Exhibit No.:	
Issues:	Cost of Service Rate Design Consolidated Tariff Pricing
Witness:	Charles B. Rea
Exhibit Type:	Rebuttal
Sponsoring Party:	Missouri-American Water Company
Case No.:	WR-2020-0344
Date:	January 22, 2021

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2020-0344

RATE DESIGN
REBUTTAL TESTIMONY

OF

CHARLES B. REA

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

AFFIDAVIT

I, Charles B. Rea, under penalty of perjury, and pursuant to Section 509.030, RSMo, state that I am Director, Rates & 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.

Charles B. Rea
Charles B. Rea

January 22, 2021
Dated

REBUTTAL TESTIMONY
CHARLES B. REA
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2020-0344

TABLE OF CONTENTS

REBUTTAL TESTIMONY

CHARLES B. REA

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Charles B. Rea. My business address is 5201 Grand Avenue, Davenport, IA 52801.

Q. Are you the same Charles B. Rea who previously submitted direct testimony in this proceeding on behalf of Missouri-American Water Company ("Missouri-American", the "Company", or "MAWC")?

A. Yes.

Q. What is the purpose of your Rebuttal Testimony in this proceeding?

A. The purpose of my Rebuttal Testimony is to address issues raised in the rate design direct testimony of Missouri Industrial Energy Consumers ("MIEC") witness Jessica York, Office of Public Counsel ("OPC") witness Geoff Marke, and the Report on Class Cost of Service and Rate Design ("Staff CCOS Report") supported by Missouri Public Service Commission Staff ("Staff") witness Curt Gately. Specifically, I will address the following issues:

- Class Cost of Service
- Revenue Spread to Customer Class
- Large User Tariffs
- Consolidated Tariff Pricing

Q. Please identify the schedules you will be sponsoring and for which you will be providing testimony.

A. I am sponsoring the following Company Schedules attached to my Rebuttal Testimony.

- Schedule CBR-1R: Comparison of Rate L and Non-Qualifying Rate J Consumption Patterns

II. SUMMARY OF CONCLUSIONS

Q. Please outline your positions and recommendations for the issues you are addressing in your Rebuttal Testimony:

A. My positions and recommendations are summarized as follows:

1. The Company's class cost of service study and approach to cost of service should be adopted in this case. The two-step process used by the Company in this case provides more information than the previous one step process, is more intuitive, and produces results that are nearly identical to the previous one step process.

2. The Company's spread of revenue responsibility to customer classes for the purposes of determining rates is reasonable and should be adopted.

3. The Company's proposal to institute a new large user tariff identified as Rate L and to begin transitioning Rate J customers that no longer qualify for Rate L to the standard Rate A tariff offering should be adopted. The credit instituted for non-qualifying Rate J customers leaves the volumetric rate for these customers only slightly above that proposed for Rate L so that non-qualifying rate J customers are not unduly harmed. Rate L customers are shown to have different consumption patterns then non-qualifying Rate J customers which justifies different treatment for the purposes of rate design.

4. The Commission should complete the process of consolidating tariffs across the Company's service territory and combine St. Louis County and non-St. Louis County customers into a single consolidated tariff offering. Consolidated tariff pricing has been shown to be in the long-term best interests of our customers, and the district-by-district approach to rate design proposed by MIEC and OPC should be rejected.

III. COST OF SERVICE

Q. Did the Company submit a Class Cost of Service Study ("COSS") in this case?

A. Yes. The Company submitted a COSS in this case with my Direct Testimony as Schedule CBR-1: MAWC Class Cost of Service Study.

Q. Did other parties in this case raise concerns regarding on the Company's COSS?

A. Yes. MIEC Witness York provided direct testimony regarding the Company's COSS. Staff also produced its own cost of service study (Staff CCOS Report) but did not directly address any cost of service issues from my Direct Testimony.

Q. Will you address any issues related to the Staff CCOS Report in your Rebuttal Testimony?

A. Not at this time. Responses to various Company data requests suggest that the Staff CCOS Report is not final and will be modified in the next round of Staff testimony. I am reserving the right to address any issues the Company has with the Staff CCOS Report in my surrebuttal testimony once the Staff CCOS Report is final.

Q. Please outline the issues raised by MIEC witness York regarding the Company's COSS.

A. MIEC Witness York alleges the following regarding the Company's COSS:

- The Company's COSS is not reasonable. (York DT, p. 16, line 3).
    - The COSS does not differentiate between districts (St. Louis County vs. Non-St. Louis County;
    - The COSS does not separate out current Rate J customers that don't qualify for the Company's proposed Rate L as a separate customer class; and
    - The COSS is overly simplistic.
- MAWC should be directed to provide cost of service results separately for each district, removing Rate J customers from Rate A customers and leaving Rate L as a separate customer class.

- The allocation factor the Company uses to allocate fixed power and pumping expenses is incorrect in that it does not recognize a component for Fire Protection.
- The Company's proposed revenue assignments to customer class and district resulting from its proposed rate design should be rejected.

Q. Ms. York criticizes the Company for conducting its CCOS on an aggregated statewide basis and not splitting its CCOS separately for St. Louis County and non-St. Louis County customers (York DT, p. 16, lines 9-11; p. 25, line 7 through p. 26, line 13). How do you respond?

A. While the Commission did in fact order the two-district rate design to remain in place at the end of the last rate case, the Commission did not do so interminably and did not order the Company in that case to file a COSS in future rate cases separately for each district. The Company's proposal in this case is to consolidate all rates to a single tariff. This proposal is as much a policy decision on the part of the Commission as it is an exercise in the numbers, as I will discuss later in my testimony.

Q. Ms. York also criticizes the Company for not identifying current Rate J customers as a separate class in its CCOS. (York DT, p. 16, lines 12-18). How do you respond?

A. Again, the Company's proposal in this case is to create a new Rate L for large water users and to transition current Rate J customers that would not qualify for the proposed Rate L to Rate A over a period of time. The Company's CCOS is filed in support of the Company's proposal for Rate L and the elimination of Rate J. It is not meant or intended to support alternative proposals the other parties in this case may have.

Q. Has the Company provided information on the revenue requirement by business function and customer statistics to MIEC separately for St. Louis County and non-St. Louis County customers necessary to replicate the Company's CCOS by district?

A. Yes. In response to Data Request MIEC 3-001, the Company provided revenue requirements by business function consistent with the Company's revenue requirement proposal in this case and consistent with the structure and methodology of the Company's CCOS. In addition, the data provided in this response contains customer usage statistics, peaking factors, and other information necessary to allocate the business function revenue requirements to customer class.

Q. Has Ms. York criticized the allocation methodology you use to allocate Power and Pumping fixed expenses to customer class?

A. Yes. Ms. York states that using the Company's Factor 2, which recognizes each class' average load and peak day requirements but does not contain a component for Fire Protection, is incorrect. Ms. York states that Factor 3, which is the same as Factor 2 but does include a component for Fire Protection, is more appropriate to use for allocating fixed costs associated with water pumping plant. (York DT, p. 21, lines 4-13).

Q. Do you agree with Ms. York on this issue?

A. I do. The use of Factor 2 instead of Factor 3 was inadvertent. Ms. York is correct in saying that the allocation of costs associated with pumping should include an allocation of costs for Fire Protection.

Q. Please summarize your understanding of Ms. York's concerns over what she calls the Company's "oversimplified" approach to the CCOS.

A. Ms. York's primary concern appears to be that the Company's CCOS in this case was done differently than it was in the Company's previous rate case. The Company's COSS in this case allocates revenue requirements by account to different business functions and then allocates each of the business function revenue requirements to customer classes using a single allocation methodology consistent with class allocation methodologies described in the American Water Works Association ("AWWA") M-1 Manual. In the CCOS used in the Company's last rate case, revenue requirements by account were allocated directly to customer classes in a one-step process. Ms. York claims that the standard business functions do not align with the standard functional cost components described by the AWWA M-1 Manual. (York DT, p. 20, lines 4-7). She claims that the Company's "oversimplified" approach is problematic because within a business function (transmission or distribution in her example), there may be costs that should not be allocated to customer classes using the broad allocation methodologies used by the Company. (York DT, p. 20, lines 17-21). She claims there is not enough detail provided in the current CCOS to assess the reasonableness of the allocation factors used by the Company to allocate the revenue requirement associated with several of its business functions and it may be the case that not all costs within each business functions should be allocated using the same allocation factor. (York DT, p. 20, line 22 through p. 21, line 3).

Q. Why did you move from a one-step process for allocating specific accounts to customer class used in the last rate case to your new two-step process that allocates specific accounts to business function and then allocates business function revenue requirements to customer class?

A. The Company changed its approach to CCOS from a one-step process to a two-step process because the two step-process is more intuitive and understandable and is more reflective of how the business actually operates, without sacrificing accuracy or precision and without sacrificing any adherence to cost-causation principles that a CCOS and its associated cost allocation methodologies should rely on.

As an example, consider the amounts for Support Service Costs, which is an Administrative and General cost in the CCOS. These costs total $38,879,116 and represents one of the biggest single components of the Company's proposed revenue requirement. It is more logical to say that these costs are incurred in order to support MAWC's business activities as opposed to supporting customers directly. Under the two-step approach, Support Service Costs are allocated to MAWC's business functions, and then allocated to customer class within each business function based on an allocation methodology that makes sense for that business function. This is a more logical approach than allocating these customer costs directly to customer classes on the theory that customers directly cause these costs to be incurred.

Q. Do the results from the previous one-step COSS process and this two-step COSS process differ significantly?

A. They do not. The following table shows a comparison of cost of service results by customer class under the proposed two-step COSS approach and the one-step approach:

Customer Class	Schedule CBR-1 CCOS	One-Step CCOS	Difference
Residential	$256,897,398	$256,875,098	$22,300
Non-Residential	$80,389,802	$80,396,659	-$6,857
Rate L	$13,653,134	$13,659,938	-$6,804
Rate B	$7,255,090	$7,259,861	-$4,771
Rate P	$8,769,157	$8,774,974	-$5,817
Public Fire	$28,420,299	$28,418,797	$1,502
Private Fire	$5,859,695	$5,859,248	$447
Total	**$401,244,575**	**$401,244,575**	**$0**

IV. REVENUE SPREAD TO CUSTOMER CLASSES

Q. Regarding the Company's proposed spread of revenue to customer classes, Ms. York states that the Company's proposed revenue spread would result in residential customers priced $7.7M below cost of service, and non-residential customers priced significantly above cost of service. (York DT, p. 22, lines 1-4). How do you respond?

A. The Company's COSS shows that on a volumetric basis the cost of providing service to residential customers is higher than it is for commercial or industrial customers based on typical load shapes for each class. This is a common result in class cost of service studies where the residential class is identified separately. Because the Company's rate structure has residential and non-residential customers on the same rate (in this case Rate A), it will necessarily be the case that residential rates will be lower than cost of service would indicate if there were a separate residential rate. Commercial and industrial customers will pay a rate higher than cost of service would indicate if there were a separate non-residential rate available to those customers.

Q. Ms. York states that substantial increases to Rate J customers are the result of the Company's proposals for consolidated tariff pricing as well as a transition of Rate J customers that do not qualify for Rate L to Rate A. Is this correct?

A. Not entirely. Increases to Rate J customers are not the result of transitioning Rate J customers that do not qualify for Rate L on to Rate A. The substantial credit being afforded to Rate J customers that do not qualify for Rate L means that the volumetric rate for non-qualifying Rate J customers will be only slightly higher than the effective volumetric rate for Rate L customers under rates proposed by the Company in this case.

V. LARGE USER TARIFF

Q. Please review the Company's proposal for modifying its large user tariff in this case.

A. The Company's proposal in this case is to replace the current Rate J tariff with a new large user tariff identified as Rate L. The proposed Rate L tariff will be available to customers using 3,000,000 gallons of water per month or more (as opposed to the 450,000 gallon limit currently for Rate J). The proposed Rate L tariff will contain a two-part pricing mechanism. The first part is a "Base Usage" part which will apply to a customer's constant year-round consumption. The second part is an "Extra Use" component that will be higher priced and will apply to a customer's seasonal use above the Base Usage component. Current Rate J customers that are ineligible for the new Rate L will be transitioned over a period of time to the Company's current Rate A.

Q. Did other parties in this case raise concerns regarding the Company's proposed Rate L?

A. Yes. MIEC Witness York opposes the Company's proposal to implement Rate L and phase out the current Rate J offering. Additionally, the Staff CCOS Report and accompanying

cost of service study is based on the Company's current Rate J offering. The Staff CCOS Report indicates that Staff will address this issue in its rebuttal testimony.

Q. What is MIEC's position regarding the Company's proposal for Rate J and Rate L in this case?

A. Ms. York does not support the Company's proposed Rate L offering. (York DT, p. 14, lines 15-18). Ms. York states that she supports examining the creation of a higher threshold Rate L class but recommends maintaining Rate J as it is currently structured. She claims that Rate J customers using between 450,000 gallons and 3,000,000 gallons per month have different usage characteristics and cause the Company to incur less capacity costs then Rate A customers. (York DT, p. 15, lines 1-8).

Q. Does Ms. York object to the "Base Usage" and "Extra Usage" pricing structure proposed by the Company for its proposed Rate L?

A. She does not.

Q. Does Ms. York offer any evidence to support her claim that Rate J customers using between 450,000 gallons and 3,000,000 gallons per month have different usage characteristics and cause the Company to incur less capacity costs then Rate A customers?

A. No. Ms. York discusses a historical view of capacity factors used in the Company's previous rate cases for nonresidential Rate A rate and Rate J customers compared to current factors used in the Company's COSS for nonresidential Rate A and proposed Rate L customers. (York DT, p. 18). However, she offers no comparisons of capacity factors for Rate J customers using between 450,000 and 3,000,000 gallons per month to either

nonresidential Rate A or proposed Rate L customers.

Q. Why is this an important distinction?

A. A big reason why capacity factors for Rate J in total were lower than those for other non-residential customers in the Company's past rate cases is because approximately half of the usage for Rate J customers is associated with customers using more than 3,000,000 gallons per month, which is the proposed standard for Rate L. The relevant comparison here is not what capacity factors are for Rate J customers in total. The relevant comparison is the usage characteristics for current Rate J customers that would not qualify for the Company's proposed Rate L and whether or not those customers are being disadvantaged by the Company's proposal from a cost of service perspective.

Q. How do the usage characteristics for Rate J customers using between 450,000 gallons and 3,000,000 gallons per month compare to the usage characteristics for larger Rate L customers?

A. Usage characteristics for Rate J customers using between 450,000 gallons and 3,000,000 gallons per month are more seasonal and peak more than those for larger Rate L customers. Schedule CBR-1R provides a comparison of monthly usage characteristics for the two customer groups and demonstrates that the usage pattern for Rate J customers not qualifying for Rate L are different than they are for Rate L customers. This indicates that a cost of service analysis would allocate more fixed costs to remaining Rate J customers than to Rate L customers and would result in a higher cost-based rate for the remaining Rate J customers than for Rate L customers.

Q. Are there any other flaws in Ms. York's discussion of capacity factors used for these customer classes in the Company's previous rate cases?

A. Yes. It is important to note that the methodology used to estimate peaking factors for customer classes in this rate case is different than what was used in previous Company rate cases in Missouri. As I stated in direct testimony, maximum daily consumption values for each customer class are estimated based on daily and hourly consumption data collected via Advanced Metering Infrastructure ("AMI") meter data; specifically, on samples for which the Company has AMI data in St. Louis County. In previous rate cases, the peaking factors were based on a much more subjective analysis because actual daily and hourly consumption for different customer classes was not available. Because the two approaches for determining peaking factors are different, the results are not necessarily comparable. It should not be surprising or concerning that a change from a more subjective analysis to examination of actual data would yield different results. The fact that the methodology, and thus, the results are different from what were previously filed should not be an impediment to adopting them here.

Q. Does Ms. York offer any commentary on the administrative difficulties that the Company claims with respect to the current Rate J?

A. Ms. York offers commentary on two of what she claims to be "administrative issues" regarding the current Rate J offering (York DT, p.12, line 14, through p. 13, line 4). The first issue relates to the mix of monthly and quarterly metering for potential Rate J customers that, according to Ms. York, makes it difficult to identify customers that might qualify for Rate J because monthly usage data is not available to verify qualification. The second issue she raises is the alleged extreme differences in volumetric rates between Rate

A and Rate J that gives non-qualifying customers an inappropriate incentive to use water simply for the purposes of qualifying for Rate J.

Q. Can you explain Ms. York's criticism regarding the issue of quarterly versus monthly billing and its relationship to qualification for Rate J?

A. Yes. Ms. York states that the Company's claim that the mix of monthly and quarterly metering for potential Rate J customers makes it difficult to verify qualification for customers that don't have monthly usage data is incorrect. (York DT, p. 12, line 16). She points out that the Company is transitioning all of its customers to monthly billing; a process that is 95% complete so the Company should be able to accurately assess which customers qualify for Rate J.

Q. Do you agree with Ms. York's characterization regarding the impact of quarterly versus monthly billing on qualification for Rate J?

A. It is true that the Company is transitioning all customers to monthly billing and, at some point in the future, it will be possible to make this determination for all potential Rate J customers. However, that is not the case for the 2019 historical data set upon which rates in this proceeding would effectively be based.

Q. What is Ms. York's testimony regarding the differences in volumetric rates between Rate A and Rate J?

A. Ms. York states that the Company's concerns that Rate A customers could increase usage and receive a lower bill by transitioning to Rate J is improbable. (York DT, p.12, line 20, through p. 13, line 4). She points out that the average monthly usage for a non-residential Rate A customer is about 32,000 gallons per month and, to reach the 450,000 gallon

requirement for service under Rate J the average non-residential rate, a customer would have to increase usage by 14 times the current average monthly usage.

Q. Do you consider this particular issue to be an administrative issue?

A. No. This is not an administrative issue that can simply be solved through better tariff administration. This is a rate design issue and stems from the difference in volumetric rates between Rate A and Rate J, and the relatively low threshold of 450,000 gallons per month to qualify for Rate J.

Q. Is Ms. York's comparison of an average Rate A customer to Rate J pricing accurate or relevant?

A. No. Ms. York's analysis is neither accurate nor relevant. As I stated before in my direct testimony, the current volume metric rates for Rate A and Rate J are as follows:

Volumetric Rate	St. Louis County	Non-St. Louis County
Rate A	$4.7814	$6.2469
Rate J	$1.7680	$2.8628

A St. Louis County Rate A customer using 32,000 gallons per month pays approximately $153 in volumetric charges. If that customer were to artificially increase their usage to 450,000 gallons per month just to qualify for Rate J, their volumetric charges would increase to approximately $796 per month. This makes no economic sense and therefore a comparison for this size customer isn't relevant.

Comparisons for larger customers, on the other hand, are very relevant. As I also pointed out in my direct testimony, a St. Louis County customer that uses 300,000 gallons per month under Rate A would pay approximately $1,434 dollars in volumetric charges. If that customer increased their usage by half up to 450,000 gallons per month, their total

volumetric charges would go down almost by half to approximately $796. This customer could quite literally open the spigot, pour 150,000 gallons of water down the street every month, and cut their bill in half for having done so. This is the rate design issue that the proposed Rate L and the slow transitioning of the remaining Rate J customers to Rate A is intended to help mitigate.

Q. Do you have any comments to add on the rate increases that Rate J and Rate L customers in St. Louis County would see from the Company's proposals regarding the large user tariff and consolidated pricing in this proceeding?

A. Yes. I have prepared a table below which shows the pertinent volumetric rates for Rate A, Rate J, and the Proposed Rate L for both St. Louis County and non-St. Louis County. This table contains both current rates and proposed rates:

District	Volumetric Rate	Current	Proposed	Price Change	Percent Change
STL County	Rate A	$4.7814	$6.9827	$2.2013	46%
Non STL County	Rate A	$6.2469	$6.9827	$0.7358	12%
STL County	Rate J	$1.7680	$3.6753	$1.9073	108%
Non STL County	Rate J	$2.8628	$3.6753	$0.8125	28%
All	Rate L (Blended)	---	$3.2417	---	---

The table shows that while the percentage increases for St. Louis County customers in the volumetric rates is higher than for non-St. Louis County customers, the total price change is similar. The percentage changes for St. Louis County customers are as high as they are because St. Louis County volumetric rates are significantly lower today than for non-St. Louis County customers. The table also shows that the proposed Rate J price including the credit is only slightly higher than the average proposed volumetric rate for Rate L. This shows that Rate J customers not qualifying for Rate L are not significantly disadvantaged

relative to what their rate otherwise would have been without the Company's Rate L proposal.

VI. CONSOLIDATED TARIFF PRICING

Q. What responses have there been to the Company's proposal related to consolidated tariff pricing?

A. MIEC, OPC, and Staff are opposed to the Company's proposal to continue consolidated tariff pricing ("CTP"). MIEC proposes to maintain the current two-district pricing design. (York DT, p. 2, lines 2-7). OPC's position goes further and seeks to de-consolidate the current rate structure and revert back to a zonal pricing scheme similar to what was in place from 2015 to 2017. (Marke DT, p. 1, lines 21-22). Staff proposes to maintain the rate design that the Commission approved in the Company's last rate case. (Staff CCOS Report, p. 9, lines 1-2).

Q. Does OPC provide any specific basis for its proposal to return to a multi-district rate design beyond their general discussion of the issues around CTP?

A. No.

Q. Does OPC provide any information on what rates would be or what the impact on customers would be of returning to a multi-district rate design?

A. No. OPC provides no analytical support for its position.

Q. Does Staff address any policy issues related to CTP in their testimony or Rate Design report?

A. No. Staff's proposal is to maintain the two-district rate design, but they do not provide any

policy or analytical support for that position.

Q. What policy issues does MIEC raise regarding CTP?

A. MIEC make the following claims in support of its position to maintain the current two district rate design:

- St. Louis County customers pay an ISRS that non-St. Louis County customers do not pay. Therefore, St. Louis County cannot be consolidated with other districts for the purposes of ratemaking. (York DT, p. 5, lines 10-15).
- St. Louis County customers would subsidize other customers outside of the county because St. Louis County customers use significantly higher levels of water than other customers. (York DT, p. 5, lines 16-17).
- CTP ignores the principle of cost causation because a particular water district's rates should be based on the costs that the Company incurs to provide that district with service. (York DT, p. 7, line 9).
- Unjust cross subsidies created by CTP could erode the efficiency of the water system. (York DT, p. 9, lines 1-2).
- Economic incentives for customers in high-cost districts to be more efficient in placing demands on the utility would be removed by CTP. (York DT, p. 9, lines 2-5).
- Management teams in high-cost districts would have disincentives for cost control. (York DT, p.9, lines 11-18).
- The Company's incentive to perform due diligence before acquiring new systems would be reduced. (York DT, p. 9, line 20 through p. 10, line 6).

Q. What policy issues does OPC raise regarding CTP?

A. OPC makes the following claims rejecting CTP:

- OPC states that water services local, and the cost of providing the service, and consequently is usage, varies considerably based on location. (Marke DT, p. 3, lines 12-13).
- Because single tariff pricing merges non-contiguous systems, the cost causation principle is diminished if not entirely abandoned. (Marke DT, p. 6, lines 15-18).
- Under a single tariff pricing design, the approved rates do not accurately reflect the costs caused by the customers who would pay them. (Marke DT, p. 6, lines 18-19).
- Consumers in low-cost districts are required to purchase water prices under single tariff pricing that exceed the real cost of their consumption. (Marke DT, p.9, lines 2-3).
- Single tariff pricing represents a tax which discriminates against systems that cannot control their costs and favor those that do not. (Marke DT, p. 9, lines 3-5).

Q. How would you summarize the CTP options currently before the Commission in this case?

A. The primary policy issue before the Commission in this case regarding CTP can be described as a series of options that could be chosen regarding CTP rate design. The CTP options currently before the Commission include whether:

a) water customers in different communities completely pay for, and only pay for, the present and future costs of owning, operating, and maintaining the water production and delivery systems in their communities, and thereby absorbing all of the associated rate shock that might follow;

b) water customers across the state help pay for all of the present and future costs of owning, operating, and in maintaining the water production and delivery systems in all of the communities served in the state, knowing that they will often be paying for investments that do not directly serve them and may be paying rates at any point in time that might be higher or lower than they otherwise would be, but in return enjoy more rate stability over time; or

c) somewhere in between.

Q. Are there any other considerations to consider?

A. Yes. It is an undisputed fact that the quality water service customers are receiving from the Company is the same regardless of where they are located or what assets are used to provide that service. It is sound and logical to say that all customers who receive the same service from the Company should pay the same rates for that service.

Q. What is the Company's preferred position regarding CTP?

A. Absent compelling evidence to show that the cost of providing service in a given community or group of communities has been, is, and will always be fundamentally and systemically different than in other communities, it is most appropriate that rates should be consolidated over time across an entire service territory. The benefits of doing so in terms of equitability and rate stability over time outweigh the concerns that customers may be paying rates at any point in time that might be higher or lower than they otherwise would be and may be paying for some investments that do not directly serve them.

Q. Ms. York states that CTP is not appropriate in this case because St. Louis County customers pay an ISRS which is authorized by statute that customers outside of St. Louis County do not pay. (York DT, p. 5, lines 10-15). How do you respond?

A. The issue of a short-term St. Louis County ISRS (short term in terms of the length of time prices are in effect) and the longer-term policy of CTP are separate issues. The CTP issue is a policy and fairness issue regarding the appropriate way to price water service across the service territory, as I have laid out in my testimony and will continue to discuss. The pricing associated with CTP is for base rates that cover the entire vertically integrated cost of providing service to customers from source of supply to reading the meter. These prices are relatively large compared to the ISRS and permanent in that they do not change between rate case or reset to zero at some point. The ISRS, which at present time only applies to St. Louis County customers, is a relatively small charge (relative to base rates) for a limited type of investment that starts at $0.000 after each rate case and increases over time to then be reset to $0.000 at the end of each rate case.

Q. When final rates are implemented in this case will the ISRS be reset to zero?

A. Yes. At the end of this case the ISRS will be reset to $0.000. If CTP is implemented in this case, then rates will be equal for all customers across the state. This condition will last until the ISRS becomes positive and then will exist again at the end of the next rate case when the ISRS will again be reset to $0.000.

Q. Does the ISRS as it currently is implemented effectively equalize rates between St. Louis County and Non-St. Louis County customers?

A. No. The table below shows the volumetric rates for Rate A and Rate J for St. Louis County customers and non-St. Louis County customers with and without the ISRS.

Customer Class	St. Louis County	ISRS	St. Louis County with ISRS	Non-St. Louis County
Rate A	$4.7814	$1.0690	$5.8504	$6.2469
Rate J	$1.7680	$0.0164	$1.7844	$2.8628

The table shows that for Rate J customers in particular, the ISRS has no practical effect on St. Louis County rates. The existence of the ISRS gives St. Louis County Rate J customers a regulatory argument for why CTP should not be pursued but gives non-St. Louis County Rate J customers no consolation at all that their 60% higher rate at least gets them out of paying an ISRS that their St. Louis County Rate J counterparts have to pay. The same is true for Rate A customers, although to a much lesser extent. The table shows that the current ISRS closes the gap between St. Louis County and non-St. Louis County customers by more than half, but this is at a time when the ISRS is relatively high. On average the ISRS is less than the amount shown in the table and ultimately will be reset to $0.000 at the end of this case so that the gap between St. Louis County and non-St. Louis County customers will remain relatively large.

Q. Can you summarize Ms. York's argument against CTP as it relates to the relative size of different customers in the St. Louis County and non-St. Louis County districts?

A. Yes. Ms. York states that St. Louis County customers in every customer class use significantly higher levels of water than similar customers outside of St. Louis County. (York DT, p. 5, lines 17-19). Because St. Louis County customers have higher volumes, and because a significant portion of the Company's fixed costs are recovered through volumetric rates, St. Louis County customers would contribute more toward the Company's fixed cost recovery then non-St. Louis County customers, and therefore would be subsidizing non-St. Louis County customers under CTP.

Q. How do you respond to Ms. York's argument about subsidization based on the relative sizes of customers?

A. There are two important points to make regarding Ms. York's claim regarding customer usage. The first point is because 94% of the Company's revenue requirement is fixed but only 23% of the revenue is proposed to be recovered through fixed charges (meaning that a significant amount of fixed cost recovery comes from revenue collected through volumetric rates), it is necessarily the case that bigger higher-volume customers will contribute more toward the Company's fixed cost recovery than smaller customers. This is by design, not my accident. If this condition is to be called a "subsidy", it is caused by a faulty rate design with fixed charges that are too low and don't collect enough fixed, and not by CTP. The remedy to this "subsidy" is to significantly increase monthly fixed charges, which no party in this case is suggesting. It is also the case that even under the two-district pricing scheme, this so-called subsidy will still exist where larger customers are contributing more towards fixed costs than smaller customers.

The second point to make here is that under the "Base/Extra" cost allocation methodologies used in cost of service studies, larger customers will automatically be allocated more fixed cost than smaller customers in a cost of service study. This happens in the Company's proposed CCOS as well. Nobody would suggest that the fixed costs associated with water treatment plants, pumping equipment, and transmission and distribution mains should be allocated to customer classes in a cost of service study based on the number of customers in each class, but that is the argument that Ms. York is making when she says it is an unfair "subsidy" than larger St. Louis County customers would be unfairly paying more fixed costs than smaller non-St. Louis County customers.

Q. Ms. York claims that the Company's proposal for CTP ignores cost-causation. Specifically, she states that a particular water district's rates should be based on the

costs that the Company incurs to provide that district with service. (York DT, p. 7, lines 8-14). How do you respond to this argument?

A. This argument is a very common argument against CTP and is similar to arguments that Dr. Marke of OPC makes in his testimony. The argument comes back to the policy choices I outlined earlier, which are, should water customers in different communities completely pay for, and only pay for, the present and future costs of owning, operating, and maintaining the water production and delivery systems in their communities, or should water customers across the state help pay for all of the present and future costs of owning, operating, and in maintaining the water production and delivery systems in all of the communities served in the state?

There are two points to make here. The first is that the concept of CTP has already been established in the Company's rate structure. There are more than 20 separate operating districts in the MAWC service territory all taking service under a single consolidated rate structure that is the non-St. Louis County rate. These districts all have different sizes, operating characteristics, customer usage characteristics, investment histories and requirements, O&M requirements, population densities, cost structures, etc. They are also independent and disconnected from one another. Yet they are all taking service on the same rate structure as approved by the Commission. The question before the Commission in this case is not whether CTP is appropriate. That has already been established in the affirmative. The question before the Commission is whether St. Louis County customers should be included in that CTP pricing structure or continue to be withheld from that structure and considered separately, and if so, why.

The second point to make is that it will always be the case that certain groups of customers will be paying more or less than their absolute true cost to serve regardless of

whether CTP is in place or not. It is not possible to design rates in a way that sends price signals to all customers that directly and precisely reflect the cost of providing service to each customer. This is true when considering customers across different operating districts and it is true when considering customers within a single operating district. Also, the fact that particular water districts are physically separated from each other and not connected to each other does not imply that their pricing structure should be separate, as I will point out later in my testimony.

Q. Does Ms. York discuss different characteristics that can affect the cost of providing water service to different communities?

A. Yes. Ms. York mentions that water treatment plants, distribution networks, pumping equipment, and electric rates can be distinct across the state and geographic characteristics can impact costs related to storage, pressure, pumping, chemicals and other costs associated with providing service. (York DT, p. 8 lines, 7-14). She also mentions an example where the cost to install water pipe in a district with rocky soil may be higher than the cost to install water pipe in a district without rocky soil and that non-rocky soil customers could end up subsidizing rocky soil customers under a CPP pricing structure. (York DT, p. 8, lines 22-25).

Q. Are there other operating characteristics than can affect the cost of providing service to different groups of customers?

A. Yes. The average age of plant used to provide service in different communities can affect the calculated cost of providing service in different communities. Communities with older vintage plant tend to have a lower cost of service from a rate base perspective then communities with newer plant. Customer groups located farther away from a water

treatment plant will have a higher cost of service and customer groups located closer to water will have a lower cost of service because there is likely less delivery assets needed to get water from the source to where it is used for customers closer to water treatment plants than for customers farther away.

Q. Are these myriads of differences a valid reason to establish separate pricing structures in areas that have these differences?

A. No. From a purely analytical perspective these myriads of differences will result in different revenue requirement calculations in different discreet geographic locations that would suggest that different rates could be justified, but from a practical perspective these differences are not a valid reason for having different rates. If you cannot in good faith explain to customers why their rates are different from other similar groups of customers for the same service, your reasons for having different rates are probably not valid. It would be unreasonable to suggest having a "rocky soil rate", or an "old plant rate", or a "high labor cost rate", or a "far away from the river rate" just because cost of service supports that distinction. Likewise, explaining to customers that their rates are higher in Jefferson City than they are in St. Louis County because their soil is rockier is likely not a satisfactory explanation. Customers are more likely to expect fair and consistent rates for the same service regardless of where they are in Missouri than they are to expect cost-based rates.

Q. Ms. York states that unjust cross subsidies created by CTP could erode the efficiency of the water system by removing the economic incentive for customers and high-cost districts to be more efficient in placing demands on the water utility. (York DT, p. 9, lines 1-10). How do you respond?

A. It is important to note that rate design is effectively a zero-sum game meaning that given a

fixed revenue requirement, every price decline given to a group of customers (in this case a price decline due to CTP) means a price increase for a different group of customers. If Ms. York's claims were accepted as true, CTP would improve economic incentives for the efficient of water usage for far more customers in St. Louis County whose average usage is already high, as Ms. York points out (York DT, p. 5, lines 17-19), than it would decrease economic incentives for customers outside of St. Louis County. This could overall be a good thing from a system perspective in St. Louis County. However, the inclining block rate experiment in Mexico has not yet demonstrated any significant changes in customer usage patterns due to a fairly significant change in rate design. Thus, based on that experiment, there is nothing to support the accuracy of Ms. York's claims.

Q. Do you agree with Ms. York's claim that consolidated pricing could provide management teams in high-cost districts disincentives for cost control because those costs would be commingled with other lower cost districts across the state? (York DT, p. 9, lines 11-18).

A. No, I disagree. If the temptation to overspend in a particular district knowing that those costs would be spread over all customers in the service territory would result in disincentives for cost control, we would already have seen this effect. So far, there has been none.

Overinvestment in water systems is not generally seen as a problem today. Rather, the opposite is true. It is well documented that underinvestment in water systems is a significant problem in the industry, and a driving factor that exacerbates this problem is an inability to adequately invest in smaller systems with relatively few customers because the necessary rate increases in those systems would be untenable. Underspending in small

systems where rates are based solely on the revenue requirement associated with that system is a far bigger problem in the industry that overspending in systems under CTP.

Q. Do you agree with Ms. York's claims that CTP reduces the Company's incentive to perform due diligence before acquiring new water systems?

A. I do not. Customers in communities with under invested-systems are already affectively paying single-district rates. Often it is this rate structure, and the associated large increases that would result from this rate structure, that prevents communities from making needed investments in their systems in the first place. Leaving single-district rates in place for these communities and eschewing the concept of CTP does nothing to solve this problem. Also, it is most often the case that agreements are put in place for acquisitions that leave existing rate structures in place for a number of years after the acquisition takes place, and only after some agreed upon number of years pass are rates for these communities folded into the Company's larger rate structure. This is done to avoid rate shock for these customers because their rates are most often underpriced and can't support the investments needed on their own. The Company's due diligence in acquiring systems takes this into account. Thus, while the concept of CTP is one factor in the due diligence process, it is by no means the only or most important factor.

Q. Turning to OPC witness Marke's testimony where he states that water is local, and the cost in providing the service, and consequently its usage, varies considerably based on location, do you agree with his conclusion? (Marke DT, p. 3, lines 12-13).

A. To some extent, yes. It is certainly the case that water systems tend to be local in the sense that they tend to not be interconnected with each other. However, I do not agree with the implication that the cost of providing service in any location rests solely on costs incurred

in that location, nor do I agree that local water service implies that rates for water service should be differentiated by geographic location.

Q. OPC witness Marke has devoted a considerable amount of testimony comparing the water industry to the electric industry and the natural gas industry and specifically discusses the ways that the Ameren Missouri electric grid is interconnected and connected with MISO, and contrasts that with the operating characteristics of MAWC. (Marke DT, pp. 3-5). What is your reaction to this comparison of MAWC's service territory to Ameren Missouri's electric service territory?

A. The comparisons of MAWC to the Ameren Missouri electric grid and to natural gas utilities are useful comparisons. I have two observations in this regard.

The first is it's important to note that while the Ameren Missouri electric grid is interconnected, it is interconnected only at the generation and transmission levels. The electric grid is not interconnected at the distribution level, which the Federal Energy Regulatory Commission defines as systems that are reduced in voltage, normally in close proximity to retail customers, and radial in character, among other things.[1] This means that distribution assets in the Ameren territory, which make up a significant portion of that company's rates, are not interconnected and are subject to the same potential cost differences by geographic location that the water distribution system faces in terms of labor costs, customer density, geography, etc. The distribution component of rates in electric retail tariffs is rarely, if ever, differentiated by geographic location, and electric utilities generally vigorously oppose doing so. Because more than half of the Company's proposed

[1] Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996)

revenue requirement in this case is associated with the delivery, metering, customer service, and public fire business functions according to the Company's CCOS, the Ameren comparison actually bolsters the case for CTP, it does not detract from it.

The Ameren electric tariffs, and indeed most electric tariffs, do not differentiate prices for delivery services or customer service by geographic location despite the fact that distribution costs may vary significantly in different parts of the Ameren Missouri territory. The same can be said for MAWC's water service tariffs and because more than half of the Company's proposed revenue requirement in this case is associated with the delivery, metering, customer service, and public fire business functions (the same types of functions for which CTP exists in typical electric service tariffs), the case for CTP is strengthened by the Ameren Missouri example and the examples of other electric utility service tariffs.

Q. Can you draw the same conclusions when you compare MAWC to the natural gas utility industry?

A. Yes. The same conclusions can be drawn when comparing MAWC to the natural gas industry. In today's utility environment, natural gas utilities are almost exclusively distribution companies. While they are interconnected to some extent through interstate pipelines, the gas utilities rarely own these assets. The primary function of a natural gas utility is to purchase gas on the open market and deliver it to customers through its distribution system, which makes it look very much like a water utility once you get past the sourcing of the commodity. The inherent cost differences by geographic location of investing in and maintaining a gas mains system are very similar to the cost differences for a water main system that Ms. York and I both discussed in our testimonies. Yet, like electric tariffs, gas distribution rates in retail tariffs are not typically differentiated by discrete geographic location based on the cost of providing specific utility services in those

locations.

Q. Please summarize your understanding of OPC witness Marke's arguments related to CTP and cost-causation?

A. OPC witness Marke's primary argument in this regard is that because CTP merges non-continuous systems, the cost causation principle is diminished, if not entirely abandoned. He goes on to say that under a single tariff pricing design the approved rates do not accurately reflect costs caused by the customer who pay them. (Marke DT, p. 6, lines 14-22). OPC witness Marke states that consumers in low-cost districts would be required to purchase water at prices that exceed the real cost of consumption (Marke DT, p. 9, lines 2-4) and that the subsequent abandonment of the cost causation principle will produce unintended consequences in both the near and long term and would likely have larger implications outside of this rate case. (Marke DT, p. 8, lines 4-6).

Q. How do you respond to these arguments?

A. The concept of cost causation is more useful when considering class cost of service studies when one is trying to allocate revenue requirements to different customer groups than it is when considering the costs of providing service to similar mixes of customers in different communities. It is much easier to explain to customers why residential rates are higher than industrial rates in Jefferson City based on cost causation factors than it is to explain why residential rates in Jefferson City are higher than residential rates in Maryland Heights based on cost causation factors, especially when Jefferson City sits on a major river and Maryland Heights does not.

Having said that, I would reiterate some of the points I made in response to MIEC on this same issue, namely:

a) There are over 20 separate disconnected operating districts in the MAWC service territory all taking service under a single consolidated rate structure that is the non-St. Louis County rate. These districts all have different sizes, operating characteristics, and customer usage characteristics. Yet they are all taking service on the same rate structure. No ill effects have been identified as a result. The issue in this case is not whether CTP is appropriate. That has already been established in the affirmative. The issue is whether or not St. Louis County customers should be included in CTP and why.

b) It will always be the case that certain groups of customers will be paying more or less then their absolute true cost to serve regardless of whether CTP is in place or not. It is not possible to design rates in a way that sends price signals to all customers that directly and precisely reflect the cost of providing service to that customer. Cost differences between customers within a district can be just as great and even greater than cost differences between districts. Dr. Marke recognizes this fact in his own testimony. Averaging rates for customers within a district is a given, yet averaging rates between districts completely destroys the concept of cost causation according to Dr. Marke. As I stated previously, if you can't in good faith explain to customers why their rates are different from other similar groups of customers for the same service, your reasons for having different rates are probably not valid. This is the case under single-district pricing. It is not the case under CTP.

Q. OPC witness Marke states that single tariff pricing represents a tax which discriminates against systems that cannot control their costs and favor those that do not. (Marke DT, p. 9 lines 3-5). How do you respond?

A. First, if the difference in cost between different districts is actually just a result of each district managers' ability (or lack thereof) to control cost, then CTP is exactly the right solution to implement because each district would be generating revenue on the same basis relative to customer usage and districts that control their costs better would be more successful than districts that could not. Second, customers in relatively lower cost districts paying a rate under CTP that is higher than it otherwise would be does not constitute an unfair "tax" any more than a resident in a part of a state paying a uniform state income tax rate constitutes unfair discrimination if state services in that part of the state are cheaper to deliver than in other parts of the state.

Q. How do you respond to OPC witness Marke's discussion about the potential perils of overinvestment in water systems under CTP? (Marke DT, p. 10-12).

A. I also addressed this issue above in response to Ms. York. It is true that utilities generate net income by earning a return on rate base and can grow earnings by growing rate base. To the extent this provides the utility an undue incentive to overinvest and gold-plate the system, this incentive exists regardless of whether CTP is in place or not. As I stated previously, overinvestment in water systems is not generally seen as a problem today. The more pressing issue is chronic underinvestment in water systems in areas where the cost of necessary investment is significantly higher than what can expectedly be borne by customers in those systems. Underspending in small systems where rates are based solely

on the revenue requirement associated with that system is a far bigger problem in the industry that overspending in systems under CTP.

Q. What are your conclusions regarding the Company's CTP proposal?

A. The Commission should complete the process of consolidating tariffs across the Company's service territory and combine St. Louis County and non-St. Louis County customers into a single CTP offering. CTP has been shown to be in the long-term best interest of our customers and results in a rate design that is logical and sensible from the customer's perspective. Because more than half of the Company's revenue requirement is associated with delivery and customer service functions, the consolidation of pricing for those services across the service territory just as it is done for electric and gas utilities is a sensible approach to rate design. The principles of cost causation, which are more commonly applied to allocation of revenue requirement to customer classes than it is to differentiation of pricing by geography, is not destroyed through CTP. Economic efficiencies are not destroyed, and "subsidies" are no more created through CTP than they are through averaging rates for customers in other ways that are deemed completely reasonable. The Commission has already adopted CTP in the Company's service territory for a large number of independent operating districts, and the Commission should complete the process for CTP and approve a single consolidated tariff for all customers in the MAWC service territory.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

Missouri-American Water Company
Comparison of Rate L and Non-Qualifying Rate J
Monthly Usage Patterns (2019 Data)