,100,718	11,141,174
3,119	1	3,119	257,286	11,103,837	11,141,265
3,179	1	3,179	257,287	11,107,016	11,141,985
3,464	1	3,464	257,288	11,110,480	11,145,120
3,605	2	7,210	257,290	11,117,690	11,146,530
3,897	1	3,897	257,291	11,121,587	11,148,866
3,994	1	3,994	257,292	11,125,581	11,149,545
4,159	1	4,159	257,293	11,129,740	11,150,535
4,488	1	4,488	257,294	11,134,228	11,152,180
5,625	1	5,625	257,295	11,139,853	11,156,728
5,834	1	5,834	257,296	11,145,687	11,157,355
6,508	1	6,508	257,297	11,152,195	11,158,703
9,559	1	9,559	257,298	11,161,754	11,161,754

MISSOURI AMERICAN WATER
JOPLIN INCLINING BLOCK RATES - PILOT PROGRAM

SUMMARY OF RATE OPTIONS

	Present Rates	Filed Rates	Inclining Block		
			Lower	Medium	Higher
Customer Charge - 5/8-Inch Meter	\$ 15.33	\$ 10.00	\$10.00	\$10.00	\$10.00
All Usage	0.37424	0.62953			
First Block (First 3,000 gallons)			0.55494	0.52170	0.50347
Second Block (Next 7,000 gallons)			0.66593	0.67821	0.65451
Third Block (Over 10,000 gallons)			0.79912	0.88167	0.98177

MISSOURI AMERICAN WATER
 JOPLIN INCLINING BLOCK RATES - PILOT PROGRAM

APPLICATION OF PRESENT RATES, FILED RATES AND INCLINING RATES TO CONSUMPTION ANALYSIS - RESIDENTIAL CLASS
 YEAR ENDED MAY 31, 2019

LOWER INCLINING BLOCK

Rate Block 100 Gallons (1)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Filed Rate (6)	Filed Revenue (7)	Inclining Rate (8)	Inclining Revenue (9)
First Block (First 3,000 gallons)	5,754,098	0.37424	2,153,414	0.62953	3,622,377	0.55494	3,193,179
Second Block (Next 7,000 gallons)	3,279,790	0.37424	1,227,429	0.62953	2,064,726	0.66593	2,184,111
Third Block (Over 10,000 gallons)	1,826,498	0.37424	683,549	0.62953	1,149,835	0.79912	1,459,591
Subtotal	10,860,387		4,064,392		6,836,939		6,836,881
Total Class	10,860,387		\$ 4,064,392		\$ 6,836,939		\$ 6,836,881

MEDIUM INCLINING BLOCK

Rate Block 100 Gallons (1)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Filed Rate (6)	Filed Revenue (7)	Inclining Rate (8)	Inclining Revenue (9)
First Block (First 3,000 gallons)	5,754,098	0.37424	2,153,414	0.62953	3,622,377	0.52170	3,001,913
Second Block (Next 7,000 gallons)	3,279,790	0.37424	1,227,429	0.62953	2,064,726	0.67821	2,224,387
Third Block (Over 10,000 gallons)	1,826,498	0.37424	683,549	0.62953	1,149,835	0.88167	1,610,369
Subtotal	10,860,387		4,064,392		6,836,939		6,836,668
Total Class	10,860,387		\$ 4,064,392		\$ 6,836,939		\$ 6,836,668

HIGHER INCLINING BLOCK

Rate Block 100 Gallons (1)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Filed Rate (6)	Filed Revenue (7)	Inclining Rate (8)	Inclining Revenue (9)
First Block (First 3,000 gallons)	5,754,098	0.37424	2,153,414	0.62953	3,622,377	0.50347	2,897,016
Second Block (Next 7,000 gallons)	3,279,790	0.37424	1,227,429	0.62953	2,064,726	0.65451	2,146,656
Third Block (Over 10,000 gallons)	1,826,498	0.37424	683,549	0.62953	1,149,835	0.98177	1,793,201
Subtotal	10,860,387		4,064,392		6,836,939		6,836,872
Total Class	10,860,387		\$ 4,064,392		\$ 6,836,939		\$ 6,836,872

	Total Consumption *	Adjustment To 5/31/2019**
First Block (First 3,000 gallons)	5,913,770	5,754,098
Second Block (Next 7,000 gallons)	3,370,802	3,279,790
Third Block (Over 10,000 gallons)	1,877,182	1,826,498
Total Base Year Consumption - Joplin	11,161,754	10,860,387
Total Base Year Consumption - District 3	16,933,432	16,480,224
Percentage Change in Usage		97.3%

* 2016 Consolidated Factor Report
 ** Adjustment based on the the percentage change in consumption for District 3.

MISSOURI AMERICAN WATER
COMPARATIVE BILLS - JOPLIN INCLINING BLOCK PILOT PROGRAM

LOWER INCLINING BLOCK

Consumption Gallons	Present Rates Monthly Bill	Filed Rates Monthly Bill	Percentage Increase Over Present	Inclining Rates Monthly Bill	Percentage Increase Over Present
1,000	\$ 19.07	\$ 16.30	-14.6%	\$ 15.55	-18.5%
2,000	22.81	22.59	-1.0%	21.10	-7.5%
3,000	26.56	28.89	8.8%	26.65	0.3%
4,000	30.30	35.18	16.1%	33.31	9.9%
5,000	34.04	41.48	21.8%	39.97	17.4%
6,000	37.78	47.77	26.4%	46.63	23.4%
7,000	41.53	54.07	30.2%	53.29	28.3%
8,000	45.27	60.36	33.3%	59.94	32.4%
9,000	49.01	66.66	36.0%	66.60	35.9%
10,000	52.75	72.95	38.3%	73.26	38.9%
15,000	71.47	104.43	46.1%	113.22	58.4%

MEDIUM INCLINING BLOCK

Consumption Gallons	Present Rates Monthly Bill	Filed Rates Monthly Bill	Percentage Increase Over Present	Inclining Rates Monthly Bill	Percentage Increase Over Present
1,000	\$ 19.07	\$ 16.30	-14.6%	\$ 15.22	-20.2%
2,000	22.81	22.59	-1.0%	20.43	-10.4%
3,000	26.56	28.89	8.8%	25.65	-3.4%
4,000	30.30	35.18	16.1%	32.43	7.0%
5,000	34.04	41.48	21.8%	39.22	15.2%
6,000	37.78	47.77	26.4%	46.00	21.7%
7,000	41.53	54.07	30.2%	52.78	27.1%
8,000	45.27	60.36	33.3%	59.56	31.6%
9,000	49.01	66.66	36.0%	66.34	35.4%
10,000	52.75	72.95	38.3%	73.13	38.6%
15,000	71.47	104.43	46.1%	117.21	64.0%

HIGHER INCLINING BLOCK

Consumption Gallons	Present Rates Monthly Bill	Filed Rates Monthly Bill	Percentage Increase Over Present	Inclining Rates Monthly Bill	Percentage Increase Over Present
1,000	\$ 19.07	\$ 16.30	-14.6%	\$ 15.03	-21.2%
2,000	22.81	22.59	-1.0%	20.07	-12.0%
3,000	26.56	28.89	8.8%	25.10	-5.5%
4,000	30.30	35.18	16.1%	31.65	4.5%
5,000	34.04	41.48	21.8%	38.19	12.2%
6,000	37.78	47.77	26.4%	44.74	18.4%
7,000	41.53	54.07	30.2%	51.28	23.5%
8,000	45.27	60.36	33.3%	57.83	27.7%
9,000	49.01	66.66	36.0%	64.37	31.3%
10,000	52.75	72.95	38.3%	70.92	34.4%
15,000	71.47	104.43	46.1%	120.01	67.9%

MISSOURI AMERICAN WATER COMPANY
SINGLE TARIFF PRICING VERSUS DISTRICT SPECIFIC PRICING

Line	District 1	District 2	District 3	Total
(1) Cost of Service - Filing	\$285,565,888 *	\$41,485,539	\$32,379,857	\$ 359,431,284
(2) Revenue Under Present Rates	214,014,481 **	30,728,619	25,576,908	270,320,007
(3) Increase under DSP - Line (1) - Line (2)	\$ 71,551,407	\$ 10,756,921	\$ 6,802,950	\$ 89,111,278
(4) Percentage Increase - Line (3) divided by Line (2)	33.4%	35.0%	26.6%	33.0%
(5) Revenue Under Proposed Rates	\$296,859,777 **	\$32,099,453	\$30,472,055	\$ 359,431,285
(6) Filed Increase Under STP - Line (5) - Line (2)	\$ 82,845,296	\$ 1,370,834	\$ 4,895,147	\$ 89,111,278
(7) Percentage Increase - Line (6) divided by Line (2)	38.7%	4.5%	19.1%	33.0%
<u>Average Monthly Residential Bill at 3,000 gallons</u>				
(8) Under Present Rates	\$ 27.75	\$ 29.54	\$ 26.56	
(9) Under Proposed Filed Rates	\$ 28.89	\$ 28.89	\$ 28.89	
(10) Increase - Line (9) - Line (8)	\$ 1.14	\$ (0.66)	\$ 2.33	
(11) Percentage Increase - Line (10) divided by Line (8)	4.1%	-2.2%	8.8%	

* Includes contribution to Wastewater cost of service.

** Includes Wardsville and Peverly.

MISSOURI -AMERICAN WATER COMPANY
WASTEWATER
COMPARISON OF AVERAGE BILLS - PRESENT, AS FILED AND STAFF PROPOSED

	Number of Residential Customers	Present Monthly Bill	Company Filed			Staff Filed		
			Proposed Monthly Bill	Increase	Percentage Increase	Proposed Monthly Bill	Increase	Percentage Increase
Platte	100 *	\$ 66.93	\$ 58.42	\$ (8.51)	-12.7%	\$ 66.93	\$ -	0.0%
Cedar Hill	844 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Warren County	423 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Anna Meadows	135	35.92	38.25	2.33	6.5%	43.57	7.65	21.3%
Ozark Meadows	26 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Maplewood	364	22.86	38.25	15.39	67.3%	24.40	1.54	6.7%
Jefferson City	1,842 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Stonebridge/Saddlebrooke/	732 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Emerald Point	351	50.84	58.42	7.58	14.9%	54.40	3.56	7.0%
Wardsville	405	50.50	58.42	7.92	15.7%	59.19	8.69	17.2%
Pevely	70 *	66.93	58.42	(8.51)	-12.7%	66.93	-	0.0%
Hickory Hills	46	35.92	38.25	2.33	6.5%	61.16	25.24	70.3%
Jaxson	58	30.00	38.25	8.25	27.5%	46.25	16.25	54.2%
Meramec	1,006	27.02	38.25	11.23	41.6%	28.33	1.31	4.8%
Subtotal	6,403							
Arnold	7,827	29.20	31.00	1.80	6.2%	29.20	- **	0.0%

* Areas where bill is lowered under Company rates, totals 4,037 out of 6,403.

** Staff testimony assumes Arnold rates are capped at current levels until 2019.

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2017-0285

Requested From: Brian LaGrand
Date Requested: 12/5/17

Information Requested:

With respect to Ms. Constance Heppenstall's direct testimony, specifically Exhibit No. CEH-1, Schedule A, in Excel format with all formulas intact, please provide separate versions of Schedule A for District 1, District 2 and District 3 that reflect the Company's class revenue and rate design proposals.

Requested By: David Woodsmall – Bryan Cave - david.woodsmall@woodsmalllaw.com
For MIEC – (Missouri Industrial Energy Consumers)

Information Provided:

See the following listed attachments to this data request:

MIEC 2-002_Attachment_District 1.xlsx
MIEC 2-002_Attachment _District 2.xlsx
MIEC 2-002_Attachment _District 3.xlsx

Responsible Witness: Connie Heppenstall

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification (1)	Cost of Service		Revenues, Present Rates				Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)		
	Residential	\$ 207,659,134	74.5%	\$ 148,933,789	71.7%	\$ 211,946,860	73.2%	\$ 63,013,071	42.3%	
Non-Residential	53,502,292	19.2%	43,964,709	21.2%	59,867,455	20.7%	15,902,747	36.2%		
Rate J	10,932,664	3.9%	8,406,584	4.1%	10,479,319	3.6%	2,072,735	24.7%		
Sales for Resale	3,804,628	1.4%	3,311,494	1.6%	3,847,451	1.3%	535,957	16.2%		
Private Fire	2,814,457	1.0%	2,915,515	1.4%	3,513,196	1.2%	597,681	20.5%		
Total Sales	278,713,175	<u>100.0%</u>	207,532,091	<u>100.0%</u>	289,654,282	<u>100.0%</u>	82,122,191	39.6%		
Other Revenues	3,298,655		2,694,458		3,298,655		604,197	22.4%		
Contract Revenues	3,475,027		3,475,027		3,475,027		-	0.0%		
Total	<u>\$ 285,486,857</u>		<u>\$ 213,701,576</u>		<u>\$ 296,427,964</u>		<u>\$ 82,726,388</u>	38.7%		

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
OPERATION AND MAINTENANCE EXPENSES								
SOURCE OF SUPPLY EXPENSES								
Super & Eng Oper SS - Labor	2	\$ 253	\$ 174	\$ 52	\$ 18	\$ 8	\$ 0	\$ 1
Labor & Exp Oper SS - Labor	2	137,763	94,519	28,310	10,070	4,381	110	372
Misc Exp Oper SS	2	5,189	3,560	1,066	379	165	4	14
Purchased Water	1	377,869	238,435	81,544	40,545	14,699	605	2,040
TOTAL SS EXPENSE - OPERATION		521,074	336,688	110,973	51,014	19,253	719	2,427
Purch Fuel/Power for SS	1	4,755,519	3,000,732	1,026,241	510,267	184,990	7,609	25,680
Rents Oper SS	2	14,749	10,119	3,031	1,078	469	12	40
Super & Eng Maint SS - Labor	2	244	167	50	18	8	0	1
Collect & Impound Maint SS - Labor	2	628	431	129	46	20	1	2
Lake, River & Oth Maint SS - Labor	2	215	148	44	16	7	0	1
Wells & Springs Maint SS - Labor	2	109,852	75,369	22,575	8,030	3,493	88	297
Infiltr Gall & Tunnels Maint SS - Labor	2	508	349	104	37	16	0	1
Supply Mains Maint SS - Labor	2	199	137	41	15	6	0	1
Misc Plant Maint SS - Labor	2	315,687	216,593	64,874	23,077	10,039	253	852
Misc Plant Maint SS	2	224,176	153,807	46,068	16,387	7,129	179	605
TOTAL SS EXPENSE - MAINTENANCE		5,421,777	3,457,852	1,163,157	558,971	206,177	8,142	27,479
TOTAL SS EXPENSE		5,942,851	3,794,540	1,274,130	609,984	225,430	8,861	29,906
POWER AND PUMPING EXPENSES								
Super & Eng Oper P	3	91,621	61,047	18,269	6,496	2,822	696	2,291
Fuel for Power Prod	1	9,204	5,808	1,986	988	358	15	50
Labor & Exp Oper Pwr Prod - Labor	3	222	148	44	16	7	2	6
Purch Fuel/Power for Pump	1	3,545,825	2,237,416	765,189	380,467	137,933	5,673	19,147
Labor & Exp Oper Pump - Labor	3	1,376,480	917,149	274,470	97,592	42,396	10,461	34,412
Rents Oper P	3	1,326	884	264	94	41	10	33
TOTAL PUMPING EXPENSE - OPERATION		5,024,678	3,222,450	1,060,223	485,653	183,556	16,857	55,938

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint P	3	81,967	54,615	16,344	5,811	2,525	623	2,049
Struct & Improve Maint P - Labor	3	85,920	57,248	17,132	6,092	2,646	653	2,148
Power Production Maintenance - Labor	3	67	45	13	5	2	1	2
Power Production Maintenance	3	1,193	795	238	85	37	9	30
Pump Equip Maint P - Labor	3	390,139	259,950	77,794	27,661	12,016	2,965	9,753
Pump Equip Maint P	3	51,540	34,341	10,277	3,654	1,587	392	1,289
TOTAL PUMPING EXPENSES - MAINTENANCE		610,826	406,993	121,799	43,308	18,813	4,642	15,271
TOTAL PUMPING EXPENSES		5,635,504	3,629,444	1,182,022	528,960	202,369	21,500	71,209
WATER TREATMENT								
Super & Eng Oper WT	2	217,030	148,904	44,600	15,865	6,902	174	586
Chemicals	1	8,223,724	5,189,170	1,774,680	882,406	319,903	13,158	44,408
Labor & Exp Oper WT - Labor	2	2,766,427	1,898,046	568,501	202,226	87,972	2,213	7,469
Labor & Exp Oper WT	2	314,464	215,754	64,622	22,987	10,000	252	849
Misc Exp Oper WT	2	157,816	108,278	32,431	11,536	5,019	126	426
Misc Exp Oper WT - Waste Disposal	1	435,517	274,811	93,985	46,731	16,942	697	2,352
Rents Oper WT	2	120,934	82,973	24,852	8,840	3,846	97	327
TOTAL WT EXPENSE - OPERATION		12,235,912	7,917,935	2,603,670	1,190,591	450,583	16,716	56,417
Super & Eng Maint WT	2	1,331,849	913,782	273,695	97,358	42,353	1,065	3,596
Struct & Improve Maint WT - Labor	2	1,739	1,193	357	127	55	1	5
WT Equip Maint WT	2	284,035	194,876	58,369	20,763	9,032	227	767
TOTAL WT EXPENSE - MAINTENANCE		1,617,623	1,109,851	332,422	118,248	51,440	1,294	4,368

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
TOTAL WT EXPENSE		13,853,535	9,027,786	2,936,092	1,308,839	502,023	18,010	60,784
TRANSMISSION AND DISTRIBUTION EXPENSES								
Super & Eng Oper TD	10	80,399	60,356	14,641	1,471	314	1,793	1,825
Storage Facility Exp - Labor	5	483	298	102	29	7	11	36
TD Lines Exp - Labor	6	1,680,123	1,151,556	384,244	45,531	10,585	20,161	68,045
TD Lines Exp	6	99,885	68,461	22,844	2,707	629	1,199	4,045
Meter Expense - Labor	8	894,756	766,180	119,271	8,411	895	0	0
Customer Install Exp - Labor	9	502,681	398,777	52,379	1,609	302	49,615	0
Misc Exp Oper TD - Labor	10	1,450,011	1,088,523	264,047	26,535	5,655	32,335	32,915
Misc Exp Oper TD	10	(166,339)	(124,871)	(30,290)	(3,044)	(649)	(3,709)	(3,776)
Rents Oper TD	10	6,448	4,841	1,174	118	25	144	146
TOTAL T & D EXPENSE OPERATION		<u>4,548,447</u>	<u>3,414,120</u>	<u>828,412</u>	<u>83,367</u>	<u>17,762</u>	<u>101,548</u>	<u>103,237</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint TD	11	63,612	40,514	11,915	1,329	305	1,260	8,289
Struct & Improve Maint TD - Labor	11	133	85	25	3	1	3	17
Dist Res Stand Maint TD - Labor	5	112	69	24	7	2	2	8
TD Main Maint TD - Labor	6	257,128	176,236	58,805	6,968	1,620	3,086	10,414
TD Main Maint TD	6	2,510,610	1,720,772	574,177	68,038	15,817	30,127	101,680
Fire Main Maint TD - Labor	7	410	0	0	0	0	0	410
Services Maint TD - Labor	9	415,150	329,338	43,259	1,328	249	40,975	0
Meters Maint TD - Labor	8	179,769	153,936	23,963	1,690	180	0	0
Hydrants Maint TD - Labor	7	374,455	0	0	0	0	0	374,455
Misc Plant Maint TD - Labor	11	1,193,190	759,943	223,484	24,938	5,727	23,625	155,473
Misc Maint TD	11	5,428,024	3,457,108	1,016,669	113,446	26,055	107,475	707,272
TOTAL T & D EXPENSE - MAINTENANCE		10,422,593	6,638,002	1,952,320	217,746	49,955	206,553	1,358,017
TOTAL T & D EXPENSE		14,971,040	10,052,122	2,780,732	301,114	67,717	308,101	1,461,254
CUSTOMER ACCOUNTS								
Supervision CA	12	57,407	53,653	2,962	29	6	758	0
Meter Reading Exp CA - Labor	13	1,920,960	1,819,341	100,466	960	192	0	0
Meter Reading Exp CA	13	4,451	4,216	233	2	0	0	0
Cust Rec & Collection CA - Labor	12	832,061	777,644	42,934	416	83	10,983	0
Cust Rec & Collection CA	12	2,134,243	1,994,664	110,127	1,067	213	28,172	0
Uncollectible Accts	12	2,122,965	1,984,123	109,545	1,061	212	28,023	0
Misc Cust Accts Exp CA - Labor	12	10,435	9,753	538	5	1	138	0
Misc Cust Accts Exp CA	12	30,462	28,470	1,572	15	3	402	0
Cust Serv & Info Exp CA - Labor	12	273	255	14	0	0	4	0
TOTAL CUSTOMER ACCOUNTING EXPENSE		7,113,257	6,672,118	368,392	3,557	711	68,480	0

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ADMINISTRATIVE AND GENERAL EXPENSES								
Salaries AG	14	8,113,700	5,978,986	1,290,078	239,354	86,817	107,101	411,365
Salaries AG - Other	14		0	0	0	0	0	0
Other Supplies & Exp AG	14	2,736,343	2,016,411	435,079	80,722	29,279	36,120	138,733
Mgmt Fees-Admin	14	16,660,801	12,277,344	2,649,067	491,494	178,271	219,923	844,703
Mgmt Fees-Customer Service	12	4,541,091	4,244,104	234,320	2,271	454	59,942	0
Mgmt Fees-Belleville Lab	2	95,873	65,778	19,702	7,008	3,049	77	259
Mgmt Fees- Employee	16	2,085,815	1,527,860	337,902	71,961	27,533	26,073	94,487
Outside Services AG	14	5,519,948	4,067,650	877,672	162,838	59,063	72,863	279,861
Ins Gen Liab Oper AG	14		0	0	0	0	0	0
Ins Work Comp AG	16		0	0	0	0	0	0
Ins Other Oper AG	14		0	0	0	0	0	0
Property Insurance	14	4,792,047	3,531,259	761,935	141,365	51,275	63,255	242,957
Injuries & Damages	16	(379)	(278)	(61)	(13)	(5)	(5)	(17)
Employee Pension & Benefits	16	7,646,895	5,601,351	1,238,797	263,818	100,939	95,586	346,404
Reg Commision Exp	19	436,238	312,870	74,030	17,711	6,413	4,711	20,503
Rents AG	14	94,349	69,526	15,001	2,783	1,010	1,245	4,783
Goodwill Advertising Exp	14	9,963	7,342	1,584	294	107	132	505
Misc Exp AG	14	1,525,195	1,123,916	242,506	44,993	16,320	20,133	77,327
Research & Development	14	2,477	1,825	394	73	27	33	126
TOTAL A & G OPERATIONS		54,260,356	40,825,944	8,178,006	1,526,673	560,549	707,188	2,461,996
General Plant Maint AG - Labor	14	364,911	268,903	58,021	10,765	3,905	4,817	18,501
General Plant Maint AG	14	220,460	162,457	35,053	6,504	2,359	2,910	11,177
TOTAL A & G EXPENSE - MAINTENANCE		585,371	431,360	93,074	17,268	6,263	7,727	29,678
TOTAL A & G EXPENSE		54,845,727	41,257,303	8,271,080	1,543,941	566,812	714,915	2,491,674
Total Operation & Maintenance Expenses		102,361,914	74,433,314	16,812,447	4,296,396	1,565,063	1,139,866	4,114,828

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DEPRECIATION EXPENSE								
Struct & Imp SS	2	214,724	147,322	44,126	15,696	6,828	172	580
Struct & Imp P	3	516,944	344,440	103,079	36,651	15,922	3,929	12,924
Struct & Imp WT	2	1,899,683	1,303,372	390,385	138,867	60,410	1,520	5,129
Struct & Imp TD	6	115,665	79,277	26,453	3,135	729	1,388	4,684
Struct & Imp Offices	14	92,714	68,321	14,742	2,735	992	1,224	4,701
Gen Structures HVAC	14	7,682	5,661	1,221	227	82	101	389
Struct & Imp Leasehold	14	181	133	29	5	2	2	9
Struct & Imp Store,Shop,Gar	14	228,617	168,468	36,350	6,744	2,446	3,018	11,591
Struct & Imp Misc	14	54,191	39,933	8,616	1,599	580	715	2,747
Collect & Impounding	1		0	0	0	0	0	0
Lake, River & Other Intakes	2	253,936	174,225	52,184	18,563	8,075	203	686
Wells & Springs	2	47,141	32,344	9,688	3,446	1,499	38	127
Infiltration Galleries & Tunnels	2		0	0	0	0	0	0
Supply Mains	2	115,592	79,308	23,754	8,450	3,676	92	312
Power Generation Equip	3	520,777	346,994	103,843	36,923	16,040	3,958	13,019
Pump Equip Steam	3	17,205	11,464	3,431	1,220	530	131	430
Pump Equip Electric	3	1,096,137	730,356	218,570	77,716	33,761	8,331	27,403
Pump Equip Diesel	3	38,808	25,858	7,738	2,752	1,195	295	970
Pump Equip Hydraulic	3	7,410	4,937	1,478	525	228	56	185
Pump Equip Other	3	22,559	15,031	4,498	1,599	695	171	564
Pump Equip WT	2		0	0	0	0	0	0
Pump Equip TD	6		0	0	0	0	0	0
WT Equip	2	2,619,647	1,797,340	538,338	191,496	83,305	2,096	7,073
WT Equip Other	2	795	545	163	58	25	1	2
Dist Reservoirs & Standpipe	5	367,468	226,691	77,536	22,379	5,181	8,158	27,523
TD Mains Not Classified by	6	97,415	66,769	22,279	2,640	614	1,169	3,945
TD Mains less than 10-Inch	4	9,526,952	6,577,407	2,249,313	151,479	0	125,756	422,997
TD Mains 10-Inch and Greater	3	4,493,818	2,994,231	896,067	318,612	138,410	34,153	112,345
Fire Mains	7	5,848	0	0	0	0	0	5,848
Services	9	427,499	339,135	44,545	1,368	256	42,194	0
Meters	8	2,785,817	2,385,495	371,349	26,187	2,786	0	0
Meter Installations	8	431,454	369,454	57,513	4,056	431	0	0
Hydrants	7	1,289,477	0	0	0	0	0	1,289,477
Other Transmission & Distribution Plant	6	283	194	65	8	2	3	11
Other P/E SS	2	86	59	18	6	3	0	0
Office Furniture & Equip	14	33,074	24,372	5,259	976	354	437	1,677
Comp & Periph Equip	14	1,733,057	1,277,090	275,556	51,125	18,544	22,876	87,866
Computer Software	14	1,134,070	835,696	180,317	33,455	12,135	14,970	57,497
Computer Hardware and Software	14	15,212	11,210	2,419	449	163	201	771
BST Intial Investment	14	5,388,981	3,971,140	856,848	158,975	57,662	71,135	273,221
BST Intial Investment - CIS	12		0	0	0	0	0	0
Other Office Equipment	14	5,051	3,722	803	149	54	67	256
Trans Equip Lt Duty Trks	14	456,958	336,733	72,656	13,480	4,889	6,032	23,168
Trans Equip Other	14	180,537	133,038	28,705	5,326	1,932	2,383	9,153

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential		Rate J (6)	Sales for Resale (7)	Fire Protection	
			(4)	Non Residential (5)			Private (8)	Public (9)
Stores Equipment	14	22,270	16,411	3,541	657	238	294	1,129
Tools, Shop, Garage Equip	14	247,077	182,071	39,285	7,289	2,644	3,261	12,527
Laboratory Equipment	2	33,878	23,244	6,962	2,477	1,077	27	91
Power Operated Equipment	14	39,754	29,294	6,321	1,173	425	525	2,016
Comm Equip Non-Telephone	14	238,815	175,983	37,972	7,045	2,555	3,152	12,108
Comm Equip Telephone	14	1,865	1,374	297	55	20	25	95
Misc Equipment	14	148,532	109,453	23,617	4,382	1,589	1,961	7,531
Other Tangible Property	17		0	0	0	0	0	0
Total Depreciation Expense		36,975,657	25,465,595	6,847,926	1,362,152	488,985	366,218	2,444,780

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Amort-Other UP	18	96,997	65,725	19,273	3,579	1,222	912	6,285
Amort-UPAA	2		0	0	0	0	0	0
Amort-Property Losses	2	129,411	88,789	26,594	9,460	4,115	104	349
Taxes Other Than Income								
Utility Reg Assessment Fee	19	2,316,426	1,661,341	393,097	94,047	34,051	25,017	108,872
Property Taxes	18	19,286,516	13,068,543	3,832,231	711,672	243,010	181,293	1,249,766
Payroll Taxes	16	1,916,452	1,403,801	310,465	66,118	25,297	23,956	86,815
Other Taxes & Licenses	14	(91,243)	(67,237)	(14,508)	(2,692)	(976)	(1,204)	(4,626)
Gross Receipts Tax	19		0	0	0	0	0	0
Total Taxes, Other Than Income		<u>23,428,151</u>	<u>16,066,448</u>	<u>4,521,286</u>	<u>869,145</u>	<u>301,382</u>	<u>229,062</u>	<u>1,440,828</u>
Income Taxes	18	36,982,824	25,059,562	7,348,487	1,364,666	465,984	347,639	2,396,487
Utility Income Available for Return	18	85,511,903	57,942,865	16,991,215	3,155,389	1,077,450	803,812	5,541,171
Total Cost of Service		<u>285,486,857</u>	<u>199,122,298</u>	<u>52,567,229</u>	<u>11,060,787</u>	<u>3,904,201</u>	<u>2,887,612</u>	<u>15,944,729</u>
Less: Other Water Revenues	19	3,298,655	2,365,795	559,782	133,925	48,490	35,625	155,037
Contract Sales	19	3,475,027	2,492,289	589,712	141,086	51,083	37,530	163,326
Total Other Water Revenues		<u>6,773,682</u>	<u>4,858,085</u>	<u>1,149,494</u>	<u>275,011</u>	<u>99,573</u>	<u>73,156</u>	<u>318,363</u>
Total Cost of Service Related to Sales of Water		<u>\$ 278,713,175</u>	<u>\$ 194,264,213</u>	<u>\$ 51,417,735</u>	<u>\$ 10,785,776</u>	<u>\$ 3,804,628</u>	<u>\$ 2,814,457</u>	<u>\$ 15,626,366</u>
Reallocation of Public Fire	20	0	13,394,921	2,084,557	146,888	0	0	(15,626,366)
Total		<u>\$ 278,713,175</u>	<u>\$ 207,659,134</u>	<u>\$ 53,502,292</u>	<u>\$ 10,932,664</u>	<u>\$ 3,804,628</u>	<u>\$ 2,814,457</u>	<u>\$ -</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

<u>Account</u>	<u>Factor Ref.</u>	<u>Cost of Service</u>	<u>Residential</u>	<u>Non Residential</u>	<u>Rate J</u>	<u>Sales for Resale</u>	<u>Fire Protection</u>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	<u>Private</u>	<u>Public</u>
							(8)	(9)

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rate Base								
Organization	17	\$ 178,361	\$ 120,840	\$ 35,458	\$ 6,582	\$ 2,247	\$ 1,677	\$ 11,558
Franchises	17	12,572	8,518	2,499	464	158	118	815
Land & Ld Rights SS	2	129,551	88,885	26,623	9,470	4,120	104	350
Land & Ld Rights P	3	345,305	230,077	68,854	24,482	10,635	2,624	8,633
Land & Ld Rights WT	2	1,961,213	1,345,588	403,029	143,365	62,367	1,569	5,295
Land & Ld Rights TD	6	4,768,125	3,268,073	1,090,470	129,216	30,039	57,218	193,109
Land & Land Rights AG	14	9,354	6,893	1,487	276	100	123	474
Struct & Imp SS	2	6,814,487	4,675,420	1,400,377	498,139	216,701	5,452	18,399
Struct & Imp P	3	6,993,114	4,659,512	1,394,427	495,812	215,388	53,148	174,828
Struct & Imp WT	2	49,070,295	33,667,130	10,083,946	3,587,039	1,560,435	39,256	132,490
Struct & Imp TD	6	3,164,864	2,169,198	723,805	85,768	19,939	37,978	128,177
Struct & Imp AG	14		0	0	0	0	0	0
Struct & Imp Offices	14	3,637,462	2,680,446	578,357	107,305	38,921	48,015	184,419
Gen Structures HVAC	14	160,260	118,096	25,481	4,728	1,715	2,115	8,125
Struct & Imp Leasehold	14	(168,206)	(123,951)	(26,745)	(4,962)	(1,800)	(2,220)	(8,528)
Struct & Imp Store,Shop,Gar	14	6,257,823	4,611,390	994,994	184,606	66,959	82,603	317,272
Struct & Imp Misc	14	779,042	574,076	123,868	22,982	8,336	10,283	39,497
Collect & Impounding	1	27	17	6	3	1	0	0
Lake, River & Other Intakes	2	5,804,194	3,982,258	1,192,762	424,287	184,573	4,643	15,671
Wells & Springs	2	1,455,701	998,756	299,147	106,412	46,291	1,165	3,930
Infiltration Galleries & Tunnels	2	0	0	0	0	0	0	0
Supply Mains	2	3,416,105	2,343,790	702,010	249,717	108,632	2,733	9,223
Power Generation Equip	2	16,437,110	11,277,501	3,377,826	1,201,553	522,700	13,150	44,380
Boiler Plant Equipment P	3		0	0	0	0	0	0
Pump Equip Steam	3	933,273	621,840	186,095	66,169	28,745	7,093	23,332
Pump Equip Electric	3	35,414,235	23,596,505	7,061,598	2,510,869	1,090,758	269,148	885,356
Pump Equip Diesel	3	290,330	193,447	57,892	20,584	8,942	2,207	7,258
Pump Equip Hydraulic	3	382,708	254,998	76,312	27,134	11,787	2,909	9,568
Pump Equip Other	3	1,029,442	685,917	205,271	72,987	31,707	7,824	25,736
Pump Equip WT	2		0	0	0	0	0	0
Pump Equip TD	6		0	0	0	0	0	0
WT Equip	2	94,036,547	64,518,475	19,324,510	6,874,072	2,990,362	75,229	253,899
WT Equip Other	2	14,488	9,940	2,977	1,059	461	12	39
Dist Reservoirs & Standpipe	5	12,142,725	7,490,847	2,562,115	739,492	171,212	269,568	909,490
TD Mains Not Classified by	6	5,086,825	3,486,510	1,163,357	137,853	32,047	61,042	206,016
TD Mains less than 10-Inch	4	549,627,274	379,462,670	129,766,999	8,739,074	0	7,255,080	24,403,451
TD Mains 10-Inch and Greater	3	279,191,642	186,025,391	55,670,813	19,794,687	8,599,103	2,121,856	6,979,791
Fire Mains	7	272,539	0	0	0	0	0	272,539

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Services	9	11,368,989	9,019,019	1,184,649	36,381	6,821	1,122,119	0
Meters	8	106,796,663	91,449,983	14,235,995	1,003,889	106,797	0	0
Meter Installations	8	7,177,132	6,145,778	956,712	67,465	7,177	0	0
Hydrants	7	48,107,782	0	0	0	0	0	48,107,782
Other T&D Plant	6	5,681	3,894	1,299	154	36	68	230
Misc Intangible Plant Studies	17	1,413,866	957,894	281,076	52,172	17,815	13,290	91,618
Other P/E SS	2	934	641	192	68	30	1	3
Office Furniture & Equip	14	391,140	288,231	62,191	11,539	4,185	5,163	19,831
Comp & Periph Equip	14	4,229,334	3,116,596	672,464	124,765	45,254	55,827	214,427
Computer Software	14	13,846,013	10,203,127	2,201,516	408,457	148,152	182,767	701,993
Computer Hardware and Software	14	55,106	40,607	8,762	1,626	590	727	2,794
BST Intial Investment - CIS	12	8,557,377	7,997,724	441,561	4,279	856	112,957	0
BTS Initial Investment	14	16,987,031	12,517,743	2,700,938	501,117	181,761	224,229	861,242
Other Office Equipment	14	34,119	25,142	5,425	1,006	365	450	1,730
Trans Equip Lt Duty Trks	14	8,857,324	6,526,962	1,408,315	261,291	94,773	116,917	449,066
Trans Equip Hvy Duty Trks	14	10,768,949	7,935,638	1,712,263	317,684	115,228	142,150	545,986
Trans Equip Autos	14	(903,225)	(665,586)	(143,613)	(26,645)	(9,665)	(11,923)	(45,793)
Trans Equip Other	14	1,769,183	1,303,711	281,300	52,191	18,930	23,353	89,698
Stores Equipment	14	767,522	565,587	122,036	22,642	8,212	10,131	38,913
Tools,Shop,Garage Equip	14	3,402,813	2,507,533	541,047	100,383	36,410	44,917	172,523
Laboratory Equipment	2	437,985	300,502	90,006	32,017	13,928	350	1,183
Power Operated Equipment	14	(160,307)	(118,130)	(25,489)	(4,729)	(1,715)	(2,116)	(8,128)
Comm Equip Non-Telephone	14	2,455,354	1,809,350	390,401	72,433	26,272	32,411	124,486
Comm Equip Telephone	14	(14,548)	(10,720)	(2,313)	(429)	(156)	(192)	(738)
Misc Equipment	14	1,519,442	1,119,677	241,591	44,824	16,258	20,057	77,036
Other Tangible Property	17	318,053	215,481	63,229	11,736	4,007	2,990	20,610
Total Utility Plant in Service		1,337,838,501	906,305,435	266,008,173	49,357,537	16,905,905	12,530,366	86,731,085

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Other Rate Base Items								
Add:								
Cash Working Capital	15	(661,700)	(481,188)	(108,651)	(27,791)	(10,124)	(7,345)	(26,600)
Materials and Supplies	14	4,175,616	3,077,011	663,923	123,181	44,679	55,118	211,704
Prepayments	14	0	0	0	0	0	0	0
Pension / OPEB Tracker	16	7,862,014	5,758,925	1,273,646	271,239	103,779	98,275	356,149
Tank Painting Tracker	5	285,893	176,367	60,323	17,411	4,031	6,347	21,413
Regulatory Deferrals	19	8,220	5,895	1,395	334	121	89	386
Less:								
Accumulated Deferred ITC (3%)	17	0	0	0	0	0	0	0
Deferred Income Taxes	17	(283,213,999)	(191,877,484)	(56,302,943)	(10,450,597)	(3,568,496)	(2,662,212)	(18,352,267)
Pensions	16	(6,667,496)	(4,883,941)	(1,080,134)	(230,029)	(88,011)	(83,344)	(302,038)
Total Other Rate Base Elements		(278,211,452)	(188,224,414)	(55,492,441)	(10,296,252)	(3,514,022)	(2,593,071)	(18,091,252)
Total Original Cost Measure of Value		<u>\$ 1,059,627,049</u>	<u>\$ 718,081,021</u>	<u>\$ 210,515,732</u>	<u>\$ 39,061,285</u>	<u>\$ 13,391,883</u>	<u>\$ 9,937,295</u>	<u>\$ 68,639,833</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Customer Classification	Average Daily Consumption, 100 Gallons	Allocation Factor
(1)	(2)	(3)
Residential	730,614	0.6310
Non-Residential	249,868	0.2158
Rate J	124,302	0.1073
Sales for Resale	45,079	0.0389
Private Fire	1,860	0.0016
Public Fire	6,258	0.0054
Total	<u>1,157,981</u>	<u>1.0000</u>

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor
	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2)x 0.5000	(4)	(5)=(4)x 0.5000	(6)=(3)+(5)
Residential	0.6310	0.3154	0.7415	0.3707	0.6861
Non-Residential	0.2158	0.1079	0.1951	0.0976	0.2055
Rate J	0.1073	0.0537	0.0388	0.0194	0.0731
Sales for Resale	0.0389	0.0195	0.0246	0.0123	0.0318
Private Fire	0.0016	0.0008			0.0008
Public Fire	0.0054	0.0027			0.0027
Total	<u>1.0000</u>	<u>0.5000</u>	<u>1.0000</u>	<u>0.5000</u>	<u>1.0000</u>

The derivation of the maximum day extra capacity factors in column 4 and the basis for the column 3 and

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification	Average Daily Consumption, 100 Gal.	Maximum Day Extra Capacity		
		Factor*	Rate of Flow, Thousand Gal. Per Day	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	730,614	1.3	949,798	0.7415
Non-Residential	249,868	1.0	249,868	0.1951
Rate J	124,302	0.4	49,721	0.0388
Sales for Resale	45,079	0.7	31,555	0.0246
	<u>1,149,863</u>		<u>1,280,942</u>	<u>1.0000</u>

The weighting of the factors is based on the maximum day ratio of 2.00, based on a review of maximum day ratios experienced during the period 1999 through 2016 ee Schedule D).

	Maximum Day Ratio	Weight
Average Day	1.00	0.5000
Maximum Day Extra Capacity	<u>1.00</u>	<u>0.5000</u>
Total	<u>2.00</u>	<u>1.0000</u>

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		Allocation Factor
	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2) X 0.4854	(4)	(5)=(4) X 0.4854	(6)	(7)=(6) X 0.0292	(8)=(3)+(5)+(7)
Residential	0.6310	0.3063	0.7415	0.3600			0.6663
Non-Residential	0.2158	0.1047	0.1951	0.0947			0.1994
Rate J	0.1073	0.0521	0.0388	0.0188			0.0709
Sales for Resale	0.0389	0.0189	0.0246	0.0119			0.0308
Private Fire	0.0016	0.0008			0.2291	0.0068	0.0076
Public Fire	0.0054	0.0026			0.7709	0.0224	0.0250
Total	1.0000	0.4854	1.0000	0.4854	1.0000	0.0292	1.0000

MISSOURI-AMERICAN WATER COMPANY

DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X	(5)	(6)=(5) X	(7)	(8)=(7) X	(9)=(4)+(6)+(8)
			0.3782		0.5672		0.0546	
Residential	30,442.3	0.7185	0.2718	0.7381	0.4186			0.6904
Non-Residential	10,411.2	0.2457	0.0929	0.2524	0.1432			0.2361
Rate J	1,179.7	0.0278	0.0105	0.0095	0.0054			0.0159
Sales for Resale	0.0	0.0000	0.0000	0.0000	0.0000			0.0000
Private Fire	77.5	0.0018	0.0007			0.2291	0.0125	0.0132
Public Fire	260.8	0.0062	0.0023			0.7709	0.0421	0.0444
Total	<u>42,371.5</u>	<u>1.0000</u>	<u>0.3782</u>	<u>1.0000</u>	<u>0.5672</u>	<u>1.0000</u>	<u>0.0546</u>	<u>1.0000</u>

The maximum hour extra capacity factors in column 5 are determined as follows:

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum day ratio of 1.90 and the average daily system sendout for 2016 of 199.6 MGD. The system demand for fire protection is 30,000 Gallons per minute for 10 hours.

	<u>Ratio</u>	<u>Rate of Flow, (GPD)</u>	<u>Weight</u>
Average Day	1.00	199,570,794	0.4854
Maximum Day Extra Capacity	<u>1.00</u>	<u>199,570,794</u>	<u>0.4854</u>
Subtotal	<u><u>2.00</u></u>	399,141,588	0.9708
Fire Protection		<u>12,000,000</u>	<u>0.0292</u>
Total		<u><u>411,141,588</u></u>	<u><u>1.0000</u></u>

The public and private fire protection allocation factors in column 6 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum hour ratio of 2.5 and the average daily system sendout for 2016 of 199.6 MGD. The system demand for fire protection is 20,000 gallons per minute.

	Ratio	Rate of Flow, (GPM)	Weight
Average Hour	1.00	138,591	0.3782
Maximum Hour Extra Capacity	<u>1.50</u>	<u>207,887</u>	<u>0.5672</u>
Subtotal	<u><u>2.50</u></u>	346,478	0.9454
Fire Protection		<u>20,000</u>	<u>0.0546</u>
Total		<u><u>366,478</u></u>	<u><u>1.0000</u></u>

The maximum hour extra capacity factors in column 5 of the previous page are determined as follows:

Customer Classification	Average Hourly Consumption Thousand Gal.	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	30,442.3	3.0	91,326.9	0.7381
Non-Residential	10,411.2	3.0	31,233.6	0.2524
Rate J	1,179.7	1.0	1,179.7	0.0095
Total	<u><u>42,033.2</u></u>		<u><u>123,740.2</u></u>	<u><u>1.0000</u></u>

* Ratio of Maximum Hour To Average Hour Minus 1.0.

The public and private fire protection allocation factors in column 7 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X 0.3622	(5)	(6)=(5) X 0.5433	(7)	(8)=(7) X 0.0945	(9)=(4)+(6)+(8)
Residential	30,442.3	0.6310	0.2284	0.7150	0.3885			0.6169
Non-Residential	10,411.2	0.2158	0.0782	0.2445	0.1328			0.2110
Rate J	5,179.3	0.1073	0.0389	0.0405	0.0220			0.0609
Sales for Resale	1,878.3	0.0389	0.0141	0.0000	0.0000			0.0141
Private Fire	77.5	0.0016	0.0006			0.2291	0.0216	0.0222
Public Fire	260.8	0.0054	0.0020			0.7709	0.0729	0.0749
Total	48,249.4	1.0000	0.3622	1.0000	0.5433	1.0000	0.0945	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES, cont.

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{20,000 \text{ GPM} \times 60 \text{ Min.} \times 10 \text{ Hrs.}}{126,959,000 \text{ Gallons}} = 0.0945$$

$$\text{General Service Weight} = 1.0000 - 0.0945 = 0.9055$$

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows:

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.00	40.00	0.3622
Extra Capacity Maximum Hour	1.50	60.00	0.5433
Total	2.50	100.00	0.9055

Customer Classification	Average Hourly Consumption Thousand Gal. (2)	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour (4)=(2)x(3)	Allocation Factor (5)
(1)	(2)	(3)	(4)	(5)
Residential	30,442.3	3.0	91,326.9	0.7150
Non-Residential	10,411.2	3.0	31,233.6	0.2445
Rate J	5,179.3	1.0	5,179.3	0.0405
Sales for Resale	1,878.3	0.0	0.0	0.0000
	47,911.1		127,739.8	1.0000

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION AND DISTRIBUTION MAINS.

Factors are based on the weighting of the maximum daily consumption with fire, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

Customer Classification	Maximum Daily Consumption w/ Fire		Maximum Hourly Consumption		Allocation Factor
	Allocation Factor 3	Weighted Factor (3)=(2)X	Allocation Factor 4	Weighted Factor (5)=(4)X	
(1)	(2)	(3)=(2)X	(4)	(5)=(4)X	(6)=(3)+(5)
		0.2035		0.7965	
Residential	0.6663	0.1356	0.6904	0.5498	0.6854
Non-Residential	0.1994	0.0406	0.2361	0.1881	0.2287
Rate J	0.0709	0.0144	0.0159	0.0127	0.0271
Sales for Resale	0.0308	0.0063	0.0000	0.0000	0.0063
Private Fire	0.0076	0.0015	0.0132	0.0105	0.0120
Public Fire	0.0250	0.0051	0.0444	0.0354	0.0405
Total	1.0000	0.2035	1.0000	0.7965	1.0000

The weighting of the factors is based on the total footage of mains, designated as either transmission mains or distribution mains, as follows:

	Total Footage of Mains	Weight
Transmission Mains	5,610,894	0.2035
Distribution Mains	21,960,719	0.7965
Total	27,571,612	1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Costs are assigned directly to Rate E.

<u>Customer Classification</u> (1)	<u>Allocation Factor</u> (3)
Public Fire	1.0000
Total	<u>1.0000</u>

FACTOR 8. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative cost of meters by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	372,327	0.8563
Non-Residential	57,968	0.1333
Rate J	4,103	0.0094
Sales for Resale	422	0.0010
Private Fire	0	0.0000
Public Fire	0	0.0000
Total	<u>434,820</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 9. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative cost of services by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>3/4" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	356,291	0.7933
Non-Residential	46,800	0.1042
Rate J	1,426	0.0032
Sales for Resale	265	0.0006
Private Fire	<u>44,311</u>	<u>0.0987</u>
 Total	 <u><u>449,093</u></u>	 <u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size	5/8" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Meters	Weighting (4)=(2)X(3)	Number of Meters	Weighting (6)=(2)X(5)	Number of Meters	Weighting (8)=(2)X(7)	Number of Meters	Weighting (10)=(2)X(9)	Number of Meters	Weighting (12)=(2)X(11)	Number of Meters	Weighting (14)
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
5/8	1.0	305,550	305,550	8,059	8,059	3	3	1	1		0	313,613	313,613
3/4	2.1	20,656	43,378	2,888	6,065	1	2	0	0		0	23,545	49,445
1	2.0	7,610	15,220	2,441	4,882	3	6	2	4		0	10,056	20,112
1-1/2	3.5	417	1,460	1,078	3,773	4	14	0	0		0	1,499	5,247
2	4.3	955	4,107	3,178	13,665	27	116	20	86		0	4,180	17,974
3	7.0	19	133	283	1,981	30	210	4	28		0	336	2,352
4	10.5	18	189	186	1,953	45	473	7	74		0	256	2,689
6	16.8	22	370	167	2,806	39	655	6	101		0	234	3,932
8	64.0	28	1,792	187	11,968	22	1,408	2	128		0	239	15,296
10	64.0	2	128	44	2,816	19	1,216	0	0		0	65	4,160
12	64.0	0	0	0	0	0	0	0	0		0	0	0
Total		<u>335,277</u>	<u>372,327</u>	<u>18,511</u>	<u>57,968</u>	<u>193</u>	<u>4,103</u>	<u>42</u>	<u>422</u>	<u>0</u>	<u>0</u>	<u>354,023</u>	<u>434,820</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

Service Size	3/4" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Services	Weighting (4)=(2)X(3)	Number of Services	Weighting (6)=(2)X(5)	Number of Meters	Weighting (8)=(2)X(7)	Number of Meters	Weighting (10)=(2)X(9)	Number of Meters	Weighting (12)=(2)X(11)	Number of Meters	Weighting (14)
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
3/4	1.00	326,206	326,206	10,947	10,947	4	4	1	1	0	0	337,154	337,154
1	2.94	7,610	22,373	2,441	7,177	3	9	2	6	0	0	10,053	29,556
1-1/2	4.02	417	1,676	1,078	4,334	4	16	0	0	0	0	1,495	6,010
2	5.55	955	5,300	3,178	17,638	27	150	20	111	173	960	4,326	24,009
3	5.55	19	105	283	1,571	30	167	4	22	3	17	309	1,715
4	6.37	18	115	186	1,185	45	287	7	45	620	3,949	831	5,294
6	9.92	22	218	167	1,657	39	387	6	60	2,402	23,828	2,597	25,763
8	9.92	28	278	187	1,855	22	218	2	20	1,411	13,997	1,628	16,150
10	9.92	2	20	44	436	19	188	0	0	58	575	104	1,031
12 and above	12.16	0	0	0	0	0	0	0	0	81	985	81	985
Total		<u>335,277</u>	<u>356,291</u>	<u>18,511</u>	<u>46,800</u>	<u>193</u>	<u>1,426</u>	<u>42</u>	<u>265</u>	<u>4,748</u>	<u>44,311</u>	<u>358,578</u>	<u>447,667</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 10. ALLOCATION OF TRANSMISSION AND DISTRIBUTION OPERATION SUPERVISION AND ENGINEERING AND MISCELLANEOUS EXPENSES.

Factors are based on transmission and distribution operation expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Operating Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 2,385,272	0.7507
Non-Residential	578,840	0.1821
Rate J	58,287	0.0183
Sales for Resale	12,417	0.0039
Private Fire	70,985	0.0223
Public Fire	72,127	0.0227
	<u>3,177,928</u>	<u>1.0000</u>
Total	<u>3,177,928</u>	<u>1.0000</u>

FACTOR 11. ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINTENANCE SUPERVISION AND ENGINEERING, STRUCTURES AND IMPROVEMENTS, AND OTHER EXPENSES.

Factors are based on transmission and distribution maintenance expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 2,380,351	0.6369
Non-Residential	700,227	0.1873
Rate J	78,031	0.0209
Sales for Resale	17,867	0.0048
Private Fire	74,191	0.0198
Public Fire	486,967	0.1303
	<u>\$3,737,634</u>	<u>1.0000</u>
Total	<u>\$3,737,634</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 12. ALLOCATION OF BILLING AND COLLECTING COSTS.

Factors are based on the total number of customers

Customer Classification	Total Customers	Allocation Factor
(1)	(2)	(3)
Residential	335,483	0.9346
Non-Residential	18,511	0.0516
Rate J	193	0.0005
Sales for Resale	42	0.0001
Private Fire	4,748	0.0132
Public Fire	0	0.0000
	<u>0</u>	<u>0.0000</u>
Total	<u>358,977</u>	<u>1.0000</u>

FACTOR 13. ALLOCATION OF METER READING COSTS.

Factors are based on the number of metered bills.

Customer Classification	Total Metered Customers	Allocation Factor
(1)	(2)	(3)
Residential	335,483	0.9471
Non-Residential	18,511	0.0523
Rate J	193	0.0005
Sales for Resale	42	0.0001
Private Fire	0	0.0000
	<u>0</u>	<u>0.0000</u>
	<u>354,229</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 14. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses excluding purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$22,229,638	0.7369
Non-Residential	4,797,742	0.1590
Rate J	891,051	0.0295
Sales for Resale	323,427	0.0107
Rate F - Private Fire	397,195	0.0132
Public Fire	1,529,476	0.0507
Total	<u>\$30,168,529</u>	<u>1.0000</u>

FACTOR 15. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation operation and maintenance expenses including purchased water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$74,120,444	0.7272
Non-Residential	16,738,417	0.1642
Rate J	4,278,685	0.0420
Sales for Resale	1,558,650	0.0153
Rate F - Private Fire	1,135,155	0.0111
Public Fire	4,094,325	0.0402
Total	<u>\$101,925,676</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 16. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

<u>Customer Classification</u> (1)	<u>Direct Labor Expense</u> (2)	<u>Allocation Factor</u> (3)
Residential	\$18,534,356	0.7325
Non-Residential	4,098,572	0.1620
Rate J	871,955	0.0345
Sales for Resale	334,517	0.0132
Private Fire	315,972	0.0125
Public Fire	<u>1,145,596</u>	<u>0.0453</u>
Total	<u><u>\$25,300,969</u></u>	1.0000

FACTOR 17. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS,
MISCELLANEOUS INTANGIBLE PLANT AND OTHER Rate Base ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other than those items being allocated, as follows:

<u>Customer Classification</u> (1)	<u>Original Cost Less Depreciation</u> (2)	<u>Allocation Factor</u> (3)
Residential	\$905,002,703	0.6775
Non-Residential	265,625,910	0.1988
Rate J	49,286,584	0.0369
Sales for Resale	16,881,677	0.0126
Private Fire	12,512,291	0.0094
Public Fire	<u>86,606,484</u>	<u>0.0648</u>
Total	<u><u>\$1,335,915,649</u></u>	<u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
ALL DISTRICTS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 18. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of the original cost measure of value Rate Base as shown on the following pages and summarized below.

<u>Customer Classification</u> (1)	<u>Original Cost Measure of Value</u> (2)	<u>Allocation Factor</u> (3)
Residential	\$718,081,021	0.6776
Non-Residential	210,515,732	0.1987
Rate J	39,061,285	0.0369
Sales for Resale	13,391,883	0.0126
Private Fire	9,937,295	0.0094
Public Fire	<u>68,639,833</u>	<u>0.0648</u>
Total	<u><u>\$1,059,627,049</u></u>	<u><u>1.0000</u></u>

FACTOR 19. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESSMENTS AND OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those items being allocated.

<u>Customer Classification</u> (1)	<u>Total Cost of Service</u> (2)	<u>Allocation Factor</u> (3)
Residential	\$101,011,392	0.7172
Non-Residential	23,908,895	0.1697
Rate J	5,713,722	0.0406
Sales for Resale	2,076,071	0.0147
Private Fire	1,524,228	0.0108
Public Fire	<u>6,621,644</u>	<u>0.0470</u>
Total	<u><u>\$140,855,953</u></u>	<u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
ALL DISTRICTS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 20. REALLOCATION OF PUBLIC FIRE

Factors are based on the relative cost of meters by size and customer classification.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	372,327	0.8572
Non-Residential	57,968	0.1334
Rate J	4,103	0.0094
Sales for Resale	0	0.0000
Private Fire	<u>0</u>	<u>0.0000</u>
 Total	 <u><u>434,398</u></u>	 <u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

SUMMARY OF AVERAGE DAILY SEND OUT AND MAXIMUM DAILY USAGE
FOR THE YEARS 2011-2016

Year	Average Daily Send out (MGD)	Maximum Daily Use	
		MGD	Ratio to Average
(1)	(2)	(3)	(4)
2011	168.011	285.923	1.70
2012	185.340	400.527	2.16
2013	167.634	304.647	1.82
2014	160.548	279.088	1.74
2015	160.401	245.236	1.53

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 1

BASIS FOR ALLOCATING DEMAND RELATED COSTS OF FIRE SERVICE
TO PRIVATE AND PUBLIC FIRE PROTECTION CUSTOMER CLASSIFICATIONS

Description (1)	Restrictive Diameters Squared (2)	Quantity (3)	Relative Demand (4)=(2)x(3)	Allocation Factor (5)
<u>PRIVATE FIRE PROTECTION</u>				
<u>Fire Lines</u>				
2 -inch	4.00	173	692	
3 -inch	9.00	3	27	
4 -inch	16.00	620	9,920	
6 -inch	36.00	2,402	86,472	
8 -inch	64.00	1,411	90,304	
10 -inch	100.00	58	5,800	
12 -inch	144.00	81	11,664	
Private Hydrants	20.25	-	0	
Total Rate F		<u>4,748</u>	<u>204,879</u>	0.2291
<u>PUBLIC FIRE PROTECTION</u>				
<u>Hydrant</u>	<u>Nozzle Sizes</u>			
5 1/4 Valve	1- 2-1/2" & 1- 4 1/2"	26.50	1,222	32,383
4 1/2" Valve	1- 2-1/2" & 1- 4 1/2"	20.25	32,165	651,341
4 3/4" Valve	1- 2-1/2" & 1- 4 1/2"	22.56	0	0
4 1/2" Valve	1-2 1/2"	6.25	10	63
4 1/4" Valve	2- 2-1/2" & 1- 4.5"	18.06	317	5,726
Total Rate E		<u>33,714</u>	<u>689,513</u>	<u>0.7709</u>
Total Fire Protection		<u><u>38,462</u></u>	<u><u>894,392</u></u>	<u><u>1.0000</u></u>

MISSOURI AMERICAN WATER COMPANY

CALCULATION OF THE 5/8-INCH CUSTOMER COSTS PER MONTH
INCLUDING THE UNRECOVERED PUBLIC FIRE COSTS

<u>Cost Function</u>	<u>Cost of Service</u>	<u>Number of Units</u>	<u>Unit Cost Per Month</u>
Meters	\$ 24,058,510	434,820 5/8 Equivalents	\$ 4.61
Services	7,067,421	404,782 3/4 Equivalents	1.45
Billing/Collecting	<u>25,725,717</u>	358,977 Customers	<u>5.97</u>
Subtotal	56,851,648		12.03
Unrecovered Public Fire	<u>15,626,366</u>	434,820 5/8 Equivalents	<u>2.99</u>
Total	<u>\$ 72,478,014</u>		<u>\$ 15.02</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
OPERATION AND MAINTENANCE EXPENSES								
SOURCE OF SUPPLY EXPENSES								
Super & Eng Oper SS - Labor	2	\$ 25	\$ 10	\$ 6	\$ 6	\$ 4	\$ 0	\$ 0
Labor & Exp Oper SS - Labor	2	13,513	5,194	3,149	3,044	2,062	15	49
Misc Exp Oper SS	2	1,968	756	459	443	300	2	7
Purchased Water	1	273,764	92,149	63,814	71,973	43,912	438	1,478
TOTAL SS EXPENSE - OPERATION		289,270	98,109	67,427	75,466	46,278	455	1,534
Purch Fuel/Power for SS	1	847,544	285,283	197,563	222,819	135,946	1,356	4,577
Rents Oper SS	2	1,996	767	465	450	305	2	7
Super & Eng Maint SS - Labor	2	24	9	6	5	4	0	0
Collect & Impound Maint SS - Labor	2	62	24	14	14	9	0	0
Lake, River & Oth Maint SS - Labor	2	21	8	5	5	3	0	0
Wells & Springs Maint SS - Labor	2	10,775	4,142	2,511	2,428	1,644	12	39
Infiltr Gall & Tunnels Maint SS - Labor	2	50	19	12	11	8	0	0
Supply Mains Maint SS - Labor	2	20	8	5	5	3	0	0
Misc Plant Maint SS - Labor	2	30,965	11,903	7,215	6,976	4,725	34	111
Misc Plant Maint SS	2	33,142	12,740	7,722	7,467	5,057	36	119
TOTAL SS EXPENSE - MAINTENANCE		924,599	314,903	215,516	240,180	147,705	1,441	4,854
TOTAL SS EXPENSE		1,213,869	413,013	282,944	315,646	193,983	1,896	6,388
POWER AND PUMPING EXPENSES								
Super & Eng Oper P	3	8,987	3,043	1,844	1,783	1,209	257	851
Fuel for Power Prod	1	1,640	552	382	431	263	3	9
Labor & Exp Oper Pwr Prod - Labor	3	22	7	5	4	3	1	2
Purch Fuel/Power for Pump	1	631,719	212,637	147,254	166,079	101,328	1,011	3,411
Labor & Exp Oper Pump - Labor	3	135,021	45,718	27,706	26,788	18,160	3,862	12,786
Rents Oper P	3	179	61	37	36	24	5	17
TOTAL PUMPING EXPENSE - OPERATION		777,568	262,018	177,228	195,121	120,987	5,138	17,077

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint P	3	8,040	2,722	1,650	1,595	1,081	230	761
Struct & Improve Maint P - Labor	3	8,428	2,854	1,729	1,672	1,134	241	798
Power Production Maintenance - Labor	3	7	2	1	1	1	0	1
Power Production Maintenance	3	177	60	36	35	24	5	17
Pump Equip Maint P - Labor	3	38,270	12,958	7,853	7,593	5,147	1,095	3,624
Pump Equip Maint P	3	7,663	2,595	1,572	1,520	1,031	219	726
TOTAL PUMPING EXPENSES - MAINTENANCE		62,585	21,191	12,842	12,417	8,418	1,790	5,927
TOTAL PUMPING EXPENSES		840,153	283,209	190,070	207,538	129,405	6,928	23,004
WATER TREATMENT								
Super & Eng Oper WT	2	21,289	8,183	4,960	4,796	3,249	23	77
Chemicals	1	1,016,762	342,242	237,007	267,307	163,089	1,627	5,491
Labor & Exp Oper WT - Labor	2	271,361	104,311	63,227	61,138	41,410	298	977
Labor & Exp Oper WT	2	108,800	41,823	25,350	24,513	16,603	120	392
Misc Exp Oper WT	2	65,542	25,194	15,271	14,767	10,002	72	236
Misc Exp Oper WT - Waste Disposal	1	368,109	123,905	85,806	96,776	59,045	589	1,988
Rents Oper WT	2	16,363	6,290	3,813	3,687	2,497	18	59
TOTAL WT EXPENSE - OPERATION		1,868,226	651,949	435,435	472,982	295,893	2,747	9,218
Super & Eng Maint WT	2	130,643	50,219	30,440	29,434	19,936	144	470
Struct & Improve Maint WT - Labor	2	170	65	40	38	26	0	1
WT Equip Maint WT	2	42,217	16,228	9,837	9,511	6,442	46	152
TOTAL WT EXPENSE - MAINTENANCE		173,030	66,513	40,316	38,984	26,404	190	623

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
TOTAL WT EXPENSE		2,041,256	718,462	475,751	511,966	322,298	2,938	9,841
TRANSMISSION AND DISTRIBUTION EXPENSES								
Super & Eng Oper TD	10	7,887	4,462	1,659	564	148	337	717
Storage Facility Exp - Labor	5	47	16	10	7	3	3	8
TD Lines Exp - Labor	6	164,805	64,521	40,806	19,612	5,043	8,059	26,764
TD Lines Exp	6	9,415	3,686	2,331	1,120	288	460	1,529
Meter Expense - Labor	8	87,767	71,846	14,394	1,159	369	0	0
Customer Install Exp - Labor	9	49,308	36,108	7,929	355	158	4,758	0
Misc Exp Oper TD - Labor	10	142,233	80,475	29,912	10,170	2,674	6,073	12,929
Misc Exp Oper TD	10	(51,466)	(29,119)	(10,823)	(3,680)	(968)	(2,198)	(4,678)
Rents Oper TD	10	873	494	184	62	16	37	79
TOTAL T & D EXPENSE OPERATION		<u>410,869</u>	<u>232,490</u>	<u>86,400</u>	<u>29,369</u>	<u>7,732</u>	<u>17,530</u>	<u>37,349</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint TD	11	6,240	2,742	943	282	76	275	1,923
Struct & Improve Maint TD - Labor	11	13	6	2	1	0	1	4
Dist Res Stand Maint TD - Labor	5	11	4	2	2	1	1	2
TD Main Maint TD - Labor	6	25,222	9,874	6,245	3,001	772	1,233	4,096
TD Main Maint TD	6	25,860	10,124	6,403	3,077	791	1,265	4,200
Fire Main Maint TD - Labor	7	40	0	0	0	0	0	40
Services Maint TD - Labor	9	40,723	29,821	6,548	293	130	3,930	0
Meters Maint TD - Labor	8	17,633	14,434	2,892	233	74	0	0
Hydrants Maint TD - Labor	7	36,731	0	0	0	0	0	36,731
Misc Plant Maint TD - Labor	11	117,042	51,428	17,685	5,290	1,416	5,150	36,072
Misc Maint TD	11	443,700	194,962	67,043	20,055	5,369	19,523	136,748
TOTAL T & D EXPENSE - MAINTENANCE		713,215	313,396	107,763	32,235	8,629	31,376	219,817
TOTAL T & D EXPENSE		1,124,084	545,886	194,163	61,603	16,360	48,906	257,165
CUSTOMER ACCOUNTS								
Supervision CA	12	5,631	5,020	507	8	4	91	0
Meter Reading Exp CA - Labor	13	188,429	170,736	17,260	301	132	0	0
Meter Reading Exp CA	13	709	642	65	1	0	0	0
Cust Rec & Collection CA - Labor	12	81,618	72,762	7,354	122	57	1,322	0
Cust Rec & Collection CA	12	343,199	305,962	30,922	515	240	5,560	0
Uncollectible Accts	12	333,586	297,392	30,056	500	234	5,404	0
Misc Cust Accts Exp CA - Labor	12	1,024	913	92	2	1	17	0
Misc Cust Accts Exp CA	12	4,907	4,375	442	7	3	79	0
Cust Serv & Info Exp CA - Labor	12	27	24	2	0	0	0	0
TOTAL CUSTOMER ACCOUNTING EXPENSE		959,130	857,826	86,701	1,458	671	12,474	0

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
ADMINISTRATIVE AND GENERAL EXPENSES								
Salaries AG	14	795,882	461,293	130,365	71,470	41,704	17,828	73,221
Salaries AG - Other	14		0	0	0	0	0	0
Other Supplies & Exp AG	14	768,598	445,479	125,896	69,020	40,275	17,217	70,711
Mgmt Fees-Admin	14	2,871,647	1,664,407	470,376	257,874	150,474	64,325	264,192
Mgmt Fees-Customer Service	12	782,700	697,777	70,521	1,174	548	12,680	0
Mgmt Fees-Belleville Lab	2	16,525	6,352	3,850	3,723	2,522	18	59
Mgmt Fees- Employee	16	359,510	195,394	64,137	38,144	22,362	8,125	31,349
Outside Services AG	14	554,048	321,126	90,753	49,754	29,032	12,411	50,972
Ins Gen Liab Oper AG	14		0	0	0	0	0	0
Ins Work Comp AG	16		0	0	0	0	0	0
Ins Other Oper AG	14		0	0	0	0	0	0
Property Insurance	14	762,033	441,674	124,821	68,431	39,931	17,070	70,107
Injuries & Damages	16	(106)	(58)	(19)	(11)	(7)	(2)	(9)
Employee Pension & Benefits	16	913,281	496,368	162,929	96,899	56,806	20,640	79,638
Reg Commision Exp	19	69,524	36,312	12,646	8,976	5,423	1,286	4,881
Rents AG	14	12,767	7,400	2,091	1,146	669	286	1,175
Goodwill Advertising Exp	14	2,789	1,617	457	250	146	62	257
Misc Exp AG	14	179,497	104,036	29,402	16,119	9,406	4,021	16,514
Research & Development	14	693	402	114	62	36	16	64
TOTAL A & G OPERATIONS		8,089,388	4,879,580	1,288,340	683,031	399,326	175,981	663,130
General Plant Maint AG - Labor	14	35,794	20,746	5,863	3,214	1,876	802	3,293
General Plant Maint AG	14	32,768	18,992	5,367	2,943	1,717	734	3,015
TOTAL A & G EXPENSE - MAINTENANCE		68,562	39,739	11,230	6,157	3,593	1,536	6,308
TOTAL A & G EXPENSE		8,157,950	4,919,319	1,299,570	689,188	402,919	177,517	669,438
Total Operation & Maintenance Expenses		14,336,442	7,737,714	2,529,200	1,787,399	1,065,635	250,658	965,836

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DEPRECIATION EXPENSE								
Struct & Imp SS	2	42,126	16,193	9,815	9,491	6,428	46	152
Struct & Imp P	3	239,116	80,965	49,067	47,441	32,161	6,839	22,644
Struct & Imp WT	2	758,981	291,752	176,843	170,999	115,821	835	2,732
Struct & Imp TD	6	14,776	5,785	3,659	1,758	452	723	2,400
Struct & Imp Offices	14	38,484	22,305	6,304	3,456	2,017	862	3,541
Gen Structures HVAC	14		0	0	0	0	0	0
Struct & Imp Leasehold	14		0	0	0	0	0	0
Struct & Imp Store,Shop,Gar	14	99,631	57,746	16,319	8,947	5,221	2,232	9,166
Struct & Imp Misc	14	68,866	39,915	11,280	6,184	3,609	1,543	6,336
Collect & Impounding	1		0	0	0	0	0	0
Lake, River & Other Intakes	2	226	87	53	51	34	0	1
Wells & Springs	2	22,982	8,834	5,355	5,178	3,507	25	83
Infiltration Galleries & Tunnels	2	32	12	7	7	5	0	0
Supply Mains	2	139,925	53,787	32,603	31,525	21,353	154	504
Power Generation Equip	3	14,729	4,987	3,022	2,922	1,981	421	1,395
Pump Equip Steam	3	55,191	18,688	11,325	10,950	7,423	1,578	5,227
Pump Equip Electric	3	153,792	52,074	31,558	30,512	20,685	4,398	14,564
Pump Equip Diesel	3	7,728	2,617	1,586	1,533	1,039	221	732
Pump Equip Hydraulic	3	1,822	617	374	362	245	52	173
Pump Equip Other	3	3,100	1,050	636	615	417	89	294
Pump Equip WT	2		0	0	0	0	0	0
Pump Equip TD	6		0	0	0	0	0	0
WT Equip	2	799,240	307,228	186,223	180,069	121,964	879	2,877
WT Equip Other	2	48,264	18,553	11,245	10,874	7,365	53	174
Dist Reservoirs & Standpipe	5	78,948	26,913	16,990	11,700	4,863	4,271	14,211
TD Mains Not Classified by	6		0	0	0	0	0	0
TD Mains less than 10-Inch	4	410,584	167,108	106,793	39,252	0	22,541	74,891
TD Mains 10-Inch and Greater	3	577,584	195,570	118,520	114,593	77,685	16,519	54,697
Fire Mains	7	1,513	0	0	0	0	0	1,513
Services	9	296,058	216,803	47,606	2,132	947	28,570	0
Meters	8	280,746	229,819	46,042	3,706	1,179	0	0
Meter Installations	8	159,369	130,460	26,137	2,104	669	0	0
Hydrants	7	126,542	0	0	0	0	0	126,542
Other Transmission & Distribution Plant	6	582	228	144	69	18	28	94
Other P/E SS	2		0	0	0	0	0	0
Office Furniture & Equip	14	7,595	4,402	1,244	682	398	170	699
Comp & Periph Equip	14	282,457	163,712	46,267	25,365	14,801	6,327	25,986
Computer Software	14	105,708	61,268	17,315	9,493	5,539	2,368	9,725
Computer Hardware and Software	14	1,514	877	248	136	79	34	139
BST Intial Investment	14	356,411	206,576	58,380	32,006	18,676	7,984	32,790
BST Intial Investment - CIS	12	179,833	160,321	16,203	270	126	2,913	0
Other Office Equipment	14	47,183	27,347	7,729	4,237	2,472	1,057	4,341
Trans Equip Lt Duty Trks	14	47,723	27,660	7,817	4,286	2,501	1,069	4,391
Trans Equip Other	14	2,317	1,343	379	208	121	52	213

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential		Rate J (6)	Sales for Resale (7)	Fire Protection	
			(4)	Non Residential (5)			Private (8)	Public (9)
Stores Equipment	14	7,359	4,266	1,205	661	386	165	677
Tools, Shop, Garage Equip	14	46,551	26,981	7,625	4,180	2,439	1,043	4,283
Laboratory Equipment	2	14,872	5,717	3,465	3,351	2,270	16	54
Power Operated Equipment	14	4,654	2,698	762	418	244	104	428
Comm Equip Non-Telephone	14	31,510	18,263	5,161	2,830	1,651	706	2,899
Comm Equip Telephone	14	29	17	5	3	1	1	3
Misc Equipment	14	48,263	27,974	7,906	4,334	2,529	1,081	4,440
Other Tangible Property	17	597	256	124	93	57	13	53
Total Depreciation Expense		5,625,514	2,689,773	1,101,342	788,979	491,379	117,982	436,059

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Amort-Other UP	18	28,596	12,271	5,962	4,478	2,737	623	2,525
Amort-UPAA	2		0	0	0	0	0	0
Amort-Property Losses	2	38,151	14,665	8,889	8,595	5,822	42	137
Taxes Other Than Income								
Utility Reg Assessment Fee	19	369,170	192,817	67,152	47,660	28,795	6,830	25,916
Property Taxes	18	4,017,430	1,723,879	837,634	629,130	384,468	87,580	354,739
Payroll Taxes	16	186,143	101,169	33,208	19,750	11,578	4,207	16,232
Other Taxes & Licenses	14	(10,187)	(5,904)	(1,669)	(915)	(534)	(228)	(937)
Gross Receipts Tax	19		0	0	0	0	0	0
Total Taxes, Other Than Income		<u>4,562,556</u>	<u>2,011,961</u>	<u>936,325</u>	<u>695,624</u>	<u>424,308</u>	<u>98,388</u>	<u>395,949</u>
Income Taxes	18	5,124,839	2,199,068	1,068,529	802,550	490,447	111,721	452,523
Utility Income Available for Return	18	11,769,441	5,050,267	2,453,928	1,843,094	1,126,336	256,574	1,039,242
Total Cost of Service		<u>41,485,539</u>	<u>19,715,719</u>	<u>8,104,176</u>	<u>5,930,720</u>	<u>3,606,663</u>	<u>835,989</u>	<u>3,292,272</u>
Less: Other Water Revenues	19	433,545	226,441	78,862	55,971	33,817	8,021	30,435
Contract Sales	19	611,528	319,401	111,237	78,948	47,699	11,313	42,929
Total Other Water Revenues		<u>1,045,073</u>	<u>545,842</u>	<u>190,099</u>	<u>134,919</u>	<u>81,516</u>	<u>19,334</u>	<u>73,364</u>
Total Cost of Service Related to Sales of Water		<u>\$ 40,440,466</u>	<u>\$ 19,169,877</u>	<u>\$ 7,914,077</u>	<u>\$ 5,795,801</u>	<u>\$ 3,525,148</u>	<u>\$ 816,655</u>	<u>\$ 3,218,908</u>
Wastewater Allocation	DA	0	0	0	0	0	0	0
Reallocation of Public Fire	20	0	2,645,942	530,154	42,811	0	0	(3,218,908)
Total		<u>\$ 40,440,466</u>	<u>\$ 21,815,819</u>	<u>\$ 8,444,231</u>	<u>\$ 5,838,613</u>	<u>\$ 3,525,148</u>	<u>\$ 816,655</u>	<u>\$ -</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection		
							(1)	(2)	(3)
Rate Base									
Organization	17	\$ 15,383	\$ 6,599	\$ 3,209	\$ 2,411	\$ 1,474	\$ 334	\$ 1,357	
Franchises	17	1,106	474	231	173	106	24	98	
Land & Ld Rights SS	2	1,428,140	548,977	332,757	321,760	217,934	1,571	5,141	
Land & Ld Rights P	3	34,228	11,590	7,024	6,791	4,604	979	3,241	
Land & Ld Rights WT	2	310,073	119,192	72,247	69,859	47,317	341	1,116	
Land & Ld Rights TD	6	110,333	43,195	27,318	13,130	3,376	5,395	17,918	
Land & Land Rights AG	14	185,510	107,522	30,387	16,659	9,721	4,155	17,067	
Struct & Imp SS	2	1,447,979	556,603	337,379	326,230	220,962	1,593	5,213	
Struct & Imp P	3	4,259,400	1,442,233	874,029	845,065	572,889	121,819	403,365	
Struct & Imp WT	2	24,530,680	9,429,594	5,715,649	5,526,762	3,743,382	26,984	88,310	
Struct & Imp TD	6	734,736	287,649	181,921	87,434	22,483	35,929	119,321	
Struct & Imp AG	14		0	0	0	0	0	0	
Struct & Imp Offices	14	2,139,700	1,240,170	350,483	192,145	112,120	47,929	196,852	
Gen Structures HVAC	14	0	0	0	0	0	0	0	
Struct & Imp Leasehold	14	37	21	6	3	2	1	3	
Struct & Imp Store,Shop,Gar	14	2,884,186	1,671,674	472,430	259,000	151,131	64,606	265,345	
Struct & Imp Misc	14	978,655	567,228	160,304	87,883	51,282	21,922	90,036	
Collect & Impounding	1	0	0	0	0	0	0	0	
Lake, River & Other Intakes	2	203,833	78,353	47,493	45,924	31,105	224	734	
Wells & Springs	2	824,054	316,766	192,005	185,659	125,751	906	2,967	
Infiltration Galleries & Tunnels	2	1,461	562	340	329	223	2	5	
Supply Mains	2	6,591,739	2,533,864	1,535,875	1,485,119	1,005,899	7,251	23,730	
Power Generation Equip	2	435,284	167,323	101,421	98,069	66,424	479	1,567	
Boiler Plant Equipment P	3		0	0	0	0	0	0	
Pump Equip Steam	3	6,298,473	2,132,663	1,292,447	1,249,617	847,145	180,136	596,465	
Pump Equip Electric	3	4,988,976	1,689,267	1,023,738	989,813	671,017	142,685	472,456	
Pump Equip Diesel	3	300,692	101,814	61,702	59,657	40,443	8,600	28,476	
Pump Equip Hydraulic	3	72,624	24,590	14,902	14,409	9,768	2,077	6,877	
Pump Equip Other	3	155,391	52,615	31,886	30,830	20,900	4,444	14,716	
Pump Equip WT	2		0	0	0	0	0	0	
Pump Equip TD	6		0	0	0	0	0	0	
WT Equip	2	28,728,769	11,043,339	6,693,803	6,472,592	4,384,010	31,602	103,424	
WT Equip Other	2	914,333	351,470	213,040	205,999	139,527	1,006	3,292	
Dist Reservoirs & Standpipe	5	2,746,669	936,339	591,083	407,056	169,195	148,595	494,400	
TD Mains Not Classified by	6		0	0	0	0	0	0	
TD Mains less than 10-Inch	4	24,354,136	9,912,133	6,334,511	2,328,255	0	1,337,042	4,442,194	
TD Mains 10-Inch and Greater	3	34,259,909	11,600,405	7,030,133	6,797,166	4,607,958	979,833	3,244,413	
Fire Mains	7	65,005	0	0	0	0	0	65,005	

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Services	9	7,135,696	5,225,470	1,147,420	51,377	22,834	688,595	0
Meters	8	10,560,172	8,644,557	1,731,868	139,394	44,353	0	0
Meter Installations	8	5,186,082	4,245,327	850,517	68,456	21,782	0	0
Hydrants	7	5,033,638	0	0	0	0	0	5,033,638
Other T&D Plant	6	13,007	5,092	3,221	1,548	398	636	2,112
Misc Intangible Plant Studies	17	484,016	207,643	100,966	75,845	46,369	10,503	42,690
Other P/E SS	2	0	0	0	0	0	0	0
Office Furniture & Equip	14	(269,276)	(156,072)	(44,107)	(24,181)	(14,110)	(6,032)	(24,773)
Comp & Periph Equip	14	836,487	484,828	137,017	75,117	43,832	18,737	76,957
Computer Software	14	1,363,372	790,210	223,320	122,431	71,441	30,540	125,430
Computer Hardware and Software	14	1,181	685	194	106	62	26	109
BST Intial Investment - CIS	12	851,522	759,132	76,722	1,277	596	13,795	0
BTS Initial Investment	14	1,690,335	979,718	276,877	151,792	88,574	37,864	155,511
Other Office Equipment	14	9,349	5,418	1,531	840	490	209	860
Trans Equip Lt Duty Trks	14	1,077,324	624,417	176,466	96,744	56,452	24,132	99,114
Trans Equip Hvy Duty Trks	14	36,640	21,237	6,002	3,290	1,920	821	3,371
Trans Equip Autos	14	(61,203)	(35,473)	(10,025)	(5,496)	(3,207)	(1,371)	(5,631)
Trans Equip Other	14	(262,357)	(152,062)	(42,974)	(23,560)	(13,747)	(5,877)	(24,137)
Stores Equipment	14	79,891	46,305	13,086	7,174	4,186	1,790	7,350
Tools,Shop,Garage Equip	14	579,414	335,828	94,908	52,031	30,361	12,979	53,306
Laboratory Equipment	2	92,827	35,683	21,629	20,914	14,165	102	334
Power Operated Equipment	14	(189,967)	(110,105)	(31,117)	(17,059)	(9,954)	(4,255)	(17,477)
Comm Equip Non-Telephone	14	304,219	176,326	49,831	27,319	15,941	6,815	27,988
Comm Equip Telephone	14	1,435	832	235	129	75	32	132
Misc Equipment	14	523,559	303,455	85,759	47,016	27,434	11,728	48,167
Other Tangible Property	17	7,671	3,291	1,600	1,202	735	166	677
Total Utility Plant in Service		185,086,527	79,415,968	38,600,696	28,999,505	17,729,128	4,020,397	16,320,834

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Other Rate Base Items								
Add:								
Cash Working Capital	15	(545,100)	(294,190)	(96,156)	(67,974)	(40,501)	(9,539)	(36,740)
Materials and Supplies	14	335,366	194,378	54,933	30,116	17,573	7,512	30,854
Prepayments	14	0	0	0	0	0	0	0
Pension / OPEB Tracker	16	782,328	425,195	139,567	83,005	48,661	17,681	68,219
Tank Painting Tracker	5	28,449	9,698	6,122	4,216	1,752	1,539	5,121
Regulatory Deferrals	19	0	0	0	0	0	0	0
Less:								
Accumulated Deferred ITC (3%)	17	(283)	(121)	(59)	(44)	(27)	(6)	(25)
Deferred Income Taxes	17	(39,181,931)	(16,809,048)	(8,173,351)	(6,139,809)	(3,753,629)	(850,248)	(3,455,846)
Pensions	16	(663,465)	(360,593)	(118,362)	(70,394)	(41,268)	(14,994)	(57,854)
Total Other Rate Base Elements		(39,244,636)	(16,834,682)	(8,187,305)	(6,160,884)	(3,767,438)	(848,056)	(3,446,272)
Total Original Cost Measure of Value		<u>\$ 145,841,891</u>	<u>\$ 62,581,286</u>	<u>\$ 30,413,390</u>	<u>\$ 22,838,621</u>	<u>\$ 13,961,690</u>	<u>\$ 3,172,341</u>	<u>\$ 12,874,563</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Customer Classification	Average Daily Consumption, 100 Gallons	Allocation Factor
(1)	(2)	(3)
Residential	48,490	0.3366
Non-Residential	33,582	0.2331
Rate J	37,865	0.2629
Sales for Resale	23,105	0.1604
Private Fire	232	0.0016
Public Fire	773	0.0054
	<u>144,047</u>	<u>1.0000</u>
Total	<u>144,047</u>	<u>1.0000</u>

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor
	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2)x 0.6667	(4)	(5)=(4)x 0.3333	(6)=(3)+(5)
Residential	0.3366	0.2244	0.4801	0.1600	0.3844
Non-Residential	0.2331	0.1554	0.2327	0.0776	0.2330
Rate J	0.2629	0.1753	0.1500	0.0500	0.2253
Sales for Resale	0.1604	0.1069	0.1372	0.0457	0.1526
Private Fire	0.0016	0.0011			0.0011
Public Fire	0.0054	0.0036			0.0036
	<u>1.0000</u>	<u>0.6667</u>	<u>1.0000</u>	<u>0.3333</u>	<u>1.0000</u>
Total	<u>1.0000</u>	<u>0.6667</u>	<u>1.0000</u>	<u>0.3333</u>	<u>1.0000</u>

The derivation of the maximum day extra capacity factors in column 4 and the basis for the column 3 and

MISSOURI-AMERICAN WATER COMPANY
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FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification	Average Daily Consumption, 100 Gal.	Maximum Day Extra Capacity		
		Factor*	Rate of Flow, Thousand Gal. Per Day	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	48,490	1.0	48,490	0.4801
Non-Residential	33,582	0.7	23,507	0.2327
Rate J	37,865	0.4	15,146	0.1500
Sales for Resale	23,105	0.6	13,863	0.1372
	<u>143,042</u>		<u>101,006</u>	<u>1.0000</u>

The weighting of the factors is based on the maximum day ratio of 2.00, based on a review of maximum day ratios experienced during the period 1999 through 2016 (see Schedule D).

	Maximum Day Ratio	Weight
Average Day	1.00	0.6667
Maximum Day Extra Capacity	<u>0.50</u>	<u>0.3333</u>
Total	<u>1.50</u>	<u>1.0000</u>

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		Allocation Factor
	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2) X 0.5872	(4)	(5)=(4) X 0.2936	(6)	(7)=(6) X 0.1192	(8)=(3)+(5)+(7)
Residential	0.3366	0.1976	0.4801	0.1410			0.3386
Non-Residential	0.2331	0.1369	0.2327	0.0683			0.2052
Rate J	0.2629	0.1544	0.1500	0.0440			0.1984
Sales for Resale	0.1604	0.0942	0.1372	0.0403			0.1345
Private Fire	0.0016	0.0009			0.2313	0.0277	0.0286
Public Fire	0.0054	0.0032			0.7687	0.0915	0.0947
Total	1.0000	0.5872	1.0000	0.2936	1.0000	0.1192	1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X 0.3833	(5)	(6)=(5) X 0.3833	(7)	(8)=(7) X 0.2334	(9)=(4)+(6)+(8)
Residential	2,020.4	0.4869	0.1866	0.5749	0.2204			0.4070
Non-Residential	1,399.3	0.3373	0.1293	0.3413	0.1308			0.2601
Rate J	687.4	0.1657	0.0635	0.0838	0.0321			0.0956
Sales for Resale	0.0	0.0000	0.0000	0.0000	0.0000			0.0000
Private Fire	9.7	0.0023	0.0009			0.2313	0.0540	0.0549
Public Fire	32.2	0.0078	0.0030			0.7687	0.1794	0.1824
Total	4,149.0	1.0000	0.3833	1.0000	0.3833	1.0000	0.2334	1.0000

The maximum hour extra capacity factors in column 5 are determined as follows:

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum day ratio of 1.90 and the average daily system sendout for 2016 of 20.1 MGD. The system demand for fire protection is 8,500 Gallons per minute for 8 hours.

	<u>Ratio</u>	<u>Rate of Flow, (GPD)</u>	<u>Weight</u>
Average Day	1.00	20,100,913	0.5872
Maximum Day Extra Capacity	<u>0.50</u>	<u>10,050,456</u>	<u>0.2936</u>
Subtotal	<u><u>1.50</u></u>	30,151,369	0.8808
Fire Protection		<u>4,080,000</u>	<u>0.1192</u>
Total		<u><u>34,231,369</u></u>	<u><u>1.0000</u></u>

The public and private fire protection allocation factors in column 6 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum hour ratio of 2.0 and the average daily system sendout for 2016 of 20.1 MGD. The system demand for fire protection is 8,500 gallons per minute.

	Ratio	Rate of Flow, (GPM)	Weight
Average Hour	1.00	13,959	0.3833
Maximum Hour Extra Capacity	<u>1.00</u>	<u>13,959</u>	<u>0.3833</u>
Subtotal	<u><u>2.00</u></u>	27,918	0.7666
Fire Protection		<u>8,500</u>	<u>0.2334</u>
Total		<u><u>36,418</u></u>	<u><u>1.0000</u></u>

The maximum hour extra capacity factors in column 5 of the previous page are determined as follows:

Customer Classification	Average Hourly Consumption Thousand Gal.	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	2,020.4	3.5	7,071.4	0.5749
Non-Residential	1,399.3	3.0	4,197.9	0.3413
Rate J	687.4	1.5	1,031.1	0.0838
Total	<u><u>4,107.1</u></u>		<u><u>12,300.4</u></u>	<u><u>1.0000</u></u>

* Ratio of Maximum Hour To Average Hour Minus 1.0.

The public and private fire protection allocation factors in column 7 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X	(5)	(6)=(5) X	(7)	(8)=(7) X	(9)=(4)+(6)+(8)
			0.3843		0.3843		0.2314	
Residential	2,020.4	0.3366	0.1294	0.5504	0.2115			0.3409
Non-Residential	1,399.3	0.2331	0.0896	0.3268	0.1256			0.2152
Rate J	1,577.7	0.2629	0.1010	0.1228	0.0472			0.1482
Sales for Resale	962.7	0.1604	0.0616	0.0000	0.0000			0.0616
Private Fire	9.7	0.0016	0.0006			0.2313	0.0535	0.0541
Public Fire	32.2	0.0054	0.0021			0.7687	0.1779	0.1800
Total	6,002.0	1.0000	0.3843	1.0000	0.3843	1.0000	0.2314	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES, cont.

The weighting of the factors is based on the ratio of the capacity required for a 8 hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{8,500 \text{ GPM} \times 60 \text{ Min.} \times 8 \text{ Hrs.}}{17,630,000 \text{ Gallons}} = 0.2314$$

$$\text{General Service Weight} = 1.0000 - 0.2314 = 0.7686$$

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows:

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.00	50.00	0.3843
Extra Capacity Maximum Hour	1.00	50.00	0.3843
Total	2.00	100.00	0.7686

Customer Classification	Average Hourly Consumption Thousand Gal.	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	2,020.4	3.5	7,071.4	0.5504
Non-Residential	1,399.3	3.0	4,197.9	0.3268
Rate J	1,577.7	1.0	1,577.7	0.1228
Sales for Resale	962.7	0.0	0.0	0.0000
	5,960.1		12,847.0	1.0000

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION AND DISTRIBUTION MAINS.

Factors are based on the weighting of the maximum daily consumption with fire, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

Customer Classification	Maximum Daily Consumption w/ Fire		Maximum Hourly Consumption		Allocation Factor
	Allocation Factor 3	Weighted Factor (3)=(2)X	Allocation Factor 4	Weighted Factor (5)=(4)X	
(1)	(2)	(3)=(2)X	(4)	(5)=(4)X	(6)=(3)+(5)
		0.2273		0.7727	
Residential	0.3386	0.0770	0.4070	0.3145	0.3915
Non-Residential	0.2052	0.0466	0.2601	0.2010	0.2476
Rate J	0.1984	0.0451	0.0956	0.0739	0.1190
Sales for Resale	0.1345	0.0306	0.0000	0.0000	0.0306
Private Fire	0.0286	0.0065	0.0549	0.0424	0.0489
Public Fire	0.0947	0.0215	0.1824	0.1409	0.1624
Total	1.0000	0.2273	1.0000	0.7727	1.0000

The weighting of the factors is based on the total footage of mains, designated as either transmission mains or distribution mains, as follows:

	Total Footage of Mains	Weight
Transmission Mains	902,387	0.2273
Distribution Mains	3,067,578	0.7727
Total	3,969,965	1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Costs are assigned directly to Rate E.

<u>Customer Classification</u> (1)	<u>Allocation Factor</u> (3)
Public Fire	<u>1.0000</u>
Total	<u><u>1.0000</u></u>

FACTOR 8. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative cost of meters by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	37,754	0.8186
Non-Residential	7,562	0.1640
Rate J	611	0.0132
Sales for Resale	193	0.0042
Private Fire	0	0.0000
Public Fire	<u>0</u>	<u>0.0000</u>
Total	<u><u>46,120</u></u>	<u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 9. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative cost of services by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>3/4" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	37,200	0.7323
Non-Residential	8,169	0.1608
Rate J	368	0.0072
Sales for Resale	161	0.0032
Private Fire	<u>4,904</u>	<u>0.0965</u>
 Total	 <u><u>50,802</u></u>	 <u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size	5/8" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting	Number of Meters	Weighting
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
5/8	1.0	31,912	31,912	1,954	1,954	1	1	1	1		0	33,868	33,868
3/4	2.1	1,561	3,278	168	353	1	2	0	0		0	1,730	3,633
1	2.0	1,205	2,410	587	1,174	3	6	1	2		0	1,796	3,592
1-1/2	3.5	21	74	141	494	0	0	0	0		0	162	568
2	4.3	17	73	594	2,554	23	99	13	56		0	647	2,782
3	7.0	1	7	28	196	9	63	3	21		0	41	287
4	10.5	0	0	21	221	14	147	6	63		0	41	431
6	16.8	0	0	10	168	6	101	3	50		0	19	319
8	64.0	0	0	7	448	3	192	0	0		0	10	640
10	64.0	0	0	0	0	0	0	0	0		0	0	0
12	64.0	0	0	0	0	0	0	0	0		0	0	0
Total		<u>34,717</u>	<u>37,754</u>	<u>3,510</u>	<u>7,562</u>	<u>60</u>	<u>611</u>	<u>27</u>	<u>193</u>	<u>0</u>	<u>0</u>	<u>38,314</u>	<u>46,120</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

Service Size	3/4" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Services	Weighting (4)=(2)X(3)	Number of Services	Weighting (6)=(2)X(5)	Number of Meters	Weighting (8)=(2)X(7)	Number of Meters	Weighting (10)=(2)X(9)	Number of Meters	Weighting (12)=(2)X(11)	Number of Meters	Weighting (14)
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
3/4	1.00	33,473	33,473	2,122	2,122	2	2	1	1	0	0	35,596	35,596
1	2.94	1,205	3,543	587	1,726	3	9	1	3	0	0	1,793	5,272
1-1/2	4.02	21	84	141	567	0	0	0	0	0	0	162	651
2	5.55	17	94	594	3,297	23	128	13	72	20	111	644	3,574
3	5.55	1	6	28	155	9	50	3	17	2	11	34	189
4	6.37	0	0	21	134	14	89	6	38	116	739	143	911
6	9.92	0	0	10	99	6	60	3	30	240	2,381	253	2,510
8	9.92	0	0	7	69	3	30	0	0	127	1,260	134	1,329
10	9.92	0	0	0	0	0	0	0	0	27	268	27	268
12 and above	12.16	0	0	0	0	0	0	0	0	11	134	11	134
Total		<u>34,717</u>	<u>37,200</u>	<u>3,510</u>	<u>8,169</u>	<u>60</u>	<u>368</u>	<u>27</u>	<u>161</u>	<u>543</u>	<u>4,904</u>	<u>38,797</u>	<u>50,434</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 10. ALLOCATION OF TRANSMISSION AND DISTRIBUTION OPERATION SUPERVISION AND ENGINEERING AND MISCELLANEOUS EXPENSES.

Factors are based on transmission and distribution operation expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Operating Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 176,177	0.5658
Non-Residential	65,470	0.2103
Rate J	22,253	0.0715
Sales for Resale	5,860	0.0188
Private Fire	13,280	0.0427
Public Fire	28,302	0.0909
	<u>311,342</u>	<u>1.0000</u>
Total	<u>311,342</u>	<u>1.0000</u>

FACTOR 11. ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINTENANCE SUPERVISION AND ENGINEERING, STRUCTURES AND IMPROVEMENTS, AND OTHER EXPENSES.

Factors are based on transmission and distribution maintenance expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 64,258	0.4394
Non-Residential	22,090	0.1511
Rate J	6,606	0.0452
Sales for Resale	1,768	0.0121
Private Fire	6,428	0.0440
Public Fire	45,069	0.3082
	<u>\$146,220</u>	<u>1.0000</u>
Total	<u>\$146,220</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 12. ALLOCATION OF BILLING AND COLLECTING COSTS.

Factors are based on the total number of customers

Customer Classification	Total Customers	Allocation Factor
(1)	(2)	(3)
Residential	34,717	0.8915
Non-Residential	3,510	0.0901
Rate J	60	0.0015
Sales for Resale	27	0.0007
Private Fire	631	0.0162
Public Fire	0	0.0000
	<u>0</u>	<u>0.0000</u>
Total	<u><u>38,945</u></u>	<u><u>1.0000</u></u>

FACTOR 13. ALLOCATION OF METER READING COSTS.

Factors are based on the number of metered bills.

Customer Classification	Total Metered Customers	Allocation Factor
(1)	(2)	(3)
Residential	34,717	0.9061
Non-Residential	3,510	0.0916
Rate J	60	0.0016
Sales for Resale	27	0.0007
Private Fire	0	0.0000
	<u>0</u>	<u>0.0000</u>
	<u><u>38,314</u></u>	<u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 14. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses for water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses
(1)	(2)
Residential	\$1,761,627
Non-Residential	497,803
Rate J	272,826
Sales for Resale	159,135
Rate F - Private Fire	68,118
Public Fire	<u>279,445</u>
Total	<u><u>\$3,038,954</u></u>

FACTOR 15. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses
(1)	(2)
Residential	\$7,701,402
Non-Residential	2,516,553
Rate J	1,778,423
Sales for Resale	1,060,213
Rate F - Private Fire	249,372
Public Fire	<u>960,956</u>
Total	<u><u>\$14,266,918</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 16. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

<u>Customer Classification</u>	<u>Direct Labor Expense</u>
(1)	(2)
Residential	\$1,348,635
Non-Residential	442,847
Rate J	263,423
Sales for Resale	154,455
Private Fire	56,090
Public Fire	<u>216,350</u>
Total	<u><u>\$2,481,800</u></u>

FACTOR 17. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS
MISCELLANEOUS INTANGIBLE PLANT AND OTHER Rate Base ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other allocated, as follows:

<u>Customer Classification</u>	<u>Original Cost Less Depreciation</u>
(1)	(2)
Residential	\$79,197,960
Non-Residential	38,494,690
Rate J	28,919,874
Sales for Resale	17,680,445
Private Fire	4,009,370
Public Fire	<u>16,276,013</u>
Total	<u><u>\$184,578,352</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 18. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR F

Factors are based on the allocation of the original cost measure of value Rate Base pages and summarized below.

Customer Classification	Original Cost Measure of Value
(1)	(2)
Residential	\$62,581,286
Non-Residential	30,413,390
Rate J	22,838,621
Sales for Resale	13,961,690
Private Fire	3,172,341
Public Fire	<u>12,874,563</u>
Total	<u><u>\$145,841,891</u></u>

FACTOR 19. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSESS
OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those it

Customer Classification	Total Cost of Service
(1)	(2)
Residential	\$10,501,104
Non-Residential	3,658,324
Rate J	2,594,833
Sales for Resale	1,568,458
Private Fire	371,374
Public Fire	<u>1,412,447</u>
Total	<u><u>\$20,106,539</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 20. REALLOCATION OF PUBLIC FIRE

Factors are based on the relative cost of meters by size and customer classification.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)
Residential	37,754
Non-Residential	7,562
Rate J	611
Sales for Resale	0
Private Fire	<u>0</u>
Total	<u><u>45,927</u></u>

IFICATIONS, cont.

ises excluding purchased

Allocation Factor
(3)
0.5796
0.1638
0.0898
0.0524
0.0224
0.0920
<u>1.0000</u>

g purchased water, power,

Allocation Factor
(3)
0.5397
0.1764
0.1247
0.0743
0.0175
0.0674
<u>1.0000</u>

IFICATIONS, cont.

Allocation Factor
(3)
0.5435
0.1784
0.1061
0.0622
0.0226
0.0872
1.0000

,

than those items being

Allocation Factor
(3)
0.4290
0.2086
0.1567
0.0958
0.0217
0.0882
1.0000

IFICATIONS, cont.

RETURN.

as shown on the following

Allocation Factor
(3)
0.4291
0.2085
0.1566
0.0957
0.0218
0.0883
1.0000

ASSESSMENTS AND

ems being allocated.

Allocation Factor
(3)
0.5223
0.1819
0.1291
0.0780
0.0185
0.0702
1.0000

IFICATIONS, cont.

Allocation Factor
(3)
0.8220
0.1647
0.0133
0.0000
0.0000
1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
	Residential	\$ 21,815,819	54.0%	\$ 14,864,387	49.8%	\$ 15,368,361	49.4%	\$ 503,974
Non-Residential	8,444,231	20.9%	7,006,694	23.5%	7,999,663	25.8%	992,969	14.2%
Rate J	5,838,613	14.4%	4,458,541	15.0%	4,258,367	13.7%	(200,174)	-4.5%
Sales for Resale	3,525,148	8.7%	2,504,861	8.4%	2,724,092	8.8%	219,231	8.8%
Private Fire	816,655	2.0%	985,642	3.3%	703,896	2.3%	(281,746)	-28.6%
Total Sales	40,440,466	<u>100.0%</u>	29,820,126	<u>100.0%</u>	31,054,379	<u>100.0%</u>	1,234,254	4.1%
Other Revenues	433,545		372,182		433,545		61,364	16.5%
Contract Revenues	611,528		536,311		611,528		75,217	14.0%
Total	<u>\$ 41,485,539</u>		<u>\$ 30,728,619</u>		<u>\$ 32,099,453</u>		<u>\$ 1,370,834</u>	4.5%

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

SUMMARY OF AVERAGE DAILY SEND OUT AND MAXIMUM DAILY USAGE
FOR THE YEARS 2009-2016

Year	Average Daily Send out (MGD)	Maximum Daily Use	
		MGD	Ratio to Average
(1)	(2)	(3)	(4)
2009	19.570	26.219	1.34
2010	19.671	26.901	1.37
2011	19.614	28.153	1.44
2012	20.639	30.789	1.49
2013	20.304	33.111	1.63
2014	19.288	26.683	1.38
2015	19.496	25.886	1.33
2016	20.101	29.145	1.45

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 2

BASIS FOR ALLOCATING DEMAND RELATED COSTS OF FIRE SERVICE
TO PRIVATE AND PUBLIC FIRE PROTECTION CUSTOMER CLASSIFICATIONS

Description (1)	Restrictive Diameters Squared (2)	Quantity (3)	Relative Demand (4)=(2)x(3)	Allocation Factor (5)
<u>PRIVATE FIRE PROTECTION</u>				
<u>Fire Lines</u>				
2 -inch	4.00	20	80	
3 -inch	9.00	2	18	
4 -inch	16.00	116	1,856	
6 -inch	36.00	240	8,640	
8 -inch	64.00	127	8,128	
10 -inch	100.00	27	2,700	
12 -inch	144.00	11	1,584	
Private Hydrants	20.25	88	1,782	
Total Rate F		631	24,788	0.2313
<u>PUBLIC FIRE PROTECTION</u>				
<u>Hydrant</u>	<u>Nozzle Sizes</u>			
5 1/4 Valve	1- 2-1/2" & 1- 4 1/2"	26.50	822	21,783
4 1/2" Valve	1- 2-1/2" & 1- 4 1/2"	20.25	2,916	59,049
4 3/4" Valve	1- 2-1/2" & 1- 4 1/2"	22.56	0	0
4 1/2" Valve	1-2 1/2"	6.25	246	1,538
4 1/4" Valve	2- 2-1/2" & 1- 4.5"	18.06	0	0
Total Rate E		3,984	82,370	0.7687
Total Fire Protection		4,615	107,158	1.0000

MISSOURI AMERICAN WATER COMPANY

CALCULATION OF THE 5/8-INCH CUSTOMER COSTS PER MONTH
INCLUDING THE UNRECOVERED PUBLIC FIRE COSTS

<u>Cost Function</u>	<u>Cost of Service</u>	<u>Number of Units</u>	<u>Unit Cost Per Month</u>
Meters	\$ 3,051,339	46,120 5/8 Equivalents	\$ 5.51
Services	2,091,817	45,898 3/4 Equivalents	3.80
Billing/Collecting	<u>4,476,195</u>	4,001,295 Bills	<u>1.12</u>
Subtotal	9,619,351		10.43
Unrecovered Public Fire	<u>3,218,908</u>	46,120 5/8 Equivalents	<u>5.82</u>
Total	<u>\$ 12,838,259</u>		<u>\$ 16.25</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
OPERATION AND MAINTENANCE EXPENSES								
SOURCE OF SUPPLY EXPENSES								
Super & Eng Oper SS - Labor	2	\$ 27	\$ 11	\$ 8	\$ 5	\$ 2	\$ 0	\$ 0
Labor & Exp Oper SS - Labor	2	14,403	6,051	4,337	2,836	1,121	17	42
Misc Exp Oper SS	2	1,490	626	449	293	116	2	4
Purchased Water	1	31,625	11,951	9,975	6,901	2,574	66	158
TOTAL SS EXPENSE - OPERATION		47,545	18,639	14,768	10,035	3,813	86	204
Purch Fuel/Power for SS	1	948,684	358,508	299,215	207,003	77,223	1,992	4,743
Rents Oper SS	2	1,908	802	574	376	148	2	6
Super & Eng Maint SS - Labor	2	26	11	8	5	2	0	0
Collect & Impound Maint SS - Labor	2	66	28	20	13	5	0	0
Lake, River & Oth Maint SS - Labor	2	22	9	7	4	2	0	0
Wells & Springs Maint SS - Labor	2	11,484	4,824	3,458	2,261	893	14	33
Infiltr Gall & Tunnels Maint SS - Labor	2	53	22	16	10	4	0	0
Supply Mains Maint SS - Labor	2	21	9	6	4	2	0	0
Misc Plant Maint SS - Labor	2	33,004	13,865	9,938	6,498	2,568	40	96
Misc Plant Maint SS	2	29,859	12,544	8,991	5,879	2,323	36	87
TOTAL SS EXPENSE - MAINTENANCE		1,025,127	390,621	322,232	222,054	83,170	2,084	4,965
TOTAL SS EXPENSE		1,072,672	409,260	337,000	232,090	86,983	2,169	5,169
POWER AND PUMPING EXPENSES								
Super & Eng Oper P	3	9,579	3,470	2,521	1,657	651	384	895
Fuel for Power Prod	1	1,836	694	579	401	149	4	9
Labor & Exp Oper Pwr Prod - Labor	3	23	8	6	4	2	1	2
Purch Fuel/Power for Pump	1	707,354	267,309	223,099	154,345	57,579	1,485	3,537
Labor & Exp Oper Pump - Labor	3	143,909	52,138	37,877	24,896	9,786	5,771	13,441
Rents Oper P	3	172	62	45	30	12	7	16
TOTAL PUMPING EXPENSE - OPERATION		862,873	323,682	264,128	181,332	68,179	7,652	17,900

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint P	3	8,570	3,105	2,256	1,483	583	344	800
Struct & Improve Maint P - Labor	3	8,982	3,254	2,364	1,554	611	360	839
Power Production Maintenance - Labor	3	7	3	2	1	0	0	1
Power Production Maintenance	3	159	58	42	28	11	6	15
Pump Equip Maint P - Labor	3	40,790	14,778	10,736	7,057	2,774	1,636	3,810
Pump Equip Maint P	3	6,861	2,486	1,806	1,187	467	275	641
TOTAL PUMPING EXPENSES - MAINTENANCE		65,369	23,683	17,205	11,309	4,445	2,621	6,105
TOTAL PUMPING EXPENSES		928,242	347,365	281,333	192,641	72,624	10,273	24,005
WATER TREATMENT								
Super & Eng Oper WT	2	22,691	9,532	6,832	4,468	1,765	27	66
Chemicals	1	458,119	173,123	144,491	99,962	37,291	962	2,291
Labor & Exp Oper WT - Labor	2	289,228	121,505	87,087	56,949	22,502	347	839
Labor & Exp Oper WT	2	81,319	34,162	24,485	16,012	6,327	98	236
Misc Exp Oper WT	2	212,042	89,079	63,846	41,751	16,497	254	615
Misc Exp Oper WT - Waste Disposal	1	0	0	0	0	0	0	0
Rents Oper WT	2	15,645	6,572	4,711	3,081	1,217	19	45
TOTAL WT EXPENSE - OPERATION		1,079,044	433,974	331,451	222,222	85,599	1,707	4,091
Super & Eng Maint WT	2	139,244	58,496	41,926	27,417	10,833	167	404
Struct & Improve Maint WT - Labor	2	182	76	55	36	14	0	1
WT Equip Maint WT	2	37,802	15,881	11,382	7,443	2,941	45	110
TOTAL WT EXPENSE - MAINTENANCE		177,228	74,453	53,363	34,896	13,788	213	514

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
TOTAL WT EXPENSE		1,256,272	508,427	384,815	257,118	99,387	1,920	4,605
TRANSMISSION AND DISTRIBUTION EXPENSES								
Super & Eng Oper TD	10	8,406	4,671	2,235	293	61	444	702
Storage Facility Exp - Labor	5	51	13	11	4	1	7	15
TD Lines Exp - Labor	6	175,655	69,823	57,193	9,679	1,880	11,137	25,944
TD Lines Exp	6	14,024	5,575	4,566	773	150	889	2,071
Meter Expense - Labor	8	93,547	74,155	18,055	964	374	0	0
Customer Install Exp - Labor	9	52,555	37,051	9,476	279	63	5,686	0
Misc Exp Oper TD - Labor	10	151,597	84,242	40,310	5,276	1,107	8,004	12,658
Misc Exp Oper TD	10	(27,406)	(15,230)	(7,287)	(954)	(200)	(1,447)	(2,288)
Rents Oper TD	10	834	463	222	29	6	44	70
TOTAL T & D EXPENSE OPERATION		<u>469,263</u>	<u>260,764</u>	<u>124,780</u>	<u>16,341</u>	<u>3,442</u>	<u>24,764</u>	<u>39,172</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Super & Eng Maint TD	11	6,651	2,872	1,218	140	29	346	2,046
Struct & Improve Maint TD - Labor	11	14	6	3	0	0	1	4
Dist Res Stand Maint TD - Labor	5	12	3	3	1	0	2	4
TD Main Maint TD - Labor	6	26,882	10,686	8,753	1,481	288	1,704	3,970
TD Main Maint TD	6	23,155	9,204	7,539	1,276	248	1,468	3,420
Fire Main Maint TD - Labor	7	43	0	0	0	0	0	43
Services Maint TD - Labor	9	43,404	30,600	7,826	230	52	4,696	0
Meters Maint TD - Labor	8	18,795	14,899	3,627	194	75	0	0
Hydrants Maint TD - Labor	7	39,149	0	0	0	0	0	39,149
Misc Plant Maint TD - Labor	11	124,748	53,866	22,854	2,620	549	6,487	38,372
Misc Maint TD	11	547,957	236,608	100,386	11,507	2,411	28,494	168,552
TOTAL T & D EXPENSE - MAINTENANCE		830,810	358,743	152,208	17,448	3,652	43,197	255,560
TOTAL T & D EXPENSE		1,300,073	619,507	276,988	33,789	7,094	67,961	294,733
CUSTOMER ACCOUNTS								
Supervision CA	12	6,001	5,250	625	8	1	117	0
Meter Reading Exp CA - Labor	13	200,836	179,166	21,349	281	40	0	0
Meter Reading Exp CA	13	699	624	74	1	0	0	0
Cust Rec & Collection CA - Labor	12	86,992	76,101	9,065	113	17	1,696	0
Cust Rec & Collection CA	12	336,481	294,354	35,061	437	67	6,561	0
Uncollectible Accts	12	300,363	262,758	31,298	390	60	5,857	0
Misc Cust Accts Exp CA - Labor	12	1,091	954	114	1	0	21	0
Misc Cust Accts Exp CA	12	4,866	4,257	507	6	1	95	0
Cust Serv & Info Exp CA - Labor	12	28	24	3	0	0	1	0
TOTAL CUSTOMER ACCOUNTING EXPENSE		937,357	823,486	98,096	1,239	187	14,349	0

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
ADMINISTRATIVE AND GENERAL EXPENSES								
Salaries AG	14	848,284	480,723	177,631	62,943	23,158	23,328	80,502
Salaries AG - Other	14		0	0	0	0	0	0
Other Supplies & Exp AG	14	567,020	321,330	118,734	42,073	15,480	15,593	53,810
Mgmt Fees-Admin	14	2,808,602	1,591,635	588,121	208,398	76,675	77,237	266,536
Mgmt Fees-Customer Service	12	765,516	669,674	79,767	995	153	14,928	0
Mgmt Fees-Belleville Lab	2	16,162	6,790	4,866	3,182	1,257	19	47
Mgmt Fees- Employee	16	351,617	191,139	79,465	29,852	11,006	9,810	30,345
Outside Services AG	14	550,377	311,899	115,249	40,838	15,025	15,135	52,231
Ins Gen Liab Oper AG	14		0	0	0	0	0	0
Ins Work Comp AG	16		0	0	0	0	0	0
Ins Other Oper AG	14		0	0	0	0	0	0
Property Insurance	14	751,283	425,752	157,319	55,745	20,510	20,660	71,297
Injuries & Damages	16	(77)	(42)	(17)	(7)	(2)	(2)	(7)
Employee Pension & Benefits	16	985,170	535,538	222,648	83,641	30,836	27,486	85,020
Reg Commision Exp	19	68,543	36,910	15,655	6,594	2,440	1,782	5,161
Rents AG	14	12,207	6,918	2,556	906	333	336	1,158
Goodwill Advertising Exp	14	2,014	1,141	422	149	55	55	191
Misc Exp AG	14	252,135	142,885	52,797	18,708	6,883	6,934	23,928
Research & Development	14	501	284	105	37	14	14	48
TOTAL A & G OPERATIONS		7,979,354	4,722,575	1,615,318	554,056	203,823	213,315	670,267
General Plant Maint AG - Labor	14	38,151	21,620	7,989	2,831	1,042	1,049	3,621
General Plant Maint AG	14	29,341	16,628	6,144	2,177	801	807	2,784
TOTAL A & G EXPENSE - MAINTENANCE		67,492	38,248	14,133	5,008	1,843	1,856	6,405
TOTAL A & G EXPENSE		8,046,846	4,760,823	1,629,451	559,064	205,665	215,171	676,672
Total Operation & Maintenance Expenses		13,541,462	7,468,870	3,007,683	1,275,941	471,941	311,843	1,005,185

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
DEPRECIATION EXPENSE								
Struct & Imp SS	2	115,674	48,595	34,829	22,776	8,999	139	335
Struct & Imp P	3	86,604	31,377	22,794	14,982	5,889	3,473	8,089
Struct & Imp WT	2	395,619	166,200	119,121	77,897	30,779	475	1,147
Struct & Imp TD	6	20,694	8,226	6,738	1,140	221	1,312	3,056
Struct & Imp Offices	14	19,423	11,007	4,067	1,441	530	534	1,843
Gen Structures HVAC	14	0	0	0	0	0	0	0
Struct & Imp Leasehold	14	341	193	71	25	9	9	32
Struct & Imp Store,Shop,Gar	14	120,553	68,317	25,244	8,945	3,291	3,315	11,440
Struct & Imp Misc	14	2,475	1,403	518	184	68	68	235
Collect & Impounding	1	419	158	132	91	34	1	2
Lake, River & Other Intakes	2	24,590	10,330	7,404	4,842	1,913	30	71
Wells & Springs	2	147,856	62,114	44,519	29,113	11,503	177	429
Infiltration Galleries & Tunnels	2	0	0	0	0	0	0	0
Supply Mains	2	67,481	28,349	20,318	13,287	5,250	81	196
Power Generation Equip	3	25,019	9,064	6,585	4,328	1,701	1,003	2,337
Pump Equip Steam	3	4,534	1,643	1,193	784	308	182	423
Pump Equip Electric	3	111,282	40,317	29,289	19,252	7,567	4,462	10,394
Pump Equip Diesel	3	1,330	482	350	230	90	53	124
Pump Equip Hydraulic	3	2,111	765	556	365	144	85	197
Pump Equip Other	3	29,985	10,864	7,892	5,187	2,039	1,202	2,801
Pump Equip WT	2	0	0	0	0	0	0	0
Pump Equip TD	6	0	0	0	0	0	0	0
WT Equip	2	488,546	205,238	147,101	96,195	38,009	586	1,417
WT Equip Other	2	0	0	0	0	0	0	0
Dist Reservoirs & Standpipe	5	169,825	43,441	36,258	14,011	3,159	21,907	51,049
TD Mains Not Classified by	6	0	0	0	0	0	0	0
TD Mains less than 10-Inch	4	449,180	181,469	151,508	14,913	0	30,409	70,881
TD Mains 10-Inch and Greater	3	232,739	84,321	61,257	40,264	15,826	9,333	21,738
Fire Mains	7	1,928	0	0	0	0	0	1,928
Services	9	457,400	322,467	82,469	2,424	549	49,491	0
Meters	8	254,848	202,018	49,186	2,625	1,019	0	0
Meter Installations	8	116,807	92,593	22,544	1,203	467	0	0
Hydrants	7	59,809	0	0	0	0	0	59,809
Other Transmission & Distribution Plant	6	279	111	91	15	3	18	41
Other P/E SS	2	0	0	0	0	0	0	0
Office Furniture & Equip	14	8,067	4,571	1,689	599	220	222	766
Comp & Periph Equip	14	193,193	109,482	40,455	14,335	5,274	5,313	18,334
Computer Software	14	112,094	63,524	23,472	8,317	3,060	3,083	10,638
Computer Hardware and Software	14	1,517	860	318	113	41	42	144
BST Intial Investment	14	537,571	304,641	112,567	39,888	14,676	14,783	51,015
BST Intial Investment - CIS	12	0	0	0	0	0	0	0
Other Office Equipment	14	31,654	17,938	6,628	2,349	864	870	3,004
Trans Equip Lt Duty Trks	14	23,645	13,400	4,951	1,754	646	650	2,244
Trans Equip Other	14	6,835	3,873	1,431	507	187	188	649

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential		Rate J (6)	Sales for Resale (7)	Fire Protection	
			(4)	Non Residential (5)			Private (8)	Public (9)
Stores Equipment	14	1,288	730	270	96	35	35	122
Tools, Shop, Garage Equip	14	49,815	28,230	10,431	3,696	1,360	1,370	4,727
Laboratory Equipment	2	8,814	3,703	2,654	1,735	686	11	26
Power Operated Equipment	14	9,972	5,651	2,088	740	272	274	946
Comm Equip Non-Telephone	14	44,587	25,267	9,336	3,308	1,217	1,226	4,231
Comm Equip Telephone	14	3,817	2,163	799	283	104	105	362
Misc Equipment	14	18,587	10,533	3,892	1,379	507	511	1,764
Other Tangible Property	17	135	62	36	15	5	5	12
Total Depreciation Expense		4,458,940	2,225,691	1,103,055	455,636	168,525	157,034	348,999

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Amort-Other UP	18	17,982	8,322	4,767	1,985	723	635	1,550
Amort-UPAA	2		0	0	0	0	0	0
Amort-Property Losses	2	23,992	10,079	7,224	4,724	1,867	29	70
Taxes Other Than Income								
Utility Reg Assessment Fee	19	363,962	195,994	83,129	35,013	12,957	9,463	27,406
Property Taxes	18	1,116,014	516,491	295,855	123,208	44,864	39,395	96,200
Payroll Taxes	16	198,628	107,974	44,890	16,864	6,217	5,542	17,142
Other Taxes & Licenses	14	5,656	3,205	1,184	420	154	156	537
Gross Receipts Tax	19		0	0	0	0	0	0
Total Taxes, Other Than Income		<u>1,684,260</u>	<u>823,664</u>	<u>425,059</u>	<u>175,504</u>	<u>64,192</u>	<u>54,556</u>	<u>141,285</u>
Income Taxes	18	3,835,548	1,775,092	1,016,804	423,444	154,189	135,395	330,624
Utility Income Available for Return	18	8,817,673	4,080,819	2,337,565	973,471	354,470	311,264	760,083
Total Cost of Service		<u>32,379,857</u>	<u>16,392,537</u>	<u>7,902,156</u>	<u>3,310,705</u>	<u>1,215,907</u>	<u>970,755</u>	<u>2,587,797</u>
Less: Other Water Revenues	19	421,214	226,824	96,205	40,521	14,995	10,952	31,717
Contract Sales	19	1,183,559	637,347	270,325	113,858	42,135	30,773	89,122
Total Other Water Revenues		<u>1,604,773</u>	<u>864,170</u>	<u>366,530</u>	<u>154,379</u>	<u>57,130</u>	<u>41,724</u>	<u>120,839</u>
Total Cost of Service Related to Sales of Water		<u>\$ 30,775,084</u>	<u>\$ 15,528,367</u>	<u>\$ 7,535,626</u>	<u>\$ 3,156,326</u>	<u>\$ 1,158,777</u>	<u>\$ 929,031</u>	<u>\$ 2,466,957</u>
Reallocation of Public Fire	20	0	1,963,451	478,096	25,410	0	0	(2,466,957)
Total		<u>\$ 30,775,084</u>	<u>\$ 17,491,818</u>	<u>\$ 8,013,722</u>	<u>\$ 3,181,736</u>	<u>\$ 1,158,777</u>	<u>\$ 929,031</u>	<u>\$ -</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Residential (4)	Non Residential (5)	Rate J (6)	Sales for Resale (7)	Fire Protection	
							Private (8)	Public (9)
Rate Base								
Organization	17	\$ 45,919	\$ 21,187	\$ 12,205	\$ 5,088	\$ 1,851	\$ 1,626	\$ 3,963
Franchises	17	30,020	13,851	7,979	3,326	1,210	1,063	2,591
Land & Ld Rights SS	2	202,591	85,108	61,000	39,890	15,762	243	588
Land & Ld Rights P	3	73,984	26,804	19,473	12,799	5,031	2,967	6,910
Land & Ld Rights WT	2	359,167	150,886	108,145	70,720	27,943	431	1,042
Land & Ld Rights TD	6	201,974	80,285	65,763	11,129	2,161	12,805	29,832
Land & Land Rights AG	14	371,570	210,569	77,807	27,570	10,144	10,218	35,262
Struct & Imp SS	2	4,647,557	1,952,439	1,399,379	915,104	361,580	5,577	13,478
Struct & Imp P	3	1,532,203	555,117	403,276	265,071	104,190	61,441	143,108
Struct & Imp WT	2	14,025,669	5,892,184	4,223,129	2,761,654	1,091,197	16,831	40,674
Struct & Imp TD	6	719,332	285,934	234,214	39,635	7,697	45,606	106,245
Struct & Imp AG	14		0	0	0	0	0	0
Struct & Imp Offices	14	663,623	376,075	138,963	49,241	18,117	18,250	62,978
Gen Structures HVAC	14	0	0	0	0	0	0	0
Struct & Imp Leasehold	14	10,148	5,751	2,125	753	277	279	963
Struct & Imp Store,Shop,Gar	14	2,934,736	1,663,115	614,534	217,757	80,118	80,705	278,506
Struct & Imp Misc	14	(37,375)	(21,180)	(7,826)	(2,773)	(1,020)	(1,028)	(3,547)
Collect & Impounding	1	20,512	7,751	6,469	4,476	1,670	43	103
Lake, River & Other Intakes	2	548,626	230,478	165,191	108,024	42,683	658	1,591
Wells & Springs	2	4,339,901	1,823,192	1,306,744	854,527	337,644	5,208	12,586
Infiltration Galleries & Tunnels	2	0	0	0	0	0	0	0
Supply Mains	2	3,462,155	1,454,451	1,042,455	681,698	269,356	4,155	10,040
Power Generation Equip	2	655,509	275,379	197,374	129,070	50,999	787	1,901
Boiler Plant Equipment P	3		0	0	0	0	0	0
Pump Equip Steam	3	289,189	104,773	76,115	50,030	19,665	11,596	27,010
Pump Equip Electric	3	4,754,771	1,722,654	1,251,456	822,575	323,324	190,666	444,096
Pump Equip Diesel	3	77,799	28,187	20,477	13,459	5,290	3,120	7,266
Pump Equip Hydraulic	3	85,555	30,997	22,518	14,801	5,818	3,431	7,991
Pump Equip Other	3	1,329,804	481,788	350,004	230,056	90,427	53,325	124,204
Pump Equip WT	2		0	0	0	0	0	0
Pump Equip TD	6		0	0	0	0	0	0
WT Equip	2	17,377,835	7,300,428	5,232,466	3,421,696	1,351,996	20,853	50,396
WT Equip Other	2	6,322	2,656	1,904	1,245	492	8	18
Dist Reservoirs & Standpipe	5	6,362,473	1,627,521	1,358,388	524,904	118,342	820,759	1,912,559
TD Mains Not Classified by	6		0	0	0	0	0	0
TD Mains less than 10-Inch	4	25,788,055	10,418,374	8,698,311	856,163	0	1,745,851	4,069,355
TD Mains 10-Inch and Greater	3	13,361,869	4,841,005	3,516,844	2,311,603	908,607	535,811	1,247,999
Fire Mains	7	82,836	0	0	0	0	0	82,836

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
							Private	Public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Services	9	9,207,564	6,491,333	1,660,124	48,800	11,049	996,258	0
Meters	8	10,407,931	8,250,367	2,008,731	107,202	41,632	0	0
Meter Installations	8	2,946,317	2,335,545	568,639	30,347	11,785	0	0
Hydrants	7	2,469,972	0	0	0	0	0	2,469,972
Other T&D Plant	6	5,793	2,303	1,886	319	62	367	856
Misc Intangible Plant Studies	17	233,069	107,538	61,950	25,824	9,393	8,251	20,114
Other P/E SS	2	0	0	0	0	0	0	0
Office Furniture & Equip	14	4,549	2,578	952	338	124	125	432
Comp & Periph Equip	14	495,529	280,816	103,764	36,768	13,528	13,627	47,026
Computer Software	14	1,458,754	826,676	305,463	108,240	39,824	40,116	138,436
Computer Hardware and Software	14	6,938	3,932	1,453	515	189	191	658
BST Intial Investment - CIS	12	853,630	746,755	88,948	1,110	171	16,646	0
BTS Initial Investment	14	1,694,519	960,284	354,832	125,733	46,260	46,599	160,810
Other Office Equipment	14	30,885	17,503	6,467	2,292	843	849	2,931
Trans Equip Lt Duty Trks	14	680,358	385,559	142,467	50,483	18,574	18,710	64,566
Trans Equip Hvy Duty Trks	14	(6,427)	(3,642)	(1,346)	(477)	(175)	(177)	(610)
Trans Equip Autos	14	(120,090)	(68,055)	(25,147)	(8,911)	(3,278)	(3,302)	(11,396)
Trans Equip Other	14	91,982	52,126	19,261	6,825	2,511	2,529	8,729
Stores Equipment	14	18,133	10,276	3,797	1,345	495	499	1,721
Tools,Shop,Garage Equip	14	875,819	496,326	183,396	64,986	23,910	24,085	83,115
Laboratory Equipment	2	154,439	64,880	46,502	30,409	12,015	185	448
Power Operated Equipment	14	(11,278)	(6,391)	(2,362)	(837)	(308)	(310)	(1,070)
Comm Equip Non-Telephone	14	493,238	279,518	103,284	36,598	13,465	13,564	46,808
Comm Equip Telephone	14	(13,356)	(7,569)	(2,797)	(991)	(365)	(367)	(1,267)
Misc Equipment	14	220,745	125,096	46,224	16,379	6,026	6,070	20,949
Other Tangible Property	17	2,279	1,052	606	253	92	81	197
Total Utility Plant in Service		136,525,621	63,002,565	36,283,977	15,124,842	5,500,391	4,837,881	11,775,965

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3
COST OF SERVICE FOR THE TWELVE MONTHS ENDED MAY 31, 2019 ALLOCATED TO CUSTOMER CLASSIFICATIONS

Account	Factor Ref.	Cost of Service	Residential	Non Residential	Rate J	Sales for Resale	Fire Protection	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	Private (8)	Public (9)
Other Rate Base Items								
Add:								
Cash Working Capital	15	620,300	342,220	137,769	58,432	21,586	14,267	46,026
Materials and Supplies	14	554,242	314,089	116,058	41,125	15,131	15,242	52,598
Prepayments	14	0	0	0	0	0	0	0
Pension / OPEB Tracker	16	784,265	426,326	177,244	66,584	24,547	21,881	67,682
Tank Painting Tracker	5	28,519	7,295	6,089	2,353	530	3,679	8,573
Regulatory Deferrals	19	318,933	171,745	72,844	30,681	11,354	8,292	24,016
Less:								
Accumulated Deferred ITC (3%)	17	(106)	(49)	(28)	(12)	(4)	(4)	(9)
Deferred Income Taxes	17	(28,901,820)	(13,335,300)	(7,682,104)	(3,202,322)	(1,164,743)	(1,023,124)	(2,494,227)
Pensions	16	(665,107)	(361,552)	(150,314)	(56,468)	(20,818)	(18,556)	(57,399)
Total Other Rate Base Elements		<u>(27,260,774)</u>	<u>(12,435,225)</u>	<u>(7,322,442)</u>	<u>(3,059,626)</u>	<u>(1,112,416)</u>	<u>(978,324)</u>	<u>(2,352,741)</u>
Total Original Cost Measure of Value		<u>\$ 109,264,847</u>	<u>\$ 50,567,340</u>	<u>\$ 28,961,535</u>	<u>\$ 12,065,216</u>	<u>\$ 4,387,975</u>	<u>\$ 3,859,557</u>	<u>\$ 9,423,224</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Customer Classification	Average Daily Consumption, 100 Gallons	Allocation Factor
(1)	(2)	(3)
Residential	45,151	0.3779
Non-Residential	37,691	0.3154
Rate J	26,078	0.2182
Sales for Resale	9,731	0.0814
Private Fire	257	0.0021
Public Fire	598	0.0050
	<u>119,506</u>	<u>1.0000</u>
Total	<u>119,506</u>	<u>1.0000</u>

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor
	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2)x 0.5882	(4)	(5)=(4)x 0.4118	(6)=(3)+(5)
Residential	0.3779	0.2224	0.4803	0.1977	0.4201
Non-Residential	0.3154	0.1855	0.2807	0.1156	0.3011
Rate J	0.2182	0.1283	0.1665	0.0686	0.1969
Sales for Resale	0.0814	0.0479	0.0725	0.0299	0.0778
Private Fire	0.0021	0.0012			0.0012
Public Fire	0.0050	0.0029			0.0029
	<u>1.0000</u>	<u>0.5882</u>	<u>1.0000</u>	<u>0.4118</u>	<u>1.0000</u>
Total	<u>1.0000</u>	<u>0.5882</u>	<u>1.0000</u>	<u>0.4118</u>	<u>1.0000</u>

The derivation of the maximum day extra capacity factors in column 4 and the basis for the column 3 and

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification	Average Daily Consumption, 100 Gal.	Maximum Day Extra Capacity		
		Factor*	Rate of Flow, Thousand Gal. Per Day	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	45,151	1.0	45,151	0.4803
Non-Residential	37,691	0.7	26,384	0.2807
Rate J	26,078	0.6	15,647	0.1665
Sales for Resale	9,731	0.7	6,812	0.0725
	<u>118,651</u>		<u>93,994</u>	<u>1.0000</u>

The weighting of the factors is based on the maximum day ratio of 2.00, based on a review of maximum day ratios experienced during the period 1999 through 2016 ee Schedule D).

	Maximum Day Ratio	Weight
Average Day	1.00	0.5882
Maximum Day Extra Capacity	<u>0.70</u>	<u>0.4118</u>
Total	<u>1.70</u>	<u>1.0000</u>

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		Allocation Factor
	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2) X 0.5440	(4)	(5)=(4) X 0.3263	(6)	(7)=(6) X 0.1297	(8)=(3)+(5)+(7)
Residential	0.3779	0.2056	0.4803	0.1567			0.3623
Non-Residential	0.3154	0.1716	0.2807	0.0916			0.2632
Rate J	0.2182	0.1187	0.1665	0.0543			0.1730
Sales for Resale	0.0814	0.0443	0.0725	0.0237			0.0680
Private Fire	0.0021	0.0011			0.3003	0.0390	0.0401
Public Fire	0.0050	0.0027			0.6997	0.0907	0.0934
Total	1.0000	0.5440	1.0000	0.3263	1.0000	0.1297	1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X 0.3110	(5)	(6)=(5) X 0.4665	(7)	(8)=(7) X 0.2225	(9)=(4)+(6)+(8)
Residential	1,881.3	0.5018	0.1560	0.5316	0.2480			0.4040
Non-Residential	1,570.5	0.4190	0.1303	0.4438	0.2070			0.3373
Rate J	261.2	0.0697	0.0217	0.0246	0.0115			0.0332
Sales for Resale	0.0	0.0000	0.0000	0.0000	0.0000			0.0000
Private Fire	10.7	0.0029	0.0009			0.3003	0.0668	0.0677
Public Fire	24.9	0.0066	0.0021			0.6997	0.1557	0.1578
Total	3,748.6	1.0000	0.3110	1.0000	0.4665	1.0000	0.2225	1.0000

The maximum hour extra capacity factors in column 5 are determined as follows:

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum day ratio of 1.70 and the average daily system sendout for 2016 of 17.1 MGD. The system demand for fire protection is 8,500 Gallons per minute for 8 hours.

	<u>Ratio</u>	<u>Rate of Flow, (GPD)</u>	<u>Weight</u>
Average Day	1.00	17,105,279	0.5440
Maximum Day Extra Capacity	<u>0.60</u>	<u>10,263,168</u>	<u>0.3263</u>
Subtotal	<u><u>1.60</u></u>	27,368,447	0.8703
Fire Protection		<u>4,080,000</u>	<u>0.1297</u>
Total		<u><u>31,448,447</u></u>	<u><u>1.0000</u></u>

The public and private fire protection allocation factors in column 6 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are the maximum hour ratio of 2.5 and the average daily system sendout for 2016 of 17.1 MGD. The system demand for fire protection is 8,500 gallons per minute.

	Ratio	Rate of Flow, (GPM)	Weight
Average Hour	1.00	11,879	0.3110
Maximum Hour Extra Capacity	<u>1.50</u>	<u>17,819</u>	<u>0.4665</u>
Subtotal	<u><u>2.50</u></u>	29,698	0.7775
Fire Protection		<u>8,500</u>	<u>0.2225</u>
Total		<u><u>38,198</u></u>	<u><u>1.0000</u></u>

The maximum hour extra capacity factors in column 5 of the previous page are determined as follows:

Customer Classification	Average Hourly Consumption Thousand Gal.	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
Residential	1,881.3	3.0	5,643.9	0.5316
Non-Residential	1,570.5	3.0	4,711.5	0.4438
Rate J	261.2	1.0	261.2	0.0246
Total	<u><u>3,713.0</u></u>		<u><u>10,616.6</u></u>	<u><u>1.0000</u></u>

* Ratio of Maximum Hour To Average Hour Minus 1.0.

The public and private fire protection allocation factors in column 7 on the previous page are based on the relative potential demands (see Schedule E).

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor
	100 Gallons	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)	(4)=(3) X	(5)	(6)=(5) X	(7)	(8)=(7) X	(9)=(4)+(6)+(8)
			0.2288		0.3432		0.4280	
Residential	1,881.3	0.3779	0.0865	0.4932	0.1693			0.2558
Non-Residential	1,570.5	0.3154	0.0722	0.4118	0.1413			0.2135
Rate J	1,086.6	0.2182	0.0499	0.0950	0.0326			0.0825
Sales for Resale	405.5	0.0814	0.0186	0.0000	0.0000			0.0186
Private Fire	10.7	0.0021	0.0005			0.3003	0.1285	0.1290
Public Fire	24.9	0.0050	0.0011			0.6997	0.2995	0.3006
Total	4,979.5	1.0000	0.2288	1.0000	0.3432	1.0000	0.4280	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 10 hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES, cont.

The weighting of the factors is based on the ratio of the capacity required for a 8 hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{8,500 \text{ GPM} \times 60 \text{ Min.} \times 8 \text{ Hrs.}}{9,533,000 \text{ Gallons}} = 0.4280$$

$$\text{General Service Weight} = 1.0000 - 0.4280 = 0.5720$$

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows:

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.00	40.00	0.2288
Extra Capacity Maximum Hour	1.50	60.00	0.3432
Total	2.50	100.00	0.5720

Customer Classification	Average Hourly Consumption Thousand Gal. (2)	Maximum Hour Extra Capacity		
		Factor*	1,000 Gallons Per Hour (4)=(2)x(3)	Allocation Factor (5)
(1)	(2)	(3)	(4)	(5)
Residential	1,881.3	3.0	5,643.9	0.4932
Non-Residential	1,570.5	3.0	4,711.5	0.4118
Rate J	1,086.6	1.0	1,086.6	0.0950
Sales for Resale	405.5	0.0	0.0	0.0000
	4,943.9		11,442.0	1.0000

* Ratio of maximum day to average day minus 1.0.

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION AND DISTRIBUTION MAINS.

Factors are based on the weighting of the maximum daily consumption with fire, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

Customer Classification	Maximum Daily Consumption w/ Fire		Maximum Hourly Consumption		Allocation Factor
	Allocation Factor 3	Weighted Factor (3)=(2)X	Allocation Factor 4	Weighted Factor (5)=(4)X	
(1)	(2)	(3)=(2)X	(4)	(5)=(4)X	(6)=(3)+(5)
		0.1567		0.8433	
Residential	0.3623	0.0568	0.4040	0.3407	0.3975
Non-Residential	0.2632	0.0412	0.3373	0.2844	0.3256
Rate J	0.1730	0.0271	0.0332	0.0280	0.0551
Sales for Resale	0.0680	0.0107	0.0000	0.0000	0.0107
Private Fire	0.0401	0.0063	0.0677	0.0571	0.0634
Public Fire	0.0934	0.0146	0.1578	0.1331	0.1477
Total	1.0000	0.1567	1.0000	0.8433	1.0000

The weighting of the factors is based on the total footage of mains, designated as either transmission mains or distribution mains, as follows:

	Total Footage of Mains	Weight
Transmission Mains	612,659	0.1567
Distribution Mains	3,296,739	0.8433
Total	3,909,399	1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Costs are assigned directly to Rate E.

<u>Customer Classification</u> (1)	<u>Allocation Factor</u> (3)
Public Fire	1.0000
Total	<u>1.0000</u>

FACTOR 8. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative cost of meters by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	36,835	0.7927
Non-Residential	8,969	0.1930
Rate J	479	0.0103
Sales for Resale	188	0.0040
Private Fire	0	0.0000
Public Fire	0	0.0000
Total	<u>46,471</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 9. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative cost of services by size and customer classification, as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>3/4" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	39,182	0.7050
Non-Residential	10,023	0.1803
Rate J	294	0.0053
Sales for Resale	66	0.0012
Private Fire	<u>6,012</u>	<u>0.1082</u>
 Total	 <u><u>55,577</u></u>	 <u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size	5/8" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Meters	Weighting (4)=(2)X(3)	Number of Meters	Weighting (6)=(2)X(5)	Number of Meters	Weighting (8)=(2)X(7)	Number of Meters	Weighting (10)=(2)X(9)	Number of Meters	Weighting (12)=(2)X(11)	Number of Meters	Weighting (14)
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
5/8	1.0	31,717	31,717	2,312	2,312	11	11	0	0		0	34,040	34,040
3/4	2.1	10	21	14	29	0	0	0	0		0	24	50
1	2.0	2,449	4,898	789	1,578	1	2	1	2		0	3,240	6,480
1-1/2	3.5	4	14	60	210	0	0	0	0		0	64	224
2	4.3	43	185	812	3,492	19	82	3	13		0	877	3,772
3	7.0	0	0	13	91	2	14	0	0		0	15	105
4	10.5	0	0	61	641	7	74	1	11		0	69	726
6	16.8	0	0	10	168	10	168	2	34		0	22	370
8	64.0	0	0	7	448	2	128	2	128		0	11	704
10	64.0	0	0	0	0	0	0	0	0		0	0	0
12	64.0	0	0	0	0	0	0	0	0		0	0	0
Total		<u>34,223</u>	<u>36,835</u>	<u>4,078</u>	<u>8,969</u>	<u>52</u>	<u>479</u>	<u>9</u>	<u>188</u>	<u>0</u>	<u>0</u>	<u>38,362</u>	<u>46,471</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

Service Size	3/4" Dollar Equivalent	Residential		Non-Residential		Rate J		Sales for Resale		Private Fire		Total	
		Number of Services	Weighting (4)=(2)X(3)	Number of Services	Weighting (6)=(2)X(5)	Number of Meters	Weighting (8)=(2)X(7)	Number of Meters	Weighting (10)=(2)X(9)	Number of Meters	Weighting (12)=(2)X(11)	Number of Meters	Weighting (14)
(1)	(2)	(3)	(4)=(2)X(3)	(5)	(6)=(2)X(5)	(7)	(8)=(2)X(7)	(9)	(10)=(2)X(9)	(11)	(12)=(2)X(11)	(13)	(14)
3/4	1.00	31,727	31,727	2,326	2,326	11	11	0	0	0	0	34,053	34,053
1	2.94	2,449	7,200	789	2,320	1	3	1	3	0	0	3,239	9,523
1-1/2	4.02	4	16	60	241	0	0	0	0	0	0	64	257
2	5.55	43	239	812	4,507	19	105	3	17	34	189	892	4,952
3	5.55	0	0	13	72	2	11	0	0	0	0	13	72
4	6.37	0	0	61	389	7	45	1	6	160	1,019	222	1,414
6	9.92	0	0	10	99	10	99	2	20	296	2,936	308	3,055
8	9.92	0	0	7	69	2	20	2	20	173	1,716	182	1,805
10	9.92	0	0	0	0	0	0	0	0	8	79	8	79
12 and above	12.16	0	0	0	0	0	0	0	0	6	73	6	73
Total		<u>34,223</u>	<u>39,182</u>	<u>4,078</u>	<u>10,023</u>	<u>52</u>	<u>294</u>	<u>9</u>	<u>66</u>	<u>677</u>	<u>6,012</u>	<u>38,987</u>	<u>55,283</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 10. ALLOCATION OF TRANSMISSION AND DISTRIBUTION OPERATION SUPERVISION AND ENGINEERING AND MISCELLANEOUS EXPENSES.

Factors are based on transmission and distribution operation expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Operating Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 186,616	0.5557
Non-Residential	89,301	0.2659
Rate J	11,698	0.0348
Sales for Resale	2,468	0.0073
Private Fire	17,719	0.0528
Public Fire	28,031	0.0835
	<u>335,832</u>	<u>1.0000</u>
Total	<u>335,832</u>	<u>1.0000</u>

FACTOR 11. ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINTENANCE SUPERVISION AND ENGINEERING, STRUCTURES AND IMPROVEMENTS, AND OTHER EXPENSES.

Factors are based on transmission and distribution maintenance expenses other than those being allocated, as follows:

Customer Classification	Transmission & Distribution Maintenance Expenses	Allocation Factor
(1)	(2)	(3)
Residential	\$ 65,391	0.4318
Non-Residential	27,748	0.1832
Rate J	3,182	0.0210
Sales for Resale	663	0.0044
Private Fire	7,870	0.0520
Public Fire	46,586	0.3076
	<u>\$151,440</u>	<u>1.0000</u>
Total	<u>\$151,440</u>	<u>1.0000</u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 12. ALLOCATION OF BILLING AND COLLECTING COSTS.

Factors are based on the total number of customers

<u>Customer Classification</u> (1)	<u>Total Customers</u> (2)	<u>Allocation Factor</u> (3)
Residential	34,223	0.8748
Non-Residential	4,078	0.1042
Rate J	52	0.0013
Sales for Resale	9	0.0002
Private Fire	764	0.0195
Public Fire	<u>0</u>	<u>0.0000</u>
 Total	 <u><u>39,126</u></u>	 <u><u>1.0000</u></u>

FACTOR 13. ALLOCATION OF METER READING COSTS.

Factors are based on the number of metered bills.

<u>Customer Classification</u> (1)	<u>Total Metered Customers</u> (2)	<u>Allocation Factor</u> (3)
Residential	34,223	0.8921
Non-Residential	4,078	0.1063
Rate J	52	0.0014
Sales for Resale	9	0.0002
Private Fire	<u>0</u>	<u>0.0000</u>
	 <u><u>38,362</u></u>	 <u><u>1.0000</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 14. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES

Factors are based on the allocation of all other operation and maintenance expenses for water, power, chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses
(1)	(2)
Residential	\$1,896,462
Non-Residential	700,873
Rate J	248,267
Sales for Resale	91,459
Rate F - Private Fire	92,162
Public Fire	<u>317,775</u>
Total	<u><u>\$3,346,998</u></u>

FACTOR 15. ALLOCATION OF CASH WORKING CAPITAL

Factors are based on the allocation of operation and maintenance expenses including chemicals and waste disposal.

Customer Classification	Operation & Maintenance Expenses
(1)	(2)
Residential	\$7,431,960
Non-Residential	2,992,027
Rate J	1,269,347
Sales for Resale	469,500
Rate F - Private Fire	310,061
Public Fire	<u>1,000,024</u>
Total	<u><u>\$13,472,919</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 16. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of direct labor expense.

Customer Classification	Direct Labor Expense
(1)	(2)
Residential	\$1,437,922
Non-Residential	597,796
Rate J	224,495
Sales for Resale	82,857
Private Fire	73,834
Public Fire	228,299
	<hr/>
Total	<u><u>\$2,645,203</u></u>

FACTOR 17. ALLOCATION OF ORGANIZATION, FRANCHISES AND CONSENTS
MISCELLANEOUS INTANGIBLE PLANT AND OTHER Rate Base ELEMENTS.

Factors are based on the allocation of the original cost less depreciation other allocated, as follows:

Customer Classification	Original Cost Less Depreciation
(1)	(2)
Residential	\$62,858,937
Non-Residential	36,201,237
Rate J	15,090,351
Sales for Resale	5,487,846
Private Fire	4,826,861
Public Fire	11,749,100
	<hr/>
Total	<u><u>\$136,214,334</u></u>

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 18. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR F

Factors are based on the allocation of the original cost measure of value Rate Base pages and summarized below.

Customer Classification	Original Cost Measure of Value
(1)	(2)
Residential	\$50,567,340
Non-Residential	28,961,535
Rate J	12,065,216
Sales for Resale	4,387,975
Private Fire	3,859,557
Public Fire	<u>9,423,224</u>
Total	<u><u>\$109,264,847</u></u>

FACTOR 19. ALLOCATION OF REGULATORY COMMISSION EXPENSES, ASSE
OTHER WATER REVENUES.

The factors are based on the allocation of the total cost of service, excluding those it

Customer Classification	Total Cost of Service
(1)	(2)
Residential	\$9,778,909
Non-Residential	4,148,381
Rate J	1,746,990
Sales for Resale	646,264
Private Fire	472,821
Public Fire	<u>1,366,771</u>
Total	<u><u>\$18,160,135</u></u>

MISSOURI-AMERICAN WATER COMPANY
ALL DISTRICTS

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASS

FACTOR 20. REALLOCATION OF PUBLIC FIRE

Factors are based on the relative cost of meters by size and customer classification.

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)
Residential	36,835
Non-Residential	8,969
Rate J	479
Sales for Resale	0
Private Fire	<u>0</u>
Total	<u><u>46,283</u></u>

IFICATIONS, cont.

uses excluding purchased

Allocation Factor
(3)
0.5667
0.2094
0.0742
0.0273
0.0275
0.0949
<u>1.0000</u>

g purchased water, power,

Allocation Factor
(3)
0.5517
0.2221
0.0942
0.0348
0.0230
0.0742
<u>1.0000</u>

IFICATIONS, cont.

Allocation Factor
(3)
0.5436
0.2260
0.0849
0.0313
0.0279
0.0863
1.0000

,

than those items being

Allocation Factor
(3)
0.4614
0.2658
0.1108
0.0403
0.0354
0.0863
1.0000

IFICATIONS, cont.

RETURN.

as shown on the following

Allocation Factor
(3)
0.4628
0.2651
0.1104
0.0402
0.0353
0.0862
1.0000

ASSESSMENTS AND

ems being allocated.

Allocation Factor
(3)
0.5385
0.2284
0.0962
0.0356
0.0260
0.0753
1.0000

IFICATIONS, cont.

Allocation Factor
(3)
0.7959
0.1938
0.0103
0.0000
0.0000
1.0000

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification (1)	Cost of Service		Revenues, Present Rates				Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)		
	Residential	\$ 17,491,818	56.8%	\$ 13,059,789	54.0%	\$ 14,926,854	51.7%	\$ 1,867,065	14.3%	
Non-Residential	8,013,722	26.0%	6,695,531	27.7%	9,059,811	31.4%	2,364,280	35.3%		
Rate J	3,181,736	10.3%	2,308,349	9.5%	2,943,430	10.2%	635,080	27.5%		
Sales for Resale	1,158,777	3.8%	1,049,035	4.3%	1,154,098	4.0%	105,063	10.0%		
Private Fire	929,031	3.0%	1,099,782	4.5%	783,089	2.7%	(316,693)	-28.8%		
Total Sales	30,775,084	<u>99.9%</u>	24,212,487	<u>100.0%</u>	28,867,282	<u>100.0%</u>	4,654,795	19.2%		
Other Revenues	421,214		352,832		421,214		68,382	19.4%		
Contract Revenues	1,183,559		1,011,589		1,183,559		171,970	17.0%		
Total	<u>\$ 32,379,857</u>		<u>\$ 25,576,908</u>		<u>\$ 30,472,055</u>		<u>\$ 4,895,147</u>	19.1%		

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

SUMMARY OF AVERAGE DAILY SEND OUT AND MAXIMUM DAILY USAGE
FOR THE YEARS 2009-2016

Year	Average Daily Send out (MGD)	Maximum Daily Use	
		MGD	Ratio to Average
(1)	(2)	(3)	(4)
2009	14.683	21.970	1.50
2010	15.874	22.775	1.43
2011	15.500	25.142	1.62
2012	16.075	25.789	1.60
2013	15.662	22.230	1.42
2014	17.329	25.349	1.46
2015	16.817	23.508	1.40
2016	17.105	25.117	1.47

MISSOURI-AMERICAN WATER COMPANY
DISTRICT 3

BASIS FOR ALLOCATING DEMAND RELATED COSTS OF FIRE SERVICE
TO PRIVATE AND PUBLIC FIRE PROTECTION CUSTOMER CLASSIFICATIONS

Description (1)	Restrictive Diameters Squared (2)	Quantity (3)	Relative Demand (4)=(2)x(3)	Allocation Factor (5)
<u>PRIVATE FIRE PROTECTION</u>				
<u>Fire Lines</u>				
2 -inch	4.00	34	136	
3 -inch	9.00	0	0	
4 -inch	16.00	160	2,560	
6 -inch	36.00	296	10,656	
8 -inch	64.00	173	11,072	
10 -inch	100.00	8	800	
12 -inch	144.00	6	864	
Private Hydrants	20.25	87	1,762	
Total Rate F		764	27,850	0.3003
<u>PUBLIC FIRE PROTECTION</u>				
<u>Hydrant</u>	<u>Nozzle Sizes</u>			
5 1/4 Valve	1- 2-1/2" & 1- 4 1/2"	26.50	1	27
4 1/2" Valve	1- 2-1/2" & 1- 4 1/2"	20.25	3,203	64,861
Total Rate E		3,204	64,887	0.6997
Total Fire Protection		3,968	92,737	1.0000

MISSOURI AMERICAN WATER COMPANY

CALCULATION OF THE 5/8-INCH CUSTOMER COSTS PER MONTH
INCLUDING THE UNRECOVERED PUBLIC FIRE COSTS

<u>Cost Function</u>	<u>Cost of Service</u>	<u>Number of Units</u>	<u>Unit Cost Per Month</u>
Meters	\$ 2,790,301	46,471 5/8 Equivalents	\$ 5.00
Services	2,324,553	49,565 3/4 Equivalents	3.91
Billing/Collecting	<u>3,829,608</u>	4,001,295 Bills	<u>0.96</u>
Subtotal	8,944,461		9.87
Unrecovered Public Fire	<u>2,466,957</u>	46,471 5/8 Equivalents	<u>4.42</u>
Total	<u>\$ 11,411,418</u>		<u>\$ 14.29</u>

MISSOURI-AMERICAN WATER COMPANY
ALL WATER DISTRICTS

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential	\$ 236,395,249	71.5%	\$ 177,161,196	67.7%	\$ 228,268,784	69.1%	\$ 51,107,588	28.8%
Non-Residential	66,269,449	20.1%	57,675,916	22.0%	72,556,306	22.0%	14,880,390	25.8%
Rate J	16,805,964	5.1%	15,173,474	5.8%	17,129,295	5.1%	1,955,821	12.9%
Sales for Resale	6,690,517	2.0%	6,865,390	2.6%	7,536,421	2.3%	671,031	9.8%
Private Fire	4,309,594	1.3%	5,000,939	1.9%	4,979,352	1.5%	(21,587)	-0.4%
Total Sales	330,470,772	<u>100.0%</u>	261,876,916	<u>100.0%</u>	330,470,159	<u>100.0%</u>	68,593,243	26.2%
Other Revenues	4,154,107		3,420,164		4,154,107		733,943	21.5%
Contract Revenues	5,041,716		5,022,927		5,041,716		18,789	0.4%
Total	<u>\$ 339,666,595</u> *		<u>\$ 270,320,007</u>		<u>\$ 339,665,982</u>		<u>\$ 69,345,975</u>	25.7%

* Includes Hickory Hill Sewer Transfer.

MISSOURI-AMERICAN WATER COMPANY
ALL WASTEWATER DISTRICTS

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED MAY 31, 2019

Customer Classification	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent Increase
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All Classes	\$ 9,256,448	100.0%	\$ 9,522,204	100.0%	\$ 9,256,339	100.0%	\$ (265,865)	-2.8%
Total Sales	9,256,448	<u>100.0%</u>	9,522,204	<u>100.0%</u>	9,256,339	<u>100.0%</u>	(265,865)	-2.8%
Other Revenues	16,164		\$ 1,193		16,164		14,971	
Subtotal	\$ 9,272,612		\$ 9,523,397		\$ 9,272,503		\$ (250,894)	
Hickory Hills Water Transfer	<u>79,472</u>		<u>-</u>		<u>79,472</u>		<u>79,472</u>	
Total	<u>\$ 9,352,084</u>		<u>\$ 9,523,397</u>		<u>\$ 9,351,975</u>		<u>\$ (171,422)</u>	-1.8%

Schedule CEH-15

Test Year Operating Revenues at Present Rates vs Proposed Rates
District #1 (St Louis, Mexico, Jefferson City, Lake Carmel, Hickory Hills, Anne Meadows, Redfield, Jaxson Estate)

Missouri Public Service Commission
 Company: Missouri-American Water Company

Case No. WR-2017-0285
 Schedule CAS-11-12

Line #	Class/ Description	Base Year 12/31/2016 Normalized				Present Pro Forma Rates FYE 05/31/18				Present Pro Forma Rates FYE 05/31/19				Proposed Pro Forma Rates				Dollar Change	Percentage Change	
		Customer		Sales 100 Gal	Current Rate	Total Revenue	Customer		Sales 100 Gal	Current Rate	Total Revenue	Customer		Sales 100 Gal	Proposed Rate	Total Revenue				
		Meter Billings					Meter Billings					Meter Billings					Meter Billings			
1	Residential Monthly Billing:																			
4	<u>Minimum Charge:</u>																			
5	5/8"	501,876		\$15.33	\$7,693,764	518,889		\$15.33	\$7,954,570	524,894		\$15.33	\$8,046,619	2,164,620		\$10.00	\$21,646,195	\$13,599,576	169.01%	
6	3/4"	1,439		18.78	27,023	1,439		18.78	27,023	1,439		18.78	27,023	130,056		12.25	1,593,181	1,566,158	5795.65%	
7	1"	21,422		25.41	544,337	21,422		25.41	544,337	21,422		25.41	544,337	57,902		16.58	960,018	415,681	76.36%	
8	1-1/2"	1,541		42.03	64,762	1,541		42.03	64,762	1,541		42.03	64,762	3,347		27.42	91,773	27,011	41.71%	
9	2"	1,271		61.98	78,747	1,271		61.98	78,747	1,271		61.98	78,747	6,591		40.43	266,470	187,723	238.39%	
10	3"	65		109.00	7,127	65		109.00	7,127	65		109.00	7,127	151		71.10	10,741	3,614	50.71%	
11	4"	60		174.93	10,496	60		174.93	10,496	60		174.93	10,496	141		114.11	16,119	5,623	53.57%	
12	6"	72		341.05	24,556	72		341.05	24,556	72		341.05	24,556	174		222.47	38,696	14,140	57.58%	
13	8"	100		581.84	57,911	100		581.84	57,911	100		581.84	57,911	221		379.54	83,756	25,845	44.63%	
14	10"	12		977.61	11,731	12		977.61	11,731	12		977.61	11,731	18		637.71	11,421	(310)	-2.64%	
15	12"	0		1,173.13	0	0		1,173.13	0	0		1,173.13	0	0		765.25	0	0	0.00%	
16	Low Income	0		(12.26)	0	18,648		(12.26)	(228,627)	18,648		(12.26)	(228,627)	18,648		(8.00)	(149,185)	79,442	-34.75%	
17	Anna Meadows	1,634		33.96	55,487	1,634		33.96	55,487	1,634		33.96	55,487	1,634		48	79,080	23,593	42.52%	
18	Jaxson Estate	700		40.00	27,996	843		40.00	33,731	843		40.00	33,731	843		48	40,814	7,083	21.00%	
19					<u>\$8,603,937</u>				<u>\$8,641,851</u>				<u>\$8,733,900</u>				<u>\$24,689,079</u>	<u>\$15,955,179</u>	<u>182.68%</u>	
22	<u>Volumetric Charges:</u>																			
23	Monthly All Water			32,350,428	0.41398	\$13,392,430		32,350,428	0.41398	\$13,392,430		31,759,456	0.41398	\$13,147,780		31,759,456	0.58176	\$18,476,381	\$5,328,601	40.53%
25	<u>Normalization</u>																			
26	Usage			0	0.41398	\$0		(590,972)	0.41398	(\$244,651)		(239,142)	0.41398	(\$99,000)		(239,142)	0.58176	(\$139,123)	(\$40,123)	40.53%
28	Total			<u>32,350,428</u>		<u>\$21,996,367</u>		<u>31,759,456</u>		<u>\$21,789,630</u>		<u>31,520,314</u>		<u>\$21,782,680</u>		<u>31,520,314</u>		<u>\$43,026,337</u>	<u>\$21,243,657</u>	<u>97.53%</u>

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Schedule CEH-15

Test Year Operating Revenues at Present Rates vs Proposed Rates
District #1 (St Louis, Mexico, Jefferson City, Lake Carmel, Hickory Hills, Anne Meadows, Redfield, Jaxson Estate)

Missouri Public Service Commission
 Company: Missouri-American Water Company

Case No. WR-2017-0285
 Schedule CAS-11-12

Line #	Class/ Description	Base Year 12/31/2016 Normalized				Present Pro Forma Rates FYE 05/31/18				Present Pro Forma Rates FYE 05/31/19				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer		Sales 100 Gal	Current Rate	Total Revenue	Customer		Sales 100 Gal	Current Rate	Total Revenue	Customer		Sales 100 Gal	Proposed Rate	Total Revenue			
		Meter Billings					Meter Billings					Meter Billings					Meter Billings		
1	Commercial Quarterly Billing																		
2	<u>Minimum Charge:</u>																		
5	5/8"	28,395		\$22.35	\$634,627	28,395		\$22.35	\$634,627	28,395		\$22.35	\$634,627	12,809		\$30.00	\$384,260	(\$250,367)	-39.45%
6	3/4"	11,501		27.67	318,223	11,501		27.67	318,223	11,501		27.67	318,223	5,188		36.75	190,653	(127,570)	-40.09%
7	1"	7,745		38.39	297,329	7,745		38.39	297,329	7,745		38.39	297,329	3,494		49.74	173,775	(123,554)	-41.55%
8	1-1/2"	3,561		65.04	231,624	3,561		65.04	231,624	3,561		65.04	231,624	1,606		82.26	132,146	(99,478)	-42.95%
9	2"	10,185		97.03	988,278	10,185		97.03	988,278	10,185		97.03	988,278	4,594		121.29	557,264	(431,014)	-43.61%
10	3"	615		182.46	112,193	615		182.46	112,193	615		182.46	112,193	277		213.30	59,163	(53,030)	-47.27%
11	4"	327		278.53	91,072	327		278.53	91,072	327		278.53	91,072	147		342.33	50,492	(40,580)	-44.56%
12	6"	420		545.37	229,055	420		545.37	229,055	420		545.37	229,055	189		667.41	126,446	(102,609)	-44.80%
13	8"	615		865.59	532,705	615		865.59	532,705	615		865.59	532,705	278		1,138.62	316,094	(216,611)	-40.66%
14	10"	90		1,292.52	116,550	90		1,292.52	116,550	90		1,292.52	116,550	41		1,913.13	77,818	(38,732)	-33.23%
15	12"	0		1,551.03	0	0		1,551.03	0	0		1,551.03	0		2,295.75	0	0	0.00%	
16	5/8" - Prorated	1,453		16.09	\$23,379	1,453		16.09	\$23,379	1,453		16.09	\$23,379	1,453		30.00	43,590	20,211	86.45%
17	3/4" - Prorated	433		18.62	8,062	433		18.62	8,062	433		18.62	8,062	433		36.75	15,913	7,851	97.38%
18	1" - Prorated	291		23.64	6,879	291		23.64	6,879	291		23.64	6,879	291		49.74	14,474	7,595	110.41%
19	1-1/2" - Prorated	138		36.27	5,005	138		36.27	5,005	138		36.27	5,005	138		82.26	11,352	6,347	126.81%
20	2" - Prorated	333		51.38	17,110	333		51.38	17,110	333		51.38	17,110	333		121.29	40,390	23,280	136.06%
21	3" - Prorated	16		91.79	1,469	16		91.79	1,469	16		91.79	1,469	16		213.30	3,413	1,944	132.33%
22	4" - Prorated	14		137.18	1,921	14		137.18	1,921	14		137.18	1,921	14		342.33	4,793	2,872	149.51%
23	6" - Prorated	23		263.29	6,056	23		263.29	6,056	23		263.29	6,056	23		667.41	15,350	9,294	153.47%
24	8" - Prorated	30		414.66	12,440	30		414.66	12,440	30		414.66	12,440	30		1,138.62	34,159	21,719	174.59%
25	10" - Prorated	44		616.48	27,125	44		616.48	27,125	44		616.48	27,125	44		1,913.13	84,178	57,053	210.33%
26	12" - Prorated	0		818.29	0	0		818.29	0	0		818.29	0		2,295.75	0	0	0.00%	
27					<u>\$3,661,102</u>				<u>\$3,661,102</u>				<u>\$3,661,102</u>				<u>\$2,335,723</u>	<u>(\$1,325,379)</u>	<u>-36.20%</u>
28																			
29	<u>Volumetric Charges:</u>																		
30	Rate A		56,507,382	0.41398	\$23,392,926		56,507,382	0.41398	\$23,392,926		56,507,382	0.41398	\$23,392,926		56,507,382	0.54761	\$30,944,007	\$7,551,081	32.28%
31																			
32	Block 1			0.00000	\$0			0.00000	\$0			0.00000	\$0			0.00000	\$0	\$0	0.00%
33	Block 2			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
34	Block 3			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
35	Block 4			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
36																			
37	<u>Normalization</u>																		
38	Usage		0	0.41398	\$0		0	0.41398	\$0		0	0.41398	\$0		0	0.54761	\$0	\$0	0.00%
39																			
40	Total		<u>56,507,382</u>		<u>\$27,054,028</u>		<u>56,507,382</u>		<u>\$27,054,028</u>		<u>56,507,382</u>		<u>\$27,054,028</u>		<u>56,507,382</u>		<u>\$33,279,730</u>	<u>\$6,225,702</u>	<u>23.01%</u>

Schedule CEH-15

Test Year Operating Revenues at Present Rates vs Proposed Rates
District #1 (St Louis, Mexico, Jefferson City, Lake Carmel, Hickory Hills, Anne Meadows, Redfield, Jaxson Estate)

Missouri Public Service Commission
 Company: Missouri-American Water Company
 Other Public Authorities

Case No. WR-2017-0285
 Schedule CAS-11-12

Line #	Class/ Description	Base Year 12/31/2016 Normalized				Present Pro Forma Rates FYE 05/31/18				Present Pro Forma Rates FYE 05/31/19				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Customer Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Customer Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Customer Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Customer Meter Billings	Sales 100 Gal	Proposed Rate	Total Revenue		
1	OPA Quarterly Billing																		
2																			
3																			
4	<u>Minimum Charge:</u>																		
5	5/8"	563		\$22.35	\$12,590	563		\$22.35	\$12,590	563		\$22.35	\$12,590	254		\$30.00	\$7,623	(\$4,967)	-39.45%
6	3/4"	662		27.67	18,310	662		27.67	18,310	662		27.67	18,310	299		36.75	10,970	(7,340)	-40.09%
7	1"	492		38.39	18,888	492		38.39	18,888	492		38.39	18,888	222		49.74	11,039	(7,849)	-41.56%
8	1-1/2"	220		65.04	14,292	220		65.04	14,292	220		65.04	14,292	99		82.26	8,154	(6,138)	-42.95%
9	2"	722		97.03	70,024	722		97.03	70,024	722		97.03	70,024	326		121.29	39,485	(30,539)	-43.61%
10	3"	104		182.46	19,048	104		182.46	19,048	104		182.46	19,048	47		213.30	10,044	(9,004)	-47.27%
11	4"	56		278.53	15,598	56		278.53	15,598	56		278.53	15,598	25		342.33	8,648	(6,950)	-44.56%
12	6"	96		545.37	52,356	96		545.37	52,356	96		545.37	52,356	43		667.41	28,902	(23,454)	-44.80%
13	8"	16		865.59	13,849	16		865.59	13,849	16		865.59	13,849	7		1,138.62	8,218	(5,631)	-40.66%
14	10"	12		1,292.52	15,510	12		1,292.52	15,510	12		1,292.52	15,510	5		1,913.13	10,356	(5,154)	-33.23%
15	12"	0		1,551.03	0	0		1,551.03	0	0		1,551.03	0			2,295.75	0	0	0.00%
16	5/8" - Prorated	7		16.09	\$113	7		16.09	\$113	7		16.09	\$113	7		30.00	210	97	85.84%
17	3/4" - Prorated	11		18.62	205	11		18.62	205	11		18.62	205	11		36.75	404	199	97.07%
18	1" - Prorated	5		23.64	118	5		23.64	118	5		23.64	118	5		49.74	249	131	111.02%
19	1-1/2" - Prorated	0		36.27	0	0		36.27	0	0		36.27	0	0		82.26	0	0	0.00%
20	2" - Prorated	6		51.38	308	6		51.38	308	6		51.38	308	6		121.29	728	420	136.36%
21	3" - Prorated	1		91.79	92	1		91.79	92	1		91.79	92	1		213.30	213	121	131.52%
22	4" - Prorated	0		137.18	0	0		137.18	0	0		137.18	0	0		342.33	0	0	0.00%
23	6" - Prorated	0		263.29	0	0		263.29	0	0		263.29	0	0		667.41	0	0	0.00%
24	8" - Prorated	0		414.66	0	0		414.66	0	0		414.66	0	0		1,138.62	0	0	0.00%
25	10" - Prorated	0		616.48	0	0		616.48	0	0		616.48	0	0		1,913.13	0	0	0.00%
26	12" - Prorated	0		818.29	0	0		818.29	0	0		818.29	0	0		2,295.75	0	0	0.00%
27					\$251,301				\$251,301				\$251,301				\$145,243	(\$106,058)	-42.20%
28																			
29	<u>Volumetric Charges:</u>																		
30	Rate A		3,836,032	0.41398	\$1,588,041		3,836,032	0.41398	\$1,588,041		3,836,032	0.41398	\$1,588,041		3,836,032	0.54761	\$2,100,650	\$512,609	32.28%
31																			
32	Block 1			0.00000	\$0			0.00000	\$0			0.00000	\$0			0.00000	\$0	\$0	0.00%
33	Block 2			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
34	Block 3			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
35	Block 4			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
36																			
37	<u>Normalization</u>																		
38	Usage		0	0.41398	\$0		0	0.41398	\$0		0	0.41398	\$0		0	0.54761	\$0	\$0	0.00%
39																			
40	Total		<u>3,836,032</u>		<u>\$1,839,342</u>		<u>3,836,032</u>		<u>\$1,839,342</u>		<u>3,836,032</u>		<u>\$1,839,342</u>		<u>3,836,032</u>		<u>\$2,245,893</u>	<u>\$406,551</u>	<u>22.10%</u>

Schedule CEH-15

Test Year Operating Revenues at Present Rates vs Proposed Rates
 District #3 Joplin, Warrensburg, Tri-State, Emerald Pt, Branson Canyon, Spring Valley, Ozark Mountain, Lakewood, Rankin Acres, Whitebranch, Maplewood, Stonebridge, Saddlebrooke, Riverside

Missouri Public Service Commission
 Company: Missouri-American Water Company
Commercial

Case No. WR-2017-0285
 Schedule CAS-11-12
 Page 3 of 8

Line #	Class/ Description	Base Year 12/31/2016 Normalized				Present Pro Forma Rates FYE 05/31/18				Present Pro Forma Rates FYE 05/31/19				Proposed Pro Forma Rates				Dollar Change	Percentage Change
		Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Meter Billings	Sales 100 Gal	Current Rate	Total Revenue	Meter Billings	Sales 100 Gal	Proposed Rate	Total Revenue		
Commercial Monthly Billing:																			
<u>Minimum Charge:</u>																			
5	5/8"	25,855		\$15.33	\$396,351	25,908		\$15.33	\$397,162	25,942		\$15.33	\$397,687	25,942		\$10.00	\$259,417	(\$138,270)	-34.77%
6	3/4"	149		18.78	2,801	149		18.78	2,801	149		18.78	2,801	149		12.25	1,827	(974)	-34.77%
7	1"	8,771		25.41	222,878	8,771		25.41	222,878	8,771		25.41	222,878	8,771		16.58	145,428	(77,450)	-34.75%
8	1-1/2"	648		42.03	27,225	648		42.03	27,225	648		42.03	27,225	648		27.42	17,762	(9,463)	-34.76%
9	2"	8,336		61.98	516,687	8,336		61.98	516,687	8,336		61.98	516,687	8,336		40.43	337,039	(179,648)	-34.77%
10	3"	108		109.00	11,772	108		109.00	11,772	108		109.00	11,772	108		71.10	7,679	(4,093)	-34.77%
11	4"	362		174.93	63,314	362		174.93	63,314	362		174.93	63,314	362		114.11	41,301	(22,013)	-34.77%
12	6"	143		341.05	48,770	143		341.05	48,770	143		341.05	48,770	143		222.47	31,813	(16,957)	-34.77%
13	8"	36		581.84	20,946	36		581.84	20,946	36		581.84	20,946	36		379.54	13,663	(7,283)	-34.77%
14	10"	1		977.61	514	1		977.61	514	1		977.61	514	1		637.71	335	(179)	-34.82%
15	12"	0		1,173.13	0	0		1,173.13	0	0		1,173.13	0	0		765.25	0	0	0.00%
16					<u>\$1,311,258</u>				<u>\$1,312,069</u>				<u>\$1,312,594</u>				<u>\$856,264</u>	<u>(\$456,330)</u>	<u>-34.77%</u>
<u>Volumetric Charges:</u>																			
19	Rate A		11,611,456	0.37424	\$4,345,471		11,611,456	0.37424	\$4,345,471		10,558,272	0.37424	\$3,951,328		10,558,272	0.54761	\$5,781,815	\$1,830,487	46.33%
20	Rate J		78,974	0.23320	18,417		78,974	0.23320	18,417		1,132,158	0.23320	264,019		1,132,158	0.30090	340,666	76,647	29.03%
22	Block 1			0.00000	\$0			0.00000	\$0			0.00000	\$0			0.00000	\$0	\$0	0.00%
23	Block 2			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
24	Block 3			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
25	Block 4			0.00000	0			0.00000	0			0.00000	0			0.00000	0	0	0.00%
<u>Normalization</u>																			
28	Rate A		0	0.37424	\$0		(1,053,184)	0.37424	(\$394,144)		0	0.37424	\$0		0	0.54761	\$0	\$0	0.00%
29	Rate J		0	0.23320	0		1,053,184	0.23320	245,603		0	0.23320	0		0	0.30090	0	0	0.00%
34	Total		<u>11,690,429</u>		<u>\$5,675,146</u>		<u>11,690,429</u>		<u>\$5,527,416</u>		<u>11,690,429</u>		<u>\$5,527,941</u>		<u>11,690,429</u>		<u>\$6,978,745</u>	<u>\$1,450,804</u>	<u>26.24%</u>

