

Exhibit No.:	
Issues:	Cost of Service
Witness:	Wesley E. Selinger
Exhibit Type:	Rebuttal
Sponsoring Party:	Missouri-American Water Company
Case No.:	WR-2022-0303
Date:	January 25, 2023

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2022-0303

REBUTTAL TESTIMONY

OF

WESLEY E. SELINGER

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

AFFIDAVIT

I, Wesley E. Selinger, under penalty of perjury, and pursuant to Section 509.030, RSMo, state that I am Director, Rates and Regulatory for American Water Works Service Company Inc. that the accompanying testimony has been prepared by me or under my direction and supervision; that if inquiries were made as to the facts in said testimony, I would respond as therein set forth; and that the aforesaid testimony is true and correct to the best of my knowledge and belief.


Wesley E. Selinger

January 25, 2023

Dated

**DIRECT TESTIMONY
WESLEY E. SELINGER**

**MISSOURI AMERICAN WATER COMPANY
CASE NO.: WR-2022-0303
CASE NO.: SR-2022-0304**

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REBUTTAL TESTIMONY

WESLEY E. SELINGER

I. INTRODUCTION

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

2 A. My name is Wesley E. Selinger and my business address is 727 Craig Road, Saint Louis,
3 Missouri 63141.

4 **Q. Are you the same Wesley E. Selinger who previously submitted Direct Testimony in**
5 **this proceeding?**

6 A. Yes.

7 **Q. What is the purpose of your Rebuttal Testimony?**

8 A. The purpose of my Rebuttal Testimony is to address various issues within the testimonies
9 of Missouri Public Service Commission Staff (“Staff”) witness Roth and Missouri
10 Industrial Energy Consumers (“MIEC”) witness York regarding Missouri American’s
11 (“MAWC” or “the Company”) Cost of Service Studies.

II. RESPONSE TO STAFF COSS

13 **Q. Did the Company submit Class Cost of Service Studies (“COSS”) in this case?**

14 A. Yes, the Company submitted separate COSSs for its water service territories in St. Louis
15 County and Outside of St. Louis County as well as a wastewater cost of service study. The
16 COSSs were attached to my direct testimony as Schedules WES-1, WES-2, and WES-3.

17 **Q. Did other parties to this case raise concerns regarding the Company’s COSSs.**

18 A. Yes. MIEC witness York raised several concerns regarding the Company’s cost of service
19 studies in her direct testimony. Staff produced its own cost of service study but did not
20 directly address any cost-of-service issues from my direct testimony.

1 **Q. What items will you be addressing regarding Staff's COSS report?**

2 A. As stated in the testimony of Ms. Roth, Staff anticipates some updates to its COSS report
3 before the conclusion of this case. The Company is still waiting on certain information it
4 requested of Staff regarding its report. I will briefly address several items/differences
5 between the Company's COSSs and Staff COSS report including:

- 6 - Staff's use of a one-step approach to allocating revenue requirements vs. the Company's
7 two-step approach which allocates revenue requirements to business functions and then
8 business function revenue requirements to customer classes;
- 9 - Staff's treatment of plant and depreciation related to MAWC's Transmission and
10 Distribution mains;
- 11 - Staff's omission of an adjustment to account for sale for resale and certain large industrial
12 customers who take service directly from the Company's Transmission system; and
- 13 - Staff statement regarding the Company's tracking of usage between public and private fire
14 service.

15 **Q. Please describe the difference between Staff's one-step approach to revenue**
16 **requirement allocation and the Company's two-step allocation.**

17 A. Staff's COSS allocates each cost account directly to MAWC's customer classes assuming
18 that customers directly cause each cost to be incurred. MAWC's COSSs first allocates
19 costs to its business functions i.e., Supply, Pumping, Storage, Meters etc. among others
20 and then allocates the revenue requirement associated with each business function to
21 customer class. This added step is more intuitive, understandable, and reflects how the
22 business operates while maintaining adherence to cost-causation principles.

23 **Q. Please describe Staff's treatment of transmission and distribution plant and**

1 **depreciation.**

2 A. Staff has included all transmission and distribution mains into one cost category.

3 **Q. Do you agree with Staff’s treatment of transmission and distribution mains?**

4 A. No, the Company distinguishes between costs associated with transmission mains (10-inch
5 and above) and distribution mains (10-inch or less) and maintains separate plant sub-
6 accounts that capture the costs associated with different sizes of mains. This allows for a
7 more accurate allocation of these costs among classes.

8 **Q. Has Staff made any adjustment to its COSS related to transmission and distribution**
9 **mains?**

10 A. On page 8-9 of her direct testimony Staff witness Roth explains that Staff has proposed an
11 adjustment to its COSS to account for sale for resale and certain large customers that are
12 connected directly to the transmission system.

13 **Q. Do you agree that such an adjustment should be made?**

14 A. Yes, MAWC has made a similar adjustment in its COSSs.

15 **Q. Were you able to determine how Staff applied its adjustment within its COSS?**

16 A. No. It was not clear where in Staff’s COSS workpapers such an adjustment was made.
17 The Company has inquired with Staff on this subject and anticipates Staff will include such
18 an adjustment with its updates later in this proceeding.

19 **Q. Please describe Staff’s concerns around the Company’s maintenance of public and**
20 **private fire annual usage data.**

21 A. On page 8 of her direct testimony Ms. Roth states that the Company does not currently
22 separately track the number of annualized gallons for private fire service or public fire
23 service.

1 **Q. Is this true?**

2 A. No. It is true that the Company does not meter public fire and therefore estimates
3 annualized gallons based on hydrant count and size. The Company does however maintain
4 annualized usage information for private fire service as shown on the “Usage Statistics”
5 tab of MAWC’s COSSs.

6

7

III. RESPONSE TO MIEC

8 **Q. Has MIEC witness Ms. York raised issues with MAWC’s Cost of Service studies?**

9 A. Yes. Ms. York has addressed several items and made several recommendations regarding
10 MAWC’s COSSs including:

- 11 - That fixed Power and Pumping expenses be allocated using Factor 3 instead of Factor 2;
- 12 - That Purchased Power expenses be allocated using Factor 6 instead of Factor 1;
- 13 - That the Distribution Multiplier used to develop Factor 4 be corrected to reflect the length
14 of distribution mains serving sale for resale and certain large customers that take service
15 directly from MAWC’s transmission system; and
- 16 - Plant investment and depreciation expense in mains sized 10-16 inches be assigned to the
17 distribution functional cost category instead of the transmission functional cost
18 category

19 **Q. Ms. York recommends that fixed power and pumping costs be allocated using Factor
20 3 rather than Factor 2, do you agree.**

21 A. Yes, the use of Factor 2 for allocating these expenses in the Company’s COSSs was
22 inadvertent and the Company has stated in response to discovery that it agrees the
23 appropriate allocation factor for these expenses is Factor 3.

24 **Q. Please explain Ms. York’s position regarding the appropriate allocation factor for**

1 **Fuel and Power expenses.**

2 A. Ms. York's position is that MAWC's electric provider in St. Louis County, Ameren
3 Missouri, charges commercial rates that vary based on seasonal and peak and off-peak
4 periods; therefore, the use of an allocator based on annual usage is not appropriate and
5 should be replaced with an allocator that includes components related to average daily and
6 hourly usage and extra daily and hourly capacity.

7 **Q. Do you agree with Ms. York's recommendation?**

8 A. No. First, it is important to recognize MAWC's customers' peak demands as well as how
9 the Company manages its operational requirements in response to those demands. For
10 instance, MAWC's customers' peak customer demand typically occurs during the summer
11 in the early morning due to the requirements of irrigation and several other factors.
12 MAWC addresses this peak by pumping twice as much at night filling tanks during off-
13 peak hours. Therefore, there is limited, if any correlation between increases in customer
14 peak demand and increases in purchased power costs. It should be generally noted that as
15 the delivery system moves upstream from the end-user it is designed to meet a diversity of
16 demands that is focused less on hourly peak demands of customers and fire service and
17 more on total daily requirements. It should also be noted that not every commercial electric
18 rate charged to MAWC facilities includes a demand charge.

19 **Q. Has MIEC made any criticisms regarding the treatment of Transmission and**
20 **Distribution mains within MAWC's COSSs?**

21 A. Yes. In her direct testimony, MIEC witness Ms. York has raised concerns regarding the
22 Company's distribution multiplier as well as its assignment of mains sized 10-16 inches to
23 the Transmission function. I will address each of these issues in more detail below.

1 **Q. If Ms. York's adjustments to the allocation of Transmission and Distribution mains**
2 **were to be implemented what would be the result to the allocation of distribution**
3 **mains in the Company's cost of service?**

4 A. Ms. York's recommendations would result in Rate J customers being allocated essentially
5 no costs associated with the Company's Distribution system. For instance, in the
6 Company's COSS for St. Louis County, Rate J customers' cost of service for Distribution
7 system costs is \$1,831,675. After implementing Ms. York's adjustments Rate J customers
8 would be assigned only \$57,648 in Distribution System costs. Ms. York's adjustments
9 shift 97% of Rate J customers allocation of Distribution costs to MAWC's other classes.
10 From a total cost of service basis, these adjustments shift approximately \$3.6 million
11 dollars of Rate J's cost of service to MAWC's other classes, primarily MAWC's
12 Residential customers.

13 **Q. Is the allocation of \$57,648 in Distribution system costs to Rate J customers**
14 **reasonable?**

15 A. No, it is not. The is essentially saying the Rate J class doesn't use the Company's
16 Distribution system at all, which is not true.

17 **Q. Ms. York criticizes the Company's method for developing its distribution multiplier**
18 **stating that MAWC needs to also consider the length of distribution main serving**
19 **Rate J customers, do you agree?**

20 A. No, I do not. The costs of mains in MAWC's cost of service study are allocated using the
21 Base/Extra capacity allocator which is a usage-based allocator. The distribution multiplier
22 is intended to reflect the amount of Rate J usage to which this usage-based allocator applies.
23 MIEC is recommending using a percentage of system allocator. Mixing these two types

1 of allocators together is not reasonable and results in an apples to oranges comparison.

2 **Q. Are there additional reasons why you disagree with Ms. York's criticism of MAWC's**
3 **Distribution multiplier?**

4 A. Determining the length of distribution main serving these customers does not adequately
5 allocate the "cost" of providing service. There is a different cost associated with each size
6 and type of main. There are different circumstances that drive the amount capitalized as
7 part of each main installed. It is not feasible to conduct an analysis that would accurately
8 capture the myriad of factors that determine this and to calculate an individual customer
9 rate. The customers included within the Company's sample account for 72% of the Rate J
10 usage for the St. Louis County sale for resale and Rate J rate classes. Calculating the
11 distribution multiplier based on these customers' utilization of the Company's distribution
12 infrastructure is a reasonable approach to calculating the distribution multiplier.

13 **Q. Has Ms. York provided any analysis or made any recommendations on what she feels**
14 **the appropriate distribution multiplier should be?**

15 A. Yes. Ms. York used a figure for small distribution mains from a 2008 rate case and divided
16 that by the Company's total length of distribution mains in its annual report to derive a
17 1.04% distribution multiplier.

18 **Q. Is the use of 15-year-old data appropriate for developing the distribution multiplier**
19 **in this case?**

20 A. No, it is not. As Ms. York points out there have been changes to the Rate J customer base
21 since 2008. It is entirely possible to think that while the number of Rate J customers overall
22 has decreased since 2008 some customers may have been added increasing the amount of
23 distribution footage serving these customers.

1 **Q. Ms. York explains that Staff's cost of service study in MAWC's last rate case reflected**
2 **a distribution multiplier of 10% for Rate J, was Staff's cost of service study, or more**
3 **specifically, Staff's 10% distribution multiplier approved by the Commission?**

4 A. No, it was not. MAWC's most recent general rate case was decided via settlement and the
5 Commission did not approve a specific distribution multiplier or a methodology for
6 calculating such an adjustment.

7 **Q. Please explain Ms. York's recommendation regarding the allocation of Transmission**
8 **and Distribution Mains.**

9 A. Ms. York recommends moving the depreciation expense and plant investment cost
10 associated with mains sized 10-16-inches from the Transmission function to the
11 Distribution function.

12 **Q. What would be the effect of Ms. York's adjustment?**

13 A. Reclassifying mains sized 10-16-inches as Distribution mains and assigning the associated
14 plant and depreciation expense to the Distribution function would significantly shift the
15 costs associated with those mains from Rate J to the smaller customers classes.

16 **Q. For COSS and ratemaking purposes how has MAWC historically separated**
17 **Transmission and Distribution mains?**

18 A. For at least the last 15 years MAWC has considered mains 10 inches or larger to serve the
19 Transmission function and mains smaller than 10 inches to serve the Distribution function.

20 **Q. What basis has Ms. York used to support her recommendation?**

21 A. Ms. York explains that the Company's cost of service study reflects footage for
22 Transmission and Distribution mains based on MAWC's 2021 annual report which
23 classifies mains for St. Louis County under 16-inches as distribution mains.

1 **Q. Was the main footage from MAWC’s 2021 annual report used in your COSS?**

2 A. Yes. I did rely on the information in the annual report but believe that classifications in
3 the annual report should be revisited to appropriately match how mains are classified for
4 ratemaking and COSS purposes. MAWC will work to align the information in its annual
5 report with how these assets have historically been classified for ratemaking and COSS
6 purposes.

7 **Q. What impact did the use of this information have on the results of your COSS?**

8 A. It had a very minimal effect. As shown in the table below, after correctly separating the
9 annual report data for St. Louis County to reflect the appropriate Transmission and
10 Distribution footage and inputting it into MAWC’s COSS the resulting revenue
11 responsibilities for each class show that this had virtually no impact on the results of the
12 study.

	Initial Filing	Revised
Residential	\$ 235,875,240	\$ 235,810,790
Non-Residential	\$ 66,901,926	\$ 66,904,123
Rate J	\$ 11,770,678	\$ 11,798,195
Rate B	\$ 4,747,694	\$ 4,762,691
Rate P	\$ 6,621,552	\$ 6,648,167
Public Fire	\$ -	\$ -
Rate F - Private Fire	\$ 5,660,451	\$ 5,653,573
Total	\$ 331,577,541	\$ 331,577,541

13
14 **Q. Are you sponsoring any updates to your COSSs at this time?**

15 A. Yes. As discussed above, the Company maintains separate plant subaccounts for mains
16 of different sizes. There are four plant subaccounts in total, one for mains 4 inches in
17 diameter or less, one for mains greater than four inches and less than ten inches in diameter,
18 mains 10-16 inches in diameter, and one account for mains greater than sixteen inches in

diameter. While preparing responses to discovery in this case it became known that some mains and the associated costs were not in the appropriate bucket. MAWC took the necessary action and moved those costs into the appropriate size bucket for purposes of its COSS. MAWC is filing revised COSS schedules WES-1R and WES-2R which reflect the changes described above.

Q. Can you demonstrate the impact of these changes on the results of MAWC’s COSSs?

A. Yes. The tables below reflect each rate class’s required revenue increase in both the Company’s originally filed COSSs and after the changes described above for both the St. Louis County service territory and Outside of St. Louis County service territory. As shown, relocating some of the main data into the appropriate plant subaccounts moves some of the revenue increase burden to the Residential class but overall, this movement is not significant.

	St. Louis County							
	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F	
	Residential	Residential					Private Fire	Total
Original Filing	\$ 235,875,115	\$ 66,901,977	\$ 11,767,278	\$ 4,747,670	\$ 6,621,483	\$ -	\$ 5,660,446	\$ 331,573,969
Revised	\$ 237,305,769	\$ 66,853,311	\$ 11,156,136	\$ 4,414,847	\$ 6,030,816	\$ -	\$ 5,813,090	\$ 331,573,969
Difference	\$ 1,430,654	\$ (48,666)	\$ (611,142)	\$ (332,823)	\$ (590,667)	\$ -	\$ 152,644	\$ -

	Outside of St. Louis County							
	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F	
	Residential	Residential					Private Fire	Total
Original Filing	\$ 79,701,529	\$ 27,883,045	\$ 11,914,423	\$ 4,285,921	\$ 3,726,002	\$ -	\$ 4,418,647	\$ 131,929,568
Revised	\$ 80,154,134	\$ 27,879,759	\$ 11,545,244	\$ 4,172,126	\$ 3,597,164	\$ -	\$ 4,581,140	\$ 131,929,568
Difference	\$ 452,606	\$ (3,286)	\$ (369,179)	\$ (113,795)	\$ (128,838)	\$ -	\$ 162,493	\$ -

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Source of Supply Expense															
Operating Expense															
Purchased Water	\$ 479,903	A	Source of Supply	\$ 479,903	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	479,903	\$ -
Fuel and Power	\$ 4,128,991	A	Source of Supply	\$ 4,128,991	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	4,128,991	\$ -
Salaries and Wages	\$ 27,691	A	Source of Supply	\$ 27,691	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	27,691	\$ -
Contract Services - Other	\$ 124,230	A	Source of Supply	\$ 124,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	124,230	\$ -
Building Maintenance and Services	\$ 382,028	A	Source of Supply	\$ 382,028	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	382,028	\$ -
Miscellaneous	\$ 1,166	A	Source of Supply	\$ 1,166	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1,166	\$ -
Telecommunications	\$ 125,722	A	Source of Supply	\$ 125,722	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	125,722	\$ -
Postage	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Office supplies and services	\$ 3,566	A	Source of Supply	\$ 3,566	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	3,566	\$ -
Materials & Supplies	\$ 4,113	A	Source of Supply	\$ 4,113	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	4,113	\$ -
Rents-Property	\$ 397	A	Source of Supply	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	397	\$ -
Rents-Equipment	\$ 4,647	A	Source of Supply	\$ 4,647	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	4,647	\$ -
Transportation	\$ 10,066	A	Source of Supply	\$ 10,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10,066	\$ -
	\$ 5,292,520			\$ 5,292,520	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5,292,520	\$ -
Maintenance Expense															
Salaries and Wages	\$ 257,487	A	Source of Supply	\$ 257,487	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	257,487	\$ -
Materials & Supplies	\$ 37,093	A	Source of Supply	\$ 37,093	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	37,093	\$ -
Transportation	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Miscellaneous	\$ 8,812	A	Source of Supply	\$ 8,812	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	8,812	\$ -
Contract Services - Eng	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Contract Services - Other	\$ 81,823	A	Source of Supply	\$ 81,823	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	81,823	\$ -
	\$ 385,215			\$ 385,215	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	385,215	\$ -
Total SS Expense	\$ 5,677,735			\$ 5,677,735	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5,677,735	\$ -
Power and Pumping Expenses															
Operating Expense															
Fuel and Power	\$ 3,008,720	B	Pumping	\$ -	\$ 3,008,720	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	3,008,720	\$ -
Salaries and Wages	\$ 1,336,409	B	Pumping	\$ -	\$ 1,336,409	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1,336,409	\$ -
Employee Benefits	\$ -	B	Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Building Maintenance and Services	\$ 4,917	B	Pumping	\$ -	\$ 4,917	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	4,917	\$ -
Miscellaneous	\$ 982	B	Pumping	\$ -	\$ 982	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	982	\$ -
Office supplies and services	\$ 53	B	Pumping	\$ -	\$ 53	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	53	\$ -
Materials & Supplies	\$ 2,821	B	Pumping	\$ -	\$ 2,821	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	2,821	\$ -
Rents-Equipment	\$ 2,198	B	Pumping	\$ -	\$ 2,198	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	2,198	\$ -
Transportation	\$ 329,008	B	Pumping	\$ -	\$ 329,008	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	329,008	\$ -
	\$ 4,685,108			\$ -	\$ 4,685,108	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	4,685,108	\$ -
Maintenance Expense															
Salaries and Wages	\$ 354,333	B	Pumping	\$ -	\$ 354,333	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	354,333	\$ -
Transportation	\$ 561	B	Pumping	\$ -	\$ 561	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	561	\$ -
Contract Services - Eng	\$ 1,659	B	Pumping	\$ -	\$ 1,659	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1,659	\$ -
Contract Services - Other	\$ 78,395	B	Pumping	\$ -	\$ 78,395	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	78,395	\$ -
Miscellaneous	\$ 2,344	B	Pumping	\$ -	\$ 2,344	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	2,344	\$ -
Materials & Supplies	\$ 57,913	B	Pumping	\$ -	\$ 57,913	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	57,913	\$ -
	\$ 495,205			\$ -	\$ 495,205	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	495,205	\$ -
Total Pumping Expense	\$ 5,180,313			\$ -	\$ 5,180,313	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5,180,313	\$ -
Water Treatment															
Operating Expense															
Fuel and Power	\$ 469,728	C	Water Treatment	\$ -	\$ -	\$ 469,728	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	469,728	\$ -
Chemicals	\$ 12,342,072	C	Water Treatment	\$ -	\$ -	\$ 12,342,072	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	12,342,072	\$ -
Waste Disposal	\$ 5,874	C	Water Treatment	\$ -	\$ -	\$ 5,874	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5,874	\$ -
Salaries and Wages	\$ 3,071,322	C	Water Treatment	\$ -	\$ -	\$ 3,071,322	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	3,071,322	\$ -
Employee Benefits	\$ 10	C	Water Treatment	\$ -	\$ -	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10	\$ -
Contract Services - Eng	\$ 13,355	C	Water Treatment	\$ -	\$ -	\$ 13,355	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	13,355	\$ -
Contract Services - Other	\$ 63,055	C	Water Treatment	\$ -	\$ -	\$ 63,055	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	63,055	\$ -
Building Maintenance and Services	\$ 68,281	C	Water Treatment	\$ -	\$ -	\$ 68,281	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	68,281	\$ -
Miscellaneous	\$ 86,564	C	Water Treatment	\$ -	\$ -	\$ 86,564	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	86,564	\$ -
Telecommunications	\$ 10,462	C	Water Treatment	\$ -	\$ -	\$ 10,462	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10,462	\$ -
Postage	\$ -	C	Water Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Office supplies and services	\$ 13,599	C	Water Treatment	\$ -	\$ -	\$ 13,599	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	13,599	\$ -
Materials & Supplies	\$ 20,354	C	Water Treatment	\$ -	\$ -	\$ 20,354	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	20,354	\$ -
Rents-Property	\$ -	C	Water Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ -
Rents-Equipment	\$ 5,346	C	Water Treatment	\$ -	\$ -	\$ 5,346	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	5,346	\$ -
Transportation	\$ 1,900	C	Water Treatment	\$ -	\$ -	\$ 1,900	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	1,900	\$ -
	\$ 16,171,922			\$ -	\$ -	\$ 16,171,922	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	16,171,922	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Maintenance Expense															
Salaries and Wages	\$ 1,455,538	C	Water Treatment	\$ -	\$ -	\$ 1,455,538	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,455,538	\$ -
Transportation	\$ 14,420	C	Water Treatment	\$ -	\$ -	\$ 14,420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,420	\$ -
Contract Services - Eng	\$ 3,537	C	Water Treatment	\$ -	\$ -	\$ 3,537	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,537	\$ -
Contract Services - Other	\$ 990,534	C	Water Treatment	\$ -	\$ -	\$ 990,534	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 990,534	\$ -
Miscellaneous	\$ 46,564	C	Water Treatment	\$ -	\$ -	\$ 46,564	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46,564	\$ -
Materials & Supplies	\$ 720,477	C	Water Treatment	\$ -	\$ -	\$ 720,477	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 720,477	\$ -
	\$ 3,231,070			\$ -	\$ -	\$ 3,231,070	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,231,070	\$ -
Total Water Treatment Expense	\$ 19,402,992			\$ -	\$ -	\$ 19,402,992	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,402,992	\$ -
Transmission & Distribution Expense															
Operating Expense															
Fuel and Power	\$ 457,785	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 29,459	\$ 281,921	\$ -	\$ 146,404	\$ -	\$ -	\$ -	\$ 457,785	\$ -
Salaries and Wages	\$ 4,616,413	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 297,075	\$ 2,842,963	\$ -	\$ 1,476,375	\$ -	\$ -	\$ -	\$ 4,616,413	\$ -
Employee Benefits	\$ 10,863	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 699	\$ 6,690	\$ -	\$ 3,474	\$ -	\$ -	\$ -	\$ 10,863	\$ -
Contract Services - Eng	\$ 37,650	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,423	\$ 23,186	\$ -	\$ 12,041	\$ -	\$ -	\$ -	\$ 37,650	\$ -
Contract Services - Other	\$ 1,262,621	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 81,252	\$ 777,570	\$ -	\$ 403,799	\$ -	\$ -	\$ -	\$ 1,262,621	\$ -
Building Maintenance and Services	\$ 133,413	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 8,585	\$ 82,161	\$ -	\$ 42,667	\$ -	\$ -	\$ -	\$ 133,413	\$ -
Miscellaneous	\$ 44,632	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,872	\$ 27,486	\$ -	\$ 14,274	\$ -	\$ -	\$ -	\$ 44,632	\$ -
Telecommunications	\$ 71,262	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 4,586	\$ 43,886	\$ -	\$ 22,790	\$ -	\$ -	\$ -	\$ 71,262	\$ -
Postage	\$ -	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office supplies and services	\$ 44,900	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,889	\$ 27,651	\$ -	\$ 14,359	\$ -	\$ -	\$ -	\$ 44,900	\$ -
Materials & Supplies	\$ 55,062	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 3,543	\$ 33,909	\$ -	\$ 17,609	\$ -	\$ -	\$ -	\$ 55,062	\$ -
Rents-Property	\$ 163	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 10	\$ 100	\$ -	\$ 52	\$ -	\$ -	\$ -	\$ 163	\$ -
Rents-Equipment	\$ 4,144	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 267	\$ 2,552	\$ -	\$ 1,325	\$ -	\$ -	\$ -	\$ 4,144	\$ -
Transportation	\$ 196,349	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 12,635	\$ 120,919	\$ -	\$ 62,794	\$ -	\$ -	\$ -	\$ 196,349	\$ -
	\$ 6,935,257			\$ -	\$ -	\$ -	\$ 446,297	\$ 4,270,995	\$ -	\$ 2,217,965	\$ -	\$ -	\$ -	\$ 6,935,257	\$ -
Maintenance Expense															
Salaries and Wages	\$ 1,741,996	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 43,040	\$ 411,887	\$ -	\$ 239,479	\$ 582,930	\$ -	\$ 464,660	\$ 1,741,996	\$ -
Contract Services - Eng	\$ 94,411	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 2,333	\$ 22,323	\$ -	\$ 12,979	\$ 31,593	\$ -	\$ 25,183	\$ 94,411	\$ -
Contract Services - Other	\$ 2,286,428	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 56,492	\$ 540,615	\$ -	\$ 314,325	\$ 765,115	\$ -	\$ 609,881	\$ 2,286,428	\$ -
Transportation	\$ 958,837	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 23,690	\$ 226,712	\$ -	\$ 131,815	\$ 320,859	\$ -	\$ 255,760	\$ 958,837	\$ -
Miscellaneous	\$ 1,117,388	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 27,608	\$ 264,201	\$ -	\$ 153,612	\$ 373,915	\$ -	\$ 298,052	\$ 1,117,388	\$ -
Materials & Supplies	\$ 1,017,496	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 25,140	\$ 240,582	\$ -	\$ 139,879	\$ 340,488	\$ -	\$ 271,407	\$ 1,017,496	\$ -
	\$ 7,216,556			\$ -	\$ -	\$ -	\$ 178,302	\$ 1,706,321	\$ -	\$ 992,090	\$ 2,414,901	\$ -	\$ 1,924,943	\$ 7,216,556	\$ -
Total T&D Expense	\$ 14,151,813			\$ -	\$ -	\$ -	\$ 624,599	\$ 5,977,316	\$ -	\$ 3,210,054	\$ 2,414,901	\$ -	\$ 1,924,943	\$ 14,151,813	\$ -
General Mains Expense															
Operations															
Salaries and Wages	\$ 1,072,388	K	Mains	\$ -	\$ -	\$ -	\$ 101,457	\$ 970,931	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,072,388	\$ -
Miscellaneous	\$ 1,011	K	Mains	\$ -	\$ -	\$ -	\$ 96	\$ 915	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,011	\$ -
	\$ 1,073,399			\$ -	\$ -	\$ -	\$ 101,553	\$ 971,846	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,073,399	\$ -
Maintenance Expense															
Salaries and Wages	\$ 244,551	K	Mains	\$ -	\$ -	\$ -	\$ 23,137	\$ 221,414	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 244,551	\$ -
Miscellaneous	\$ (1,168)	K	Mains	\$ -	\$ -	\$ -	\$ (111)	\$ (1,057)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,168)	\$ -
	\$ 243,383			\$ -	\$ -	\$ -	\$ 23,026	\$ 220,357	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 243,383	\$ -
General Mains Expense	\$ 1,316,782			\$ -	\$ -	\$ -	\$ 124,579	\$ 1,192,203	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,316,782	\$ -
Storage Expense															
Operating Expense															
Salaries and Wages	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Expense															
Salaries and Wages	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Storage Expense	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meter Expense															
Operating Expense															
Salaries and Wages	\$ 503,793	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 503,793	\$ -	\$ -	\$ -	\$ 503,793	\$ -
Miscellaneous	\$ 895	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 895	\$ -	\$ -	\$ -	\$ 895	\$ -
	\$ 504,688			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 504,688	\$ -	\$ -	\$ -	\$ 504,688	\$ -
Maintenance Expense															
Salaries and Wages	\$ 125,052	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 125,052	\$ -	\$ -	\$ -	\$ 125,052	\$ -
Miscellaneous	\$ 3,068	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,068	\$ -	\$ -	\$ -	\$ 3,068	\$ -
	\$ 128,120			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 128,120	\$ -	\$ -	\$ -	\$ 128,120	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Miscellaneous T&D Operating Expense	\$ 1,578,087	1	\$ -	\$ -	\$ -	\$ -	\$ 101,553	\$ 971,846	\$ -	\$ 504,688	\$ -	\$ -	\$ -	\$ 1,578,087	
				-	-	-	0.06435	0.61584	-	0.31981	-	-	-	1.00000	
Miscellaneous T&D Maintenance Expense	\$ 931,957	2	\$ -	\$ -	\$ -	\$ 23,026	\$ 220,357	\$ -	\$ 128,120	\$ 311,864	\$ -	\$ -	\$ 248,590	\$ 931,957	
				-	-	-	0.02471	0.23645	-	0.13747	0.33463	-	0.26674	1.00000	
Fixed O&M	\$ 31,326,552	3	\$ 1,068,841	\$ 2,171,593	\$ 6,585,318	\$ 749,178	\$ 7,169,519	\$ -	\$ 3,842,862	\$ 2,726,765	\$ 5,320,837	\$ 2,173,533	\$ 31,808,446		
			0.03360	0.06827	0.20703	0.02355	0.22540	-	0.12081	0.08572	0.16728	0.06833	1.00000		
Labor	\$ 27,708,698	4	\$ 285,178	\$ 1,690,742	\$ 4,526,860	\$ 464,709	\$ 4,447,195	\$ -	\$ 2,344,699	\$ 889,402	\$ 692,758	\$ 714,101	\$ 16,055,644		
			0.01776	0.10531	0.28195	0.02894	0.27699	-	0.14604	0.05539	0.04315	0.04448	1.00000		
Net Plant	\$ 2,261,125,417	5	\$ 22,045,612	\$ 82,742,622	\$ 230,487,422	\$ 371,278,831	\$ 1,140,690,807	\$ 9,223,269	\$ 189,765,057	\$ 107,855,775	\$ 23,170,803	\$ 82,767,639	\$ 2,260,027,835		
			0.00975	0.03661	0.10198	0.16428	0.50472	0.00408	0.08397	0.04772	0.01025	0.03662	1.00000		
Rate Base	\$ 1,668,115,184	6	\$ 18,634,818	\$ 69,647,221	\$ 194,096,208	\$ 296,607,659	\$ 762,428,297	\$ 7,937,385	\$ 155,126,718	\$ 79,619,460	\$ 18,833,447	\$ 65,183,971	\$ 1,668,115,184		
			0.01117	0.04175	0.11636	0.17781	0.45706	0.00476	0.09300	0.04773	0.01129	0.03908	1.00000		
Variable Cost	\$ 20,435,288		\$ 4,608,894	\$ 3,008,720	\$ 12,817,674	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,435,288		

Missouri-American Water Company
Cost of Service Study - Usage Statistics
Case No: WR-2022-0303, SR-2022-0304

	Residential	Non Residential	Rate J	Rate B	Contracts	Public Fire	Rate F Private Fire	Total	
Total Usage	230,200,596	76,083,359	32,593,962	16,156,639	24,293,869		522,754	379,851,179	hundred gallons
Average Day Usage	630,687	208,448	89,299	44,265	66,559	-	1,432	1,040,688	hundred gallons
Max Day Capacity Factor	1.97	2.09	1.38	1.24	1.26			---	
Max Day Usage	1,242,453	435,655	123,265	54,888	83,864	93,091	26,909	2,060,125	hundred gallons
Extra Capacity	611,766	227,208	33,966	10,624	17,305	93,091	25,477	1,019,437	hundred gallons
Fire Allocator						0.7758	0.2242	1.0000	20,000 gpm for 10 hours
Distribution Multiplier	1.00	1.00	0.44	0.21		1.00	1.00	N/A	
Average Hourly Usage	26,279	8,685	1,634	383	-	-	60	37,041	hundred gallons
Max Hour Capacity Factor	3.98	3.52	1.38	1.24	1.26			---	
Max Hour Usage	104,589	30,572	2,256	475	-	13,964	4,036	155,892	hundred gallons
Extra Capacity	78,310	21,887	622	92	-	13,964	3,977	118,851	hundred gallons
Customers	322,445	17,860	135	4	2		7,480	347,926	
Hydrants						32,467	38	32,505	
Revenue	\$ 167,224,457	\$ 49,403,315	\$ 6,252,876	\$ 4,232,070	\$ 3,977,486		\$ 3,759,239	\$ 234,849,443	

	Residential	Non Residential	Rate J	Rate B	Rate P	Public Fire	Rate F Private Fire	Meter Weighting	Service Weighting
5/8-METER	285,742	7,343	-	-	-		-	1.0	1.0
3/4-METER	24,390	3,049	-	-	-		-	1.5	1.0
1-METER	10,633	2,222	3	-	-		-	2.5	2.9
1.5-METER	757	1,111	-	-	-		-	5.0	4.0
2-METER	1,029	3,329	6	-	-		135	8.0	5.6
3-METER	21	306	3	-	-		1	16.0	5.6
4-METER	25	214	19	-	-		553	25.0	6.4
6-METER	24	204	20	-	-		2,291	50.0	9.9
8-METER	43	241	9	-	-		1,330	80.0	9.9
10-METER	3	57	7	-	-		33	115.0	9.9
12-METER	-	-	-	-	-		82	215.0	12.2
16-METER	-	-	-	-	-		-	320.0	12.2

Missouri-American Water Company
Cost of Service Study - Usage Statistics
Case No: WR-2022-0303, SR-2022-0304

System Load Factor:	0.5560	1,871,762	max day - thousand gallons per day
System Load Factor (fire):	0.5229	1,990,330	max day with fire - thousand gallons per day
System Load Factor (Hourly)	0.3738	99,083	max hour - thousand gallons per day
System Load Factor (Hourly fire)	0.3165	117,023	max hour with fire - thousand gallons per day

Average system hourly flow on max day
Average system hourly flow on max day

Mains Statistics

Type		Pct
Transmission	2,268,236	0.0946
Distribution	21,706,675	0.9054
Total	23,974,911	1.0000

Storage Statistics

Total Capacity	1,034,700	hundred gallons (2021 annual report)
Fire Allocation	0.1146	percentage of storage needed for maximum fire protection day
Non-Fire Allocation	0.8854	

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

1. VARIABLE COST

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Total Usage	230,200,596	76,083,359	32,593,962	16,156,639	24,293,869	-	522,754	379,851,179	hundred gallons	
Allocator	0.6060	0.2003	0.0858	0.0425	0.0640	-	0.0014	1.0000		

2. BASE/EXTRA DAILY

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Daily Use	630,687	208,448	89,299	44,265	66,559	-	1,432	1,040,688	hundred gallons	
Extra Capacity	611,766	227,208	33,966	10,624	17,305	-	-	900,869	hundred gallons	
System Capacity Factor	0.5560									
Average Day Allocator	0.3369	0.1114	0.0477	0.0236	0.0356	-	0.0008	0.5560		
Extra Capacity Allocator	0.3015	0.1120	0.0167	0.0052	0.0085	-	-	0.4440		
Allocator	0.6385	0.2233	0.0644	0.0289	0.0441	-	0.0008	1.0000		

3. BASE/EXTRA DAILY (w FIRE PROTECTION)

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Daily Use	630,687	208,448	89,299	44,265	66,559	-	1,432	1,040,688	hundred gallons	
Extra Capacity	611,766	227,208	33,966	10,624	17,305	93,091	25,477	1,019,437	hundred gallons	
System Capacity Factor	0.5229	assuming fire protection								
Average Day Allocator	0.3169	0.1047	0.0449	0.0222	0.0334	-	0.0007	0.5229		
Extra Capacity Allocator	0.2863	0.1063	0.0159	0.0050	0.0081	0.0436	0.0119	0.4771		
Combined Allocator	0.6032	0.2111	0.0608	0.0272	0.0415	0.0436	0.0126	1.0000		

4. BASE/EXTRA HOURLY (w FIRE PROTECTION)

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Hourly Use	26,279	8,685	1,634	383	-	-	60	37,041	hundred gallons	
Extra Capacity	78,310	21,887	622	92	-	13,964	3,977	118,851	hundred gallons	
System Capacity Factor	0.3165	assuming fire protection								
Average Day Allocator	0.2246	0.0742	0.0140	0.0033	-	-	0.0005	0.3165		
Extra Capacity Allocator	0.4503	0.1259	0.0036	0.0005	-	0.0803	0.0229	0.6835		
Combined Allocator	0.6749	0.2001	0.0175	0.0038	-	0.0803	0.0234	1.0000		

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

5. STORAGE

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Hourly Use	26,279	8,685	3,721	1,844	2,773		60		43,362	
Extra Capacity	78,310	21,887	1,415	443	721		----		102,776	
Fire Allocator							1.00000		1.00000	
System Capacity Factor	0.3165 assuming fire protection									
Average Day Allocator	0.1918	0.0634	0.0272	0.0135	0.0202		0.0004		0.3165	
Extra Capacity Allocator	0.5208	0.1456	0.0094	0.0029	0.0048				0.6835	
Allocator	0.7126	0.2090	0.0366	0.0164	0.0250		0.0004		1.0000	
Non-Fire Allocation of Storage	0.88541									
Fire Allocaton of Storage	0.11459									
Non-Fire Allocator	0.6309	0.1850	0.0324	0.0145	0.0222	-	0.0004		0.8854	
Fire Allocator	-	-	-	-	-	-	0.1146		0.1146	
Combined Allocator	0.6309	0.1850	0.0324	0.0145	0.0222	-	0.1150		1.0000	

6. MAINS

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Factor 4	0.6032	0.2111	0.0608	0.0272	0.0415	0.0436	0.0126		1.0000	hundred gallons
Factor 5	0.6749	0.2001	0.0175	0.0038	-	0.0803	0.0234		1.0000	hundred gallons
Tranmission Weighting	0.0946 Average system hourly load									
Distribution Weighting	0.9054 Average system hourly load - max day with fire protection (incremental)									
Combined Allocator	0.6681	0.2011	0.0216	0.0060	0.0039	0.0768	0.0224		1.0000	

7. HYDRANTS

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Total Hydrants	-	-	-	-	-	32,467	38		32,505	
Allocator	-	-	-	-	-	0.99883	0.00117		1.00000	

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

8. METERS

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Weighting
	Residential	Residential					Private Fire	Public Fire		
5/8-METER	285,742	7,343	-	-	-	-	-	-	293,085	1.0
3/4-METER	24,390	3,049	-	-	-	-	-	-	27,439	1.5
1-METER	10,633	2,222	3	-	-	-	-	-	12,858	2.5
1.5-METER	757	1,111	-	-	-	-	-	-	1,868	5.0
2-METER	1,029	3,329	6	-	-	-	-	-	4,364	8.0
3-METER	21	306	3	-	-	-	-	-	330	16.0
4-METER	25	214	19	-	-	-	-	-	258	25.0
6-METER	24	204	20	-	-	-	-	-	248	50.0
8-METER	43	241	9	-	-	-	-	-	293	80.0
10-METER	3	57	7	-	-	-	-	-	67	115.0
12-METER	-	-	-	-	-	-	-	-	-	215.0
16-METER	-	-	-	-	-	-	-	-	-	320.0
Total	366,877	95,959	3,104	-	-	-	-	-	465,940	-----
Allocator	0.78739	0.20595	0.00666	-	-	-	-	-	1.00000	

9. SERVICES

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Weighting
	Residential	Residential					Private Fire	Public Fire		
5/8-METER	285,742	7,343	-	-	-	-	-	-	293,085	1.0
3/4-METER	24,390	3,049	-	-	-	-	-	-	27,439	1.0
1-METER	10,633	2,222	3	-	-	-	-	-	12,858	2.9
1.5-METER	757	1,111	-	-	-	-	-	-	1,868	4.0
2-METER	1,029	3,329	6	-	-	-	135	-	4,499	5.6
3-METER	21	306	3	-	-	-	1	-	331	5.6
4-METER	25	214	19	-	-	-	553	-	811	6.4
6-METER	24	204	20	-	-	-	2,291	-	2,539	9.9
8-METER	43	241	9	-	-	-	1,330	-	1,624	9.9
10-METER	3	57	7	-	-	-	33	-	100	9.9
12-METER	-	-	-	-	-	-	82	-	82	12.2
16-METER	-	-	-	-	-	-	-	-	-	12.2
Total	351,118	47,906	537	-	-	-	41,525	-	441,086	-----
Allocator	0.79603	0.10861	0.00122	-	-	-	0.09414	-	1.00000	

10. CUSTOMERS

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total
	Residential	Residential					Private Fire	Public Fire	
Total Customers	322,445	17,860	135	4	2	-	7,480	-	347,926
Allocator	0.92676	0.05133	0.00039	0.00001	0.00001	-	0.02150	-	1.00000

11. METERED CUSTOMERS

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

Item	Residential	Non Residential	Rate J	Rate B	Rate P	Public Fire	Rate F Private Fire	Total
Total Customers	322,445	17,860	135	4	2		7,480	347,926
Allocator	0.92676	0.05133	0.00039	0.00001	0.00001		0.02150	1.00000

Missouri-American Water Company
Class Cost of Service Study - Functional Allocators to Customer Class
Case No: WR-2022-0303, SR-2022-0304

	Functional COS	Alloc	Description	Non					Rate F		Total	Variance
				Residential	Residential	Rate J	Rate B	Rate P	Public Fire	Private Fire		
Source of Supply Expense												
Fixed	\$ 6,299,329	2	Base/Extra Daily	\$ 2,872,016	\$ 1,552,420	\$ 1,115,213	\$ 390,379	\$ 367,917	\$ -	\$ 1,384	\$ 6,299,329	\$ -
Variable	\$ 3,037,105	1	Total Usage	\$ 1,239,930	\$ 641,439	\$ 686,169	\$ 248,149	\$ 220,482	\$ -	\$ 936	\$ 3,037,105	\$ -
Power and Pumping Expenses												
Fixed	\$ 9,413,503	2	Base/Extra Daily	\$ 4,291,844	\$ 2,319,884	\$ 1,666,536	\$ 583,369	\$ 549,803	\$ -	\$ 2,068	\$ 9,413,503	\$ -
Variable	\$ 1,470,978	1	Total Usage	\$ 600,542	\$ 310,672	\$ 332,336	\$ 120,187	\$ 106,787	\$ -	\$ 454	\$ 1,470,978	\$ -
Water Treatment												
Fixed	\$ 24,223,558	2	Base/Extra Daily	\$ 11,044,105	\$ 5,969,704	\$ 4,288,460	\$ 1,501,172	\$ 1,414,795	\$ -	\$ 5,321	\$ 24,223,558	\$ -
Variable	\$ 4,260,614	1	Total Usage	\$ 1,739,440	\$ 899,845	\$ 962,595	\$ 348,116	\$ 309,304	\$ -	\$ 1,314	\$ 4,260,614	\$ -
Transmission	\$ 10,984,485	3	Base/Extra Daily w/ Fire	\$ 4,654,750	\$ 2,525,957	\$ 1,736,970	\$ 605,285	\$ 575,068	\$ 667,623	\$ 218,832	\$ 10,984,485	\$ -
Distribution	\$ 30,756,274	4	Base/Extra Hourly w/ Fire	\$ 13,506,882	\$ 6,072,540	\$ 166,227	\$ 272,616	\$ -	\$ 8,094,515	\$ 2,643,494	\$ 30,756,274	\$ -
Storage	\$ 3,856,328	5	Storage	\$ 2,133,413	\$ 945,721	\$ 146,098	\$ 44,854	\$ 52,854	\$ -	\$ 533,387	\$ 3,856,328	\$ -
Meters	\$ 14,263,415	8	Meters	\$ 11,838,849	\$ 2,190,634	\$ 190,467	\$ 43,465	\$ -	\$ -	\$ -	\$ 14,263,415	\$ -
Services	\$ 10,610,982	9	Services	\$ 7,995,193	\$ 1,641,727	\$ 54,647	\$ 13,508	\$ -	\$ -	\$ 905,906	\$ 10,610,982	\$ -
Customers	\$ 6,779,196	10	Customers	\$ 6,077,516	\$ 559,221	\$ 3,896	\$ 1,025	\$ 154	\$ -	\$ 137,383	\$ 6,779,196	\$ -
Hydrants	\$ 5,973,800	7	Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,843,139	\$ 130,661	\$ 5,973,800	\$ -
Total	\$ 131,929,567			\$ 67,994,479	\$ 25,629,765	\$ 11,349,615	\$ 4,172,126	\$ 3,597,164	\$ 14,605,278	\$ 4,581,140	\$ 131,929,567	\$ -
				51.54%	19.43%	8.60%	3.16%	2.73%	11.07%	3.47%	100.00%	
Rate Year Water Revenue	\$ 84,624,643			\$ 48,975,492	\$ 21,037,197	\$ 9,050,666	\$ 3,006,411	\$ 1,113,066	\$ -	\$ 1,441,810	\$ 84,624,643	\$ -
Other Water Operating Revenues	\$ 1,665,284											
Increase	\$ 47,304,925			\$ 19,018,987	\$ 4,592,567	\$ 2,298,950	\$ 1,165,715	\$ 2,484,098	\$ 14,605,278	\$ 3,139,330	\$ 47,304,925	\$ 0
Percent Increase	55.9%			38.83%	21.83%	25.40%	38.77%	223.18%	0.00%	217.74%	55.90%	
Rate Year Revenue				\$ 48,975,492	\$ 21,037,197	\$ 9,050,666	\$ 3,006,411	\$ 1,113,066	\$ -	\$ 1,441,810	\$ 84,624,643	
Cost of Service Increase				\$ 19,018,987	\$ 4,592,567	\$ 2,298,950	\$ 1,165,715	\$ 2,484,098	\$ 14,605,278	\$ 3,139,330	\$ 47,304,925	
Allocation of Public Fire				\$ 12,159,655	\$ 2,249,995	\$ 195,628			\$ (14,605,278)	\$ -	\$ -	
Revenue Target				\$ 80,154,134	\$ 27,879,759	\$ 11,545,244	\$ 4,172,126	\$ 3,597,164	\$ -	\$ 4,581,140	\$ 131,929,568	
Percent Increase				63.7%	32.5%	27.6%	38.8%	223.2%	0.0%	217.7%	55.9%	

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Source of Supply Expense															
Operating Expense															
Purchased Water	\$ 1,018,421	A	Source of Supply	\$ 1,018,421	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,018,421	\$ -
Fuel and Power	\$ 2,018,684	A	Source of Supply	\$ 2,018,684	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,018,684	\$ -
Salaries and Wages	\$ 9,922	A	Source of Supply	\$ 9,922	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,922	\$ -
Contract Services - Other	\$ 59,614	A	Source of Supply	\$ 59,614	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 59,614	\$ -
Building Maintenance and Services	\$ 183,322	A	Source of Supply	\$ 183,322	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 183,322	\$ -
Miscellaneous	\$ 1,068	A	Source of Supply	\$ 1,068	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,068	\$ -
Telecommunications	\$ 60,329	A	Source of Supply	\$ 60,329	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60,329	\$ -
Postage	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office supplies and services	\$ 1,711	A	Source of Supply	\$ 1,711	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,711	\$ -
Materials & Supplies	\$ 3,767	A	Source of Supply	\$ 3,767	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,767	\$ -
Rents-Property	\$ 275	A	Source of Supply	\$ 275	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 275	\$ -
Rents-Equipment	\$ 3,218	A	Source of Supply	\$ 3,218	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,218	\$ -
Transportation	\$ 2,563	A	Source of Supply	\$ 2,563	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,563	\$ -
	\$ 3,362,894			\$ 3,362,894	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,362,894	\$ -
Maintenance Expense															
Salaries and Wages	\$ 92,259	A	Source of Supply	\$ 92,259	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 92,259	\$ -
Materials & Supplies	\$ 17,465	A	Source of Supply	\$ 17,465	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,465	\$ -
Transportation	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ 4,149	A	Source of Supply	\$ 4,149	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,149	\$ -
Contract Services - Eng	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contract Services - Other	\$ 38,526	A	Source of Supply	\$ 38,526	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,526	\$ -
	\$ 152,399			\$ 152,399	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 152,399	\$ -
Total SS Expense	\$ 3,515,293			\$ 3,515,293	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,515,293	\$ -
Power and Pumping Expenses															
Operating Expense															
Fuel and Power	\$ 1,470,978	B	Pumping	\$ -	\$ 1,470,978	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,470,978	\$ -
Salaries and Wages	\$ 478,840	B	Pumping	\$ -	\$ 478,840	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 478,840	\$ -
Employee Benefits	\$ -	B	Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Maintenance and Services	\$ 2,360	B	Pumping	\$ -	\$ 2,360	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,360	\$ -
Miscellaneous	\$ 899	B	Pumping	\$ -	\$ 899	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 899	\$ -
Office supplies and services	\$ 25	B	Pumping	\$ -	\$ 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ -
Materials & Supplies	\$ 2,583	B	Pumping	\$ -	\$ 2,583	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,583	\$ -
Rents-Equipment	\$ 1,522	B	Pumping	\$ -	\$ 1,522	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,522	\$ -
Transportation	\$ 83,761	B	Pumping	\$ -	\$ 83,761	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 83,761	\$ -
	\$ 2,040,968			\$ -	\$ 2,040,968	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,040,968	\$ -
Maintenance Expense															
Salaries and Wages	\$ 126,959	B	Pumping	\$ -	\$ 126,959	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 126,959	\$ -
Transportation	\$ 143	B	Pumping	\$ -	\$ 143	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 143	\$ -
Contract Services - Eng	\$ 781	B	Pumping	\$ -	\$ 781	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 781	\$ -
Contract Services - Other	\$ 36,912	B	Pumping	\$ -	\$ 36,912	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,912	\$ -
Miscellaneous	\$ 1,104	B	Pumping	\$ -	\$ 1,104	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,104	\$ -
Materials & Supplies	\$ 27,268	B	Pumping	\$ -	\$ 27,268	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,268	\$ -
	\$ 193,167			\$ -	\$ 193,167	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 193,167	\$ -
Total Pumping Expense	\$ 2,234,135			\$ -	\$ 2,234,135	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,234,135	\$ -
Water Treatment															
Operating Expense															
Fuel and Power	\$ 229,652	C	Water Treatment	\$ -	\$ -	\$ 229,652	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 229,652	\$ -
Chemicals	\$ 3,497,762	C	Water Treatment	\$ -	\$ -	\$ 3,497,762	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,497,762	\$ -
Waste Disposal	\$ 533,200	C	Water Treatment	\$ -	\$ -	\$ 533,200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 533,200	\$ -
Salaries and Wages	\$ 1,100,468	C	Water Treatment	\$ -	\$ -	\$ 1,100,468	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,100,468	\$ -
Employee Benefits	\$ 5	C	Water Treatment	\$ -	\$ -	\$ 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5	\$ -
Contract Services - Eng	\$ 6,408	C	Water Treatment	\$ -	\$ -	\$ 6,408	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,408	\$ -
Contract Services - Other	\$ 30,257	C	Water Treatment	\$ -	\$ -	\$ 30,257	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,257	\$ -
Building Maintenance and Services	\$ 32,767	C	Water Treatment	\$ -	\$ -	\$ 32,767	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,767	\$ -
Miscellaneous	\$ 79,276	C	Water Treatment	\$ -	\$ -	\$ 79,276	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79,276	\$ -
Telecommunications	\$ 5,021	C	Water Treatment	\$ -	\$ -	\$ 5,021	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,021	\$ -
Postage	\$ -	C	Water Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office supplies and services	\$ 6,526	C	Water Treatment	\$ -	\$ -	\$ 6,526	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,526	\$ -
Materials & Supplies	\$ 18,640	C	Water Treatment	\$ -	\$ -	\$ 18,640	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,640	\$ -
Rents-Property	\$ -	C	Water Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rents-Equipment	\$ 3,702	C	Water Treatment	\$ -	\$ -	\$ 3,702	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,702	\$ -
Transportation	\$ 484	C	Water Treatment	\$ -	\$ -	\$ 484	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 484	\$ -
	\$ 5,544,168			\$ -	\$ -	\$ 5,544,168	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,544,168	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Maintenance Expense															
Salaries and Wages	\$ 521,527	C	Water Treatment	\$ -	\$ -	\$ 521,527	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 521,527	\$ -
Transportation	\$ 3,671	C	Water Treatment	\$ -	\$ -	\$ 3,671	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,671	\$ -
Contract Services - Eng	\$ 1,666	C	Water Treatment	\$ -	\$ -	\$ 1,666	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,666	\$ -
Contract Services - Other	\$ 466,387	C	Water Treatment	\$ -	\$ -	\$ 466,387	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 466,387	\$ -
Miscellaneous	\$ 21,924	C	Water Treatment	\$ -	\$ -	\$ 21,924	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21,924	\$ -
Materials & Supplies	\$ 339,232	C	Water Treatment	\$ -	\$ -	\$ 339,232	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 339,232	\$ -
	\$ 1,354,407			\$ -	\$ -	\$ 1,354,407	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,354,407	\$ -
Total Water Treatment Expense	\$ 6,898,575			\$ -	\$ -	\$ 6,898,575	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,898,575	\$ -
Transmission & Distribution Expense															
Operating Expense															
Fuel and Power	\$ 223,813	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 12,454	\$ 139,718	\$ -	\$ 71,641	\$ -	\$ -	\$ -	\$ 223,813	\$ -
Salaries and Wages	\$ 1,654,080	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 92,043	\$ 1,032,580	\$ -	\$ 529,457	\$ -	\$ -	\$ -	\$ 1,654,080	\$ -
Employee Benefits	\$ 5,315	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 296	\$ 3,318	\$ -	\$ 1,701	\$ -	\$ -	\$ -	\$ 5,315	\$ -
Contract Services - Eng	\$ 18,067	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 1,005	\$ 11,279	\$ -	\$ 5,783	\$ -	\$ -	\$ -	\$ 18,067	\$ -
Contract Services - Other	\$ 605,885	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 33,715	\$ 378,231	\$ -	\$ 193,939	\$ -	\$ -	\$ -	\$ 605,885	\$ -
Building Maintenance and Services	\$ 64,021	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 3,563	\$ 39,966	\$ -	\$ 20,493	\$ -	\$ -	\$ -	\$ 64,021	\$ -
Miscellaneous	\$ 40,874	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,274	\$ 25,516	\$ -	\$ 13,083	\$ -	\$ -	\$ -	\$ 40,874	\$ -
Telecommunications	\$ 34,196	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 1,903	\$ 21,347	\$ -	\$ 10,946	\$ -	\$ -	\$ -	\$ 34,196	\$ -
Postage	\$ -	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office supplies and services	\$ 21,546	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 1,199	\$ 13,450	\$ -	\$ 6,897	\$ -	\$ -	\$ -	\$ 21,546	\$ -
Materials & Supplies	\$ 50,426	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,806	\$ 31,479	\$ -	\$ 16,141	\$ -	\$ -	\$ -	\$ 50,426	\$ -
Rents-Property	\$ 113	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 6	\$ 71	\$ -	\$ 36	\$ -	\$ -	\$ -	\$ 113	\$ -
Rents-Equipment	\$ 2,869	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 160	\$ 1,791	\$ -	\$ 918	\$ -	\$ -	\$ -	\$ 2,869	\$ -
Transportation	\$ 49,988	1	T/D Oper. Expense	\$ -	\$ -	\$ -	\$ 2,782	\$ 31,206	\$ -	\$ 16,001	\$ -	\$ -	\$ -	\$ 49,988	\$ -
	\$ 2,771,193			\$ -	\$ -	\$ -	\$ 154,206	\$ 1,729,951	\$ -	\$ 887,036	\$ -	\$ -	\$ -	\$ 2,771,193	\$ -
Maintenance Expense															
Salaries and Wages	\$ 624,164	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 13,292	\$ 149,113	\$ -	\$ 86,263	\$ 209,546	\$ -	\$ 165,950	\$ 624,164	\$ -
Contract Services - Eng	\$ 45,267	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 964	\$ 10,814	\$ -	\$ 6,256	\$ 15,197	\$ -	\$ 12,035	\$ 45,267	\$ -
Contract Services - Other	\$ 1,076,551	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 22,925	\$ 257,189	\$ -	\$ 148,785	\$ 361,423	\$ -	\$ 286,229	\$ 1,076,551	\$ -
Transportation	\$ 244,108	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 5,198	\$ 58,318	\$ -	\$ 33,737	\$ 81,953	\$ -	\$ 64,903	\$ 244,108	\$ -
Miscellaneous	\$ 526,115	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 11,204	\$ 125,689	\$ -	\$ 72,712	\$ 176,629	\$ -	\$ 139,882	\$ 526,115	\$ -
Materials & Supplies	\$ 479,082	2	T/D Maint.. Expense	\$ -	\$ -	\$ -	\$ 10,202	\$ 114,453	\$ -	\$ 66,211	\$ 160,839	\$ -	\$ 127,377	\$ 479,082	\$ -
	\$ 2,995,287			\$ -	\$ -	\$ -	\$ 63,786	\$ 715,576	\$ -	\$ 413,963	\$ 1,005,586	\$ -	\$ 796,376	\$ 2,995,287	\$ -
Total T&D Expense	\$ 5,766,480			\$ -	\$ -	\$ -	\$ 217,991	\$ 2,445,527	\$ -	\$ 1,300,999	\$ 1,005,586	\$ -	\$ 796,376	\$ 5,766,480	\$ -
General Mains Expense															
Operations															
Salaries and Wages	\$ 384,240	K	Mains	\$ -	\$ -	\$ -	\$ 31,447	\$ 352,793	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 384,240	\$ -
Miscellaneous	\$ 926	K	Mains	\$ -	\$ -	\$ -	\$ 76	\$ 850	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 926	\$ -
	\$ 385,166			\$ -	\$ -	\$ -	\$ 31,523	\$ 353,643	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 385,166	\$ -
Maintenance Expense															
Salaries and Wages	\$ 87,624	K	Mains	\$ -	\$ -	\$ -	\$ 7,171	\$ 80,453	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,624	\$ -
Miscellaneous	\$ (550)	K	Mains	\$ -	\$ -	\$ -	\$ (45)	\$ (505)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (550)	\$ -
	\$ 87,074			\$ -	\$ -	\$ -	\$ 7,126	\$ 79,948	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,074	\$ -
General Mains Expense	\$ 472,240			\$ -	\$ -	\$ -	\$ 38,650	\$ 433,590	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 472,240	\$ -
Storage Expense															
Operating Expense															
Salaries and Wages	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Expense															
Salaries and Wages	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Storage Expense	\$ -			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meter Expense															
Operating Expense															
Salaries and Wages	\$ 180,511	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 180,511	\$ -	\$ -	\$ -	\$ 180,511	\$ -
Miscellaneous	\$ 820	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 820	\$ -	\$ -	\$ -	\$ 820	\$ -
	\$ 181,331			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 181,331	\$ -	\$ -	\$ -	\$ 181,331	\$ -
Maintenance Expense															
Salaries and Wages	\$ 44,806	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,806	\$ -	\$ -	\$ -	\$ 44,806	\$ -
Miscellaneous	\$ 1,444	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,444	\$ -	\$ -	\$ -	\$ 1,444	\$ -
	\$ 46,250			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46,250	\$ -	\$ -	\$ -	\$ 46,250	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Total Meter Expense	\$ 227,581			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 227,581	\$ -	\$ -	\$ -	\$ 227,581	\$ -
Service Expense															
Operating Expense															
Salaries and Wages	\$ -	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ -	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Expense															
Salaries and Wages	\$ 109,810	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 109,810	\$ -	\$ -	\$ 109,810	\$ -
Miscellaneous	\$ 2,539	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,539	\$ -	\$ -	\$ 2,539	\$ -
	\$ 112,349			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 112,349	\$ -	\$ -	\$ 112,349	\$ -
Total Service Expense	\$ 112,349			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 112,349	\$ -	\$ -	\$ 112,349	\$ -
Hydrant Expense															
Maintenance Expense															
Salaries and Wages	\$ 89,376	J	Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89,376	\$ 89,376	\$ -
Miscellaneous	\$ (401)	J	Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (401)	\$ (401)	\$ -
	\$ 88,975			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 88,975	\$ 88,975	\$ -
Hydrant Expense	\$ 88,975			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 88,975	\$ 88,975	\$ -
Customer Accounts															
Fuel and Power	\$ 795	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 795	\$ -	\$ 795	\$ -
Salaries and Wages	\$ 248,218	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 248,218	\$ -	\$ 248,218	\$ -
Contract Services - Other	\$ 62,113	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 62,113	\$ -	\$ 62,113	\$ -
Building Maintenance and Services	\$ 6,806	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,806	\$ -	\$ 6,806	\$ -
Telecommunications	\$ 6,453	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,453	\$ -	\$ 6,453	\$ -
Office supplies and services	\$ 1,809	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,809	\$ -	\$ 1,809	\$ -
Materials & Supplies	\$ 10,601	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,601	\$ -	\$ 10,601	\$ -
Transportation	\$ (8,212)	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (8,212)	\$ -	\$ (8,212)	\$ -
Uncollectible Accounts	\$ 1,348,653	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,348,653	\$ -	\$ 1,348,653	\$ -
Customer accounting, other	\$ 516,693	I	Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 516,693	\$ -	\$ 516,693	\$ -
	\$ 2,193,929			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,193,929	\$ -	\$ 2,193,929	\$ -
Total Customer Accounting Expense	\$ 2,193,929			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,193,929	\$ -	\$ 2,193,929	\$ -
Administrative & General Expense															
Operating Expense															
Fuel and Power	\$ 10,992	3	Fixed O&M	\$ 413	\$ 658	\$ 2,276	\$ 221	\$ 2,484	\$ -	\$ 1,319	\$ 964	\$ 1,893	\$ 764	\$ 10,992	\$ -
Salaries and Wages	\$ 4,150,645	4	Labor	\$ 73,724	\$ 437,084	\$ 1,170,269	\$ 103,862	\$ 1,165,177	\$ -	\$ 606,808	\$ 230,415	\$ 179,089	\$ 184,218	\$ 4,150,645	\$ -
Employee Benefits	\$ 1,683,544	4	Labor	\$ 29,903	\$ 177,286	\$ 474,673	\$ 42,128	\$ 472,608	\$ -	\$ 246,127	\$ 93,459	\$ 72,640	\$ 74,721	\$ 1,683,544	\$ -
Support Services Costs - Employee	\$ 6,581,241	4	Labor	\$ 116,896	\$ 693,038	\$ 1,855,572	\$ 164,684	\$ 1,847,498	\$ -	\$ 962,151	\$ 365,345	\$ 283,963	\$ 292,095	\$ 6,581,241	\$ -
Support Services Costs - Admin	\$ 6,405,910	3	Fixed O&M	\$ 240,426	\$ 383,704	\$ 1,326,327	\$ 129,035	\$ 1,447,576	\$ -	\$ 768,547	\$ 562,081	\$ 1,103,074	\$ 445,141	\$ 6,405,910	\$ -
Contract Services - Eng	\$ 55,516	3	Fixed O&M	\$ 2,084	\$ 3,325	\$ 11,494	\$ 1,118	\$ 12,545	\$ -	\$ 6,661	\$ 4,871	\$ 9,560	\$ 3,858	\$ 55,516	\$ -
Contract Services - Other	\$ 513,064	3	Fixed O&M	\$ 19,256	\$ 30,732	\$ 106,229	\$ 10,335	\$ 115,940	\$ -	\$ 61,555	\$ 45,018	\$ 88,348	\$ 35,652	\$ 513,064	\$ -
Building Maintenance and Services	\$ 180,193	3	Fixed O&M	\$ 6,763	\$ 10,793	\$ 37,308	\$ 3,630	\$ 40,719	\$ -	\$ 21,619	\$ 15,811	\$ 31,029	\$ 12,521	\$ 180,193	\$ -
Miscellaneous	\$ 1,106,023	3	Fixed O&M	\$ 41,511	\$ 66,249	\$ 228,999	\$ 22,279	\$ 249,934	\$ -	\$ 132,695	\$ 97,047	\$ 190,453	\$ 76,857	\$ 1,106,023	\$ -
Telecommunications	\$ 306,907	3	Fixed O&M	\$ 11,519	\$ 18,383	\$ 63,544	\$ 6,182	\$ 69,353	\$ -	\$ 36,821	\$ 26,929	\$ 52,848	\$ 21,327	\$ 306,907	\$ -
Postage	\$ -	3	Fixed O&M	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office supplies and services	\$ 227,439	3	Fixed O&M	\$ 8,536	\$ 13,623	\$ 47,091	\$ 4,581	\$ 51,396	\$ -	\$ 27,287	\$ 19,956	\$ 39,164	\$ 15,805	\$ 227,439	\$ -
Materials & Supplies	\$ 57,389	3	Fixed O&M	\$ 2,154	\$ 3,438	\$ 11,882	\$ 1,156	\$ 12,968	\$ -	\$ 6,885	\$ 5,036	\$ 9,882	\$ 3,988	\$ 57,389	\$ -
Communications	\$ 11,051	3	Fixed O&M	\$ 415	\$ 662	\$ 2,288	\$ 223	\$ 2,497	\$ -	\$ 1,326	\$ 970	\$ 1,903	\$ 768	\$ 11,051	\$ -
Rents-Property	\$ 66,713	3	Fixed O&M	\$ 2,504	\$ 3,996	\$ 13,813	\$ 1,344	\$ 15,075	\$ -	\$ 8,004	\$ 5,854	\$ 11,488	\$ 4,636	\$ 66,713	\$ -
Rents-Equipment	\$ 8,557	3	Fixed O&M	\$ 321	\$ 513	\$ 1,772	\$ 172	\$ 1,934	\$ -	\$ 1,027	\$ 751	\$ 1,473	\$ 595	\$ 8,557	\$ -
Transportation	\$ 445,757	3	Fixed O&M	\$ 16,730	\$ 26,700	\$ 92,293	\$ 8,979	\$ 100,730	\$ -	\$ 53,480	\$ 39,113	\$ 76,758	\$ 30,975	\$ 445,757	\$ -
Regulatory Expense	\$ 111,901	3	Fixed O&M	\$ 4,200	\$ 6,703	\$ 23,169	\$ 2,254	\$ 25,287	\$ -	\$ 13,425	\$ 9,819	\$ 19,269	\$ 7,776	\$ 111,901	\$ -
Insurance	\$ 2,462,465	3	Fixed O&M	\$ 92,421	\$ 147,498	\$ 509,847	\$ 49,602	\$ 556,456	\$ -	\$ 295,433	\$ 216,067	\$ 424,207	\$ 171,115	\$ 2,462,465	\$ -
	\$ 24,385,307			\$ 669,774	\$ 2,024,383	\$ 5,978,844	\$ 551,785	\$ 6,190,177	\$ -	\$ 3,251,168	\$ 1,739,506	\$ 2,596,861	\$ 1,382,810	\$ 24,385,307	\$ -
Maintenance Expense															
Salaries and Wages	\$ 24,692	4	Labor	\$ 439	\$ 2,600	\$ 6,962	\$ 618	\$ 6,932	\$ -	\$ 3,610	\$ 1,371	\$ 1,065	\$ 1,096	\$ 24,692	\$ -
Transportation	\$ 3,004	3	Fixed O&M	\$ 113	\$ 180	\$ 622	\$ 61	\$ 679	\$ -	\$ 360	\$ 264	\$ 517	\$ 209	\$ 3,004	\$ -
Contract Services - Eng	\$ -	3	Fixed O&M	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contract Services - Other	\$ 26,817	3	Fixed O&M	\$ 1,006	\$ 1,606	\$ 5,552	\$ 540	\$ 6,060	\$ -	\$ 3,217	\$ 2,353	\$ 4,618	\$ 1,863	\$ 26,817	\$ -
Miscellaneous	\$ 149,978	3	Fixed O&M	\$ 5,629	\$ 8,983	\$ 31,053	\$ 3,021	\$ 33,891	\$ -	\$ 17,994	\$ 13,160	\$ 25,826	\$ 10,422	\$ 149,978	\$ -
Materials & Supplies	\$ 10,093	3	Fixed O&M	\$ 379	\$ 605	\$ 2,090	\$ 203	\$ 2,281	\$ -	\$ 1,211	\$ 886	\$ 1,738	\$ 701	\$ 10,093	\$ -
	\$ 214,584			\$ 7,566	\$ 13,974	\$ 46,279	\$ 4,443	\$ 49,842	\$ -	\$ 26,392	\$ 18,033	\$ 33,764	\$ 14,291	\$ 214,584	\$ -
Total A&G Expense	\$ 24,599,891			\$ 677,339	\$ 2,038,358	\$ 6,025,123	\$ 556,228	\$ 6,240,019	\$ -	\$ 3,277,560	\$ 1,757,538	\$ 2,630,625	\$ 1,397,101	\$ 24,599,891	\$ -
Total Operations & Maintenance Exp. (Other Water)	\$ 46,109,448			\$ 4,192,632	\$ 4,272,493	\$ 12,923,698	\$ 812,869	\$ 9,119,136	\$ -	\$ 4,806,140	\$ 2,875,474	\$ 4,824,555	\$ 2,282,452	\$ 46,109,448	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Taxes Other Than Income Tax															
Property Taxes	\$ 9,782,724	5	Net Plant (less gen. ar	\$ 499,009	\$ 618,753	\$ 1,436,362	\$ 1,198,684	\$ 3,293,874	\$ 402,774	\$ 927,040	\$ 871,272	\$ 145,443	\$ 389,513	\$ 9,782,724	\$ -
Payroll Taxes	\$ 791,209	4	Labor	\$ 14,053	\$ 83,318	\$ 223,080	\$ 19,799	\$ 222,110	\$ -	\$ 115,672	\$ 43,922	\$ 34,139	\$ 35,116	\$ 791,209	\$ -
Utility Reg Assessment	\$ 803,274	6	Rate Base	\$ 49,153	\$ 60,427	\$ 140,010	\$ 107,853	\$ 207,204	\$ 39,777	\$ 89,316	\$ 60,555	\$ 14,014	\$ 34,964	\$ 803,274	\$ -
Other Taxes	\$ (27,814)	6	Rate Base	\$ (1,702)	\$ (2,092)	\$ (4,848)	\$ (3,734)	\$ (7,175)	\$ (1,377)	\$ (3,093)	\$ (2,097)	\$ (485)	\$ (1,211)	\$ (27,814)	\$ -
	\$ 11,349,393			\$ 560,514	\$ 760,406	\$ 1,794,605	\$ 1,322,601	\$ 3,716,013	\$ 441,174	\$ 1,128,935	\$ 973,652	\$ 193,110	\$ 458,383	\$ 11,349,393	\$ -
Total Taxes Other Than Income Taxes (Other Water)	\$ 11,349,393			\$ 560,514	\$ 760,406	\$ 1,794,605	\$ 1,322,601	\$ 3,716,013	\$ 441,174	\$ 1,128,935	\$ 973,652	\$ 193,110	\$ 458,383	\$ 11,349,393	\$ -
Plant Depreciation															
Intangible Plant															
Organization	\$ -	5	Net Plant (less gen. ar	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Franchises	\$ -	5	Net Plant (less gen. ar	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other P/E-Intangible	\$ -	5	Net Plant (less gen. ar	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Source of Supply															
Land & Land Rights	\$ -	A	Source of Supply	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Structures & Improvements	\$ 280,168	A	Source of Supply	\$ 280,168	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 280,168	\$ -
Collection & Impound Reservoirs	\$ 590	A	Source of Supply	\$ 590	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 590	\$ -
Lake, River, & Other Intakes	\$ 263,834	A	Source of Supply	\$ 263,834	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 263,834	\$ -
Wells & Springs	\$ 278,286	A	Source of Supply	\$ 278,286	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 278,286	\$ -
Infiltration Galleries & Tunnels	\$ 32	A	Source of Supply	\$ 32	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32	\$ -
Supply Mains	\$ 239,971	A	Source of Supply	\$ 239,971	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 239,971	\$ -
Other P/E-Supply	\$ 20,829	A	Source of Supply	\$ 20,829	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,829	\$ -
Water Pumping															
Pumping Land & Land Rights	\$ -	B	Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pumping Structures & Improvements	\$ 682,607	B	Pumping	\$ -	\$ 682,607	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 682,607	\$ -
Boiler Plant Equipment	\$ -	B	Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Power Generation Equipment	\$ 101,442	B	Pumping	\$ -	\$ 101,442	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 101,442	\$ -
Steam Pumping Equipment	\$ 4,426	B	Pumping	\$ -	\$ 4,426	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,426	\$ -
Electric Pumping Equipment	\$ 617,300	B	Pumping	\$ -	\$ 617,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 617,300	\$ -
Diesel Pumping Equipment	\$ 9,059	B	Pumping	\$ -	\$ 9,059	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,059	\$ -
Pump Equip Hydraulic	\$ 6,881	B	Pumping	\$ -	\$ 6,881	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,881	\$ -
Other Pumping Equipment	\$ 62,542	B	Pumping	\$ -	\$ 62,542	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 62,542	\$ -
Water Treatment															
Water Treatment Land & Land Rights	\$ -	C	Water Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Treatment Structures & Improvements	\$ 1,628,925	C	Water Treatment	\$ -	\$ -	\$ 1,628,925	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,628,925	\$ -
Water Treatment Equipment	\$ 1,607,412	C	Water Treatment	\$ -	\$ -	\$ 1,607,412	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,607,412	\$ -
Water Treatment - Other	\$ 49,058	C	Water Treatment	\$ -	\$ -	\$ 49,058	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 49,058	\$ -
T&D															
Transmission & Distribution Land	\$ -	K	Mains	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transmission & Distribution Structures & Impr	\$ 106,455	K	Mains	\$ -	\$ -	\$ -	\$ 8,713	\$ 97,742	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106,455	\$ -
TD Mains 4in & Less	\$ 863,215	E	Distribution	\$ -	\$ -	\$ -	\$ -	\$ 863,215	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 863,215	\$ -
TD Mains 6in to 8in	\$ 3,189,248	E	Distribution	\$ -	\$ -	\$ -	\$ -	\$ 3,189,248	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,189,248	\$ -
TD Mains 10in to 16in	\$ 1,305,334	D	Transmission	\$ -	\$ -	\$ -	\$ 1,305,334	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,305,334	\$ -
TD Mains 18in & Grtr	\$ 266,404	D	Transmission	\$ -	\$ -	\$ -	\$ 266,404	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 266,404	\$ -
Other Transmission & Distribution Plant	\$ 2,707	K	Mains	\$ -	\$ -	\$ -	\$ 222	\$ 2,486	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,707	\$ -
Storage															
Distribution Reservoirs & Standpipes	\$ 726,777	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 726,777	\$ -	\$ -	\$ -	\$ -	\$ 726,777	\$ -
Distribution Reservoirs & Standpipes - Tank Coating	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meters															
Meters	\$ 1,217,701	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,217,701	\$ -	\$ -	\$ -	\$ 1,217,701	\$ -
Meter Installation	\$ 530,540	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 530,540	\$ -	\$ -	\$ -	\$ 530,540	\$ -
Meter Vaults	\$ -	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Services															
Services	\$ 2,353,629	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,353,629	\$ -	\$ -	\$ 2,353,629	\$ -
Hydrants															
Hydrants	\$ 577,730	J	Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 577,730	\$ 577,730	\$ -
Fire Mains	\$ 9,679	J	Mains	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,679	\$ 9,679	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Plant Account															
Intangible Plant															
Organization	\$ 84,857	5	Net Plant (less gen. ar	\$ 4,328	\$ 5,367	\$ 12,459	\$ 10,398	\$ 28,572	\$ 3,494	\$ 8,041	\$ 7,558	\$ 1,262	\$ 3,379	\$ 84,857	\$ -
Franchises	\$ 43,698	5	Net Plant (less gen. ar	\$ 2,229	\$ 2,764	\$ 6,416	\$ 5,354	\$ 14,713	\$ 1,799	\$ 4,141	\$ 3,892	\$ 650	\$ 1,740	\$ 43,698	\$ -
Other P/E-Intangible	\$ 441,406	5	Net Plant (less gen. ar	\$ 22,516	\$ 27,919	\$ 64,810	\$ 54,086	\$ 148,623	\$ 18,174	\$ 41,829	\$ 39,313	\$ 6,563	\$ 17,575	\$ 441,406	\$ -
Source of Supply															
Land & Land Rights	\$ 2,388,986	A	Source of Supply	\$ 2,388,986	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,388,986	\$ -
Structures & Improvements	\$ 12,268,003	A	Source of Supply	\$ 12,268,003	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,268,003	\$ -
Collection & Impound Reservoirs	\$ 67,585	A	Source of Supply	\$ 67,585	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 67,585	\$ -
Lake, River, & Other Intakes	\$ 5,112,876	A	Source of Supply	\$ 5,112,876	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,112,876	\$ -
Wells & Springs	\$ 8,004,095	A	Source of Supply	\$ 8,004,095	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,004,095	\$ -
Infiltration Galleries & Tunnels	\$ 1,263	A	Source of Supply	\$ 1,263	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,263	\$ -
Supply Mains	\$ 10,964,100	A	Source of Supply	\$ 10,964,100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,964,100	\$ -
Other P/E-Supply	\$ 372,232	A	Source of Supply	\$ 372,232	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 372,232	\$ -
Water Pumping															
Pumping Land & Land Rights	\$ 187,679	B	Pumping	\$ -	\$ 187,679	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 187,679	\$ -
Pumping Structures & Improvements	\$ 12,528,668	B	Pumping	\$ -	\$ 12,528,668	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,528,668	\$ -
Boiler Plant Equipment	\$ -	B	Pumping	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Power Generation Equipment	\$ 2,764,331	B	Pumping	\$ -	\$ 2,764,331	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,764,331	\$ -
Steam Pumping Equipment	\$ 261,985	B	Pumping	\$ -	\$ 261,985	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 261,985	\$ -
Electric Pumping Equipment	\$ 27,703,694	B	Pumping	\$ -	\$ 27,703,694	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,703,694	\$ -
Diesel Pumping Equipment	\$ 341,503	B	Pumping	\$ -	\$ 341,503	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 341,503	\$ -
Pump Equip Hydraulic	\$ 314,613	B	Pumping	\$ -	\$ 314,613	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 314,613	\$ -
Other Pumping Equipment	\$ 3,532,085	B	Pumping	\$ -	\$ 3,532,085	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,532,085	\$ -
Water Treatment															
Water Treatment Land & land Rights	\$ 1,457,375	C	Water Treatment	\$ -	\$ -	\$ 1,457,375	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,457,375	\$ -
Water Treatment Structures & Improvements	\$ 50,681,306	C	Water Treatment	\$ -	\$ -	\$ 50,681,306	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,681,306	\$ -
Water Treatment Equipment	\$ 52,445,905	C	Water Treatment	\$ -	\$ -	\$ 52,445,905	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 52,445,905	\$ -
Water Treatment - Other	\$ 734,821	C	Water Treatment	\$ -	\$ -	\$ 734,821	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 734,821	\$ -
T&D															
Transmission & Distribution Land	\$ 1,462,217	K	Mains	\$ -	\$ -	\$ -	\$ 119,673	\$ 1,342,544	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,462,217	\$ -
Transmission & Distribution Structures & Impr	\$ 5,135,130	K	Mains	\$ -	\$ -	\$ -	\$ 420,276	\$ 4,714,854	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,135,130	\$ -
TD Mains 4in & Less	\$ 54,111,097	E	Distribution	\$ -	\$ -	\$ -	\$ -	\$ 54,111,097	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54,111,097	\$ -
TD Mains 6in to 8in	\$ 199,919,655	E	Distribution	\$ -	\$ -	\$ -	\$ -	\$ 199,919,655	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 199,919,655	\$ -
TD Mains 10in to 16in	\$ 81,825,504	D	Transmission	\$ -	\$ -	\$ -	\$ 81,825,504	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 81,825,504	\$ -
TD Mains 18in & Grtr	\$ 16,699,663	D	Transmission	\$ -	\$ -	\$ -	\$ 16,699,663	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,699,663	\$ -
Other Transmission & Distribution Plant	\$ 73,992	K	Mains	\$ -	\$ -	\$ -	\$ 6,056	\$ 67,936	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 73,992	\$ -
Storage															
Distribution Reservoirs & Standpipes	\$ 33,768,545	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 33,768,545	\$ -	\$ -	\$ -	\$ -	\$ 33,768,545	\$ -
Distribution Reservoirs & Standpipes - Tank Coating	\$ -	F	Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meters															
Meters	\$ 53,285,112	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 53,285,112	\$ -	\$ -	\$ -	\$ 53,285,112	\$ -
Meter Installation	\$ 15,941,998	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,941,998	\$ -	\$ -	\$ -	\$ 15,941,998	\$ -
Meter Vaults	\$ -	G	Meters	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Services															
Services	\$ 66,833,866	H	Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66,833,866	\$ -	\$ -	\$ 66,833,866	\$ -
Hydrants															
Hydrants	\$ 27,329,094	J	Hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 27,329,094	\$ 27,329,094	\$ -
Fire Mains	\$ 406,875	J	Mains	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 406,875	\$ 406,875	\$ -
													\$ -	\$ -	\$ -

Missouri-American Water Company
Class Cost of Service Study - Account Detail
Case No: WR-2022-0303, SR-2022-0304

	Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Miscellaneous T&D Operating Expense	\$ 566,497	1	\$ -	\$ -	\$ -	\$ -	\$ 31,523	\$ 353,643	\$ -	\$ 181,331	\$ -	\$ -	\$ -	\$ 566,497	1.00000
				-	-	-	0.05565	0.62426	-	0.32009	-	-	-		
Miscellaneous T&D Maintenance Expense	\$ 334,648	2	\$ -	\$ -	\$ -	\$ 7,126	\$ 79,948	\$ -	\$ 46,250	\$ 112,349	\$ -	\$ -	\$ 88,975	\$ 334,648	1.00000
				-	-	-	0.02130	0.23890	-	0.13820	0.33572	-	0.26588		
Fixed O&M	\$ 12,740,860	3	\$ 478,188	\$ 763,157	\$ 2,637,961	\$ 256,641	\$ 2,879,117	\$ -	\$ 1,528,580	\$ 1,117,935	\$ 2,193,929	\$ 885,351	\$ 12,740,860	1.00000	
			0.03753	0.05990	0.20705	0.02014	0.22598	-	0.11997	0.08774	0.17220	0.06949			
Labor	\$ 4,642,301	4	\$ 102,181	\$ 605,799	\$ 1,621,995	\$ 143,954	\$ 1,614,938	\$ -	\$ 841,037	\$ 319,356	\$ 248,218	\$ 255,326	\$ 5,752,804	1.00000	
			0.01776	0.10530	0.28195	0.02502	0.28072	-	0.14620	0.05551	0.04315	0.04438			
Net Plant	\$ 820,183,286	5	\$ 41,836,927	\$ 51,876,214	\$ 120,424,531	\$ 100,497,593	\$ 276,158,331	\$ 33,768,545	\$ 77,723,019	\$ 73,047,395	\$ 12,193,945	\$ 32,656,785	\$ 820,183,286	1.00000	
			0.05101	0.06325	0.14683	0.12253	0.33670	0.04117	0.09476	0.08906	0.01487	0.03982			
Rate Base	\$ 627,060,523	6	\$ 38,370,602	\$ 47,171,462	\$ 109,296,492	\$ 84,193,411	\$ 161,749,565	\$ 31,051,295	\$ 69,723,102	\$ 47,271,141	\$ 10,939,584	\$ 27,293,871	\$ 627,060,523	1.00000	
			0.06119	0.07523	0.17430	0.13427	0.25795	0.04952	0.11119	0.07539	0.01745	0.04353			
Variable Cost	\$ 8,768,697		\$ 3,037,105	\$ 1,470,978	\$ 4,260,614	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,768,697	

Missouri-American Water Company
Cost of Service Study - Usage Statistics
Case No: WR-2022-0303

	Residential	Non Residential	Rate J	Rate B	Rate P	Public Fire	Rate F Private Fire	Total	
Total Usage	56,529,219	29,243,641	31,282,916	11,313,268	10,051,909		42,694	138,463,648	hundred gallons
Average Day Usage	154,875	80,120	85,707	30,995	27,539	-	117	379,352	hundred gallons
Max Day Capacity Factor	1.97	2.09	1.17	1.11	1.22			---	
Max Day Usage	304,431	167,077	100,277	34,405	33,598	54,268	17,732	711,788	hundred gallons
Extra Capacity	149,556	86,957	14,570	3,409	6,059	54,268	17,615	332,435	hundred gallons
Fire Allocator						0.7537	0.2463	1.0000	12,000 gpm for 10 hours
Distribution Multiplier	1.00	1.00	0.11	0.56		1.00	1.00	N/A	
Average Hourly Usage	6,453	3,338	400	719	-	-	5	10,916	hundred gallons
Max Hour Capacity Factor	3.98	3.52	1.17	1.11	1.22			---	
Max Hour Usage	25,699	11,762	469	798	-	13,567	4,433	56,727	hundred gallons
Extra Capacity	19,246	8,423	68	79	-	13,567	4,428	45,812	hundred gallons
Customers	118,557	10,909	76	20	3		2,680	132,245	
Hydrants						11,180	250	11,430	
Revenue	\$ 48,975,492	\$ 21,037,197	\$ 9,050,666	\$ 3,006,411	\$ 1,113,066		\$ 1,441,810	\$ 84,624,643	

	Residential	Non Residential	Rate J	Rate B	Rate P	Public Fire	Rate F Private Fire	Meter Weighting	Service Weighting
5/8-METER	110,816	5,926	9	-	-		-	1.0	1.0
3/4-METER	1,582	184	1	-	-		-	1.5	1.0
1-METER	5,944	2,054	8	2	-		-	2.5	2.9
1.5-METER	149	429	-	-	-		-	5.0	4.0
2-METER	130	2,111	56	13	-		84	8.0	5.6
3-METER	3	103	12	4	-		3	16.0	5.6
4-METER	-	132	31	9	-		350	25.0	6.4
6-METER	-	30	21	6	-		731	50.0	9.9
8-METER	1	28	7	1	-		437	80.0	9.9
10-METER	3	1	3	-	-		68	115.0	9.9
12-METER	-	-	-	-	-		21	215.0	12.2
16-METER	255	-	-	-	-		-	320.0	12.2

Missouri-American Water Company
Cost of Service Study - Usage Statistics
Case No: WR-2022-0303

System Load Factor:	0.7124	532,488	max day - thousand gallons per day
System Load Factor (fire):	0.6277	604,371	max day with fire - thousand gallons per day
System Load Factor (Hourly)	0.1363	80,071	max hour - thousand gallons per day
System Load Factor (Hourly fire)	0.1113	98,067	max hour with fire - thousand gallons per day

Average system hourly flow on max day
Average system hourly flow on max day

Mains Statistics

Type		Pct
10-Inch and Larger	1,008,782	0.0818
Under 10-inch	11,316,982	0.9182
Total	12,325,764	1.0000

Storage Statistics

Total Capacity	519,817	hundred gallons (2021 annual report)
Fire Allocation	0.1383	percentage of storage needed for maximum fire protection day
Non-Fire Allocation	0.8617	

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

1. VARIABLE COST

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Total Usage	56,529,219	29,243,641	31,282,916	11,313,268	10,051,909	-	42,694	138,463,648	hundred gallons	
Allocator	0.4083	0.2112	0.2259	0.0817	0.0726	-	0.0003	1.0000		

2. BASE/EXTRA DAILY

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Daily Use	154,875	80,120	85,707	30,995	27,539	-	117	379,352	hundred gallons	
Extra Capacity	149,556	86,957	14,570	3,409	6,059	-	-	260,552	hundred gallons	
System Capacity Factor	0.7124									
Average Day Allocator	0.2909	0.1505	0.1610	0.0582	0.0517	-	0.0002	0.7124		
Extra Capacity Allocator	0.1651	0.0960	0.0161	0.0038	0.0067	-	-	0.2876		
Allocator	0.4559	0.2464	0.1770	0.0620	0.0584	-	0.0002	1.0000		

3. BASE/EXTRA DAILY (w FIRE PROTECTION)

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Daily Use	154,875	80,120	85,707	30,995	27,539	-	117	379,352	hundred gallons	
Extra Capacity	149,556	86,957	14,570	3,409	6,059	54,268	17,615	332,435	hundred gallons	
System Capacity Factor	0.6277	assuming fire protection								
Average Day Allocator	0.2563	0.1326	0.1418	0.0513	0.0456	-	0.0002	0.6277		
Extra Capacity Allocator	0.1675	0.0974	0.0163	0.0038	0.0068	0.0608	0.0197	0.3723		
Combined Allocator	0.4238	0.2300	0.1581	0.0551	0.0524	0.0608	0.0199	1.0000		

4. BASE/EXTRA HOURLY (w FIRE PROTECTION)

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Hourly Use	6,453	3,338	400	719	-	-	5	10,916	hundred gallons	
Extra Capacity	19,246	8,423	68	79	-	13,567	4,428	45,812	hundred gallons	
System Capacity Factor	0.1113	assuming fire protection								
Average Day Allocator	0.0658	0.0340	0.0041	0.0073	-	-	0.0000	0.1113		
Extra Capacity Allocator	0.3734	0.1634	0.0013	0.0015	-	0.2632	0.0859	0.8887		
Combined Allocator	0.4392	0.1974	0.0054	0.0089	-	0.2632	0.0859	1.0000		

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

5. STORAGE

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Average Hourly Use	6,453	3,338	3,571	1,291	1,147		5		15,806	
Extra Capacity	19,246	8,423	607	142	252		----		28,671	
Fire Allocator							1.00000		1.00000	
System Capacity Factor	0.1113 assuming fire protection									
Average Day Allocator	0.0454	0.0235	0.0251	0.0091	0.0081		0.0000		0.1113	
Extra Capacity Allocator	0.5966	0.2611	0.0188	0.0044	0.0078				0.8887	
Allocator	0.6420	0.2846	0.0440	0.0135	0.0159		0.0000		1.0000	
Non-Fire Allocation of Storage	0.86171									
Fire Allocaton of Storage	0.13829									
Non-Fire Allocator	0.5532	0.2452	0.0379	0.0116	0.0137	-	0.0000		0.8617	
Fire Allocator	-	-	-	-	-	-	0.1383		0.1383	
Combined Allocator	0.5532	0.2452	0.0379	0.0116	0.0137	-	0.1383		1.0000	

6. MAINS

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Factor 4	0.4238	0.2300	0.1581	0.0551	0.0524	0.0608	0.0199		1.0000	hundred gallons
Factor 5	0.4392	0.1974	0.0054	0.0089	-	0.2632	0.0859		1.0000	hundred gallons
Tranmission Weighting	0.0818 Average system hourly load									
Distribution Weighting	0.9182 Average system hourly load - max day with fire protection (incremental)									
Combined Allocator	0.4379	0.2001	0.0179	0.0126	0.0043	0.2466	0.0805		1.0000	

7. HYDRANTS

Item	Non Residential		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Units
	Residential	Residential					Private Fire	Public Fire		
Total Hydrants	-	-	-	-	-	11,180	250		11,430	
Allocator	-	-	-	-	-	0.97813	0.02187		1.00000	

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

8. METERS

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Weighting
	Residential	Residential					Private Fire	Public Fire		
5/8-METER	110,816	5,926	9	-	-				116,751	1.0
3/4-METER	1,582	184	1	-	-				1,766	1.5
1-METER	5,944	2,054	8	2	-				8,008	2.5
1.5-METER	149	429	-	-	-				578	5.0
2-METER	130	2,111	56	13	-				2,311	8.0
3-METER	3	103	12	4	-				122	16.0
4-METER	-	132	31	9	-				171	25.0
6-METER	-	30	21	6	-				57	50.0
8-METER	1	28	7	1	-				37	80.0
10-METER	3	1	3	-	-				7	115.0
12-METER	-	-	-	-	-				-	215.0
16-METER	255	-	-	-	-				255	320.0
Total	211,908	39,211	3,409	778	-				255,306	-----
Allocator	0.83002	0.15358	0.01335	0.00305	-				1.00000	

9. SERVICES

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total	Weighting
	Residential	Residential					Private Fire	Public Fire		
5/8-METER	110,816	5,926	9	-	-				116,751	1.0
3/4-METER	1,582	184	1	-	-				1,766	1.0
1-METER	5,944	2,054	8	2	-				8,008	2.9
1.5-METER	149	429	-	-	-				578	4.0
2-METER	130	2,111	56	13	-		84		2,395	5.6
3-METER	3	103	12	4	-		3		125	5.6
4-METER	-	132	31	9	-		350		521	6.4
6-METER	-	30	21	6	-		731		788	9.9
8-METER	1	28	7	1	-		437		474	9.9
10-METER	3	1	3	-	-		68		75	9.9
12-METER	-	-	-	-	-		21		21	12.2
16-METER	255	-	-	-	-		-		255	12.2
Total	134,353	27,588	918	227	-		15,223		178,310	-----
Allocator	0.75348	0.15472	0.00515	0.00127	-		0.08537		1.00000	

10. CUSTOMERS

Item	Non		Rate J	Rate B	Rate P	Public Fire	Rate F		Total
	Residential	Residential					Private Fire	Public Fire	
Total Customers	118,557	10,909	76	20	3		2,680		132,245
Allocator	0.89650	0.08249	0.00057	0.00015	0.00002		0.02027		1.00000

11. METERED CUSTOMERS

Missouri-American Water Company
Cost of Service Study - Class Allocators
Case No: WR-2022-0303, SR-2022-0304

Item	Residential	Non Residential	Rate J	Rate B	Rate P	Public Fire	Rate F Private Fire	Total
Total Customers	118,557	10,909	76	20	3		2,680	132,245
Allocator	0.89650	0.08249	0.00057	0.00015	0.00002		0.02027	1.00000

