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Rate Design  
Witness: James A. Busch  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**COMMISSION STAFF DIVISION**

**DIRECT TESTIMONY**

**OF**

**JAMES A. BUSCH**

**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2015-0301**

*Jefferson City, Missouri  
January 2016*

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Missouri-American            )  
Water Company's Request for                )  
Authority to Implement a General            )  
Rate Increase for Water and Sewer        )  
Service Provided in Missouri Service       )  
Areas    )

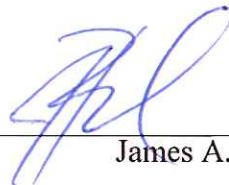
File No. WR-2015-0301

**AFFIDAVIT OF JAMES A. BUSCH**

**STATE OF MISSOURI    )**  
                                  )**ss**  
**COUNTY OF COLE        )**

**COMES NOW** James A. Busch and on his oath declares that he is of sound mind and lawful age; that he contributed to the attached Direct Testimony; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

  
\_\_\_\_\_  
James A. Busch

Subscribed and sworn to before me this 19<sup>th</sup> day of January, 2016.

SUSAN L. SUNDERMEYER  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Callaway County  
My Commission Expires: October 28, 2018  
Commission Number: 14942086

  
\_\_\_\_\_  
Notary Public

**DIRECT TESTIMONY**

**OF**

**JAMES A. BUSCH**

**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2015-0301**

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**DIRECT TESTIMONY**

**OF**

**JAMES A. BUSCH**

**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2015-0301**

13 Q. Please state your name and business address.

14 A. My name is James A. Busch and my business address is P. O. Box 360,  
15 Jefferson City, Missouri 65102.

16 Q. By whom are you employed and in what capacity?

17 A. I am the Regulatory Manager of the Water and Sewer Department, Staff  
18 Division of the Missouri Public Service Commission (Commission).

19 Q. Are you the same James A. Busch that sponsored the Rate Design and  
20 Customer Usage portions of Staff's *Report on Cost of Service* that was previously filed in this  
21 matter?

22 A. Yes, I am.

23 Q. Have your educational background and work experience already been  
24 discussed in this matter?

25 A. Yes. My credentials are listed in Appendix 1 of Staff's *Report on Cost of  
26 Service*.

27 Q. Have you previously filed testimony before the Commission?

28 A. Yes. The cases in which I have filed testimony before the Commission are  
29 listed in Appendix 1 of Staff's *Report on Cost of Service*.

Q. Did you prepare the class cost-of-service study (CCOS)?

1           A.     No. However, I am a co-case coordinator for this case and the Manager of the  
2 Water and Sewer Department for the Commission Staff's Division in this proceeding. The  
3 CCOS study was prepared under my direct supervision in those capacities. Staff expert Curtis  
4 Gateley performed the CCOS study and will be sponsoring the study.

5 **I.     EXECUTIVE SUMMARY**

6           Q.     What is the purpose of your direct testimony?

7           A.     The purpose of my direct testimony is to sponsor Staff's *Report on Class Cost*  
8 *of Service and Rate Design (Report)*. The Report will describe in greater detail Staff's  
9 position relating to the development of Staff's CCOS study and is being filed concurrently  
10 with this testimony. Also, this testimony will provide the support and justification for Staff's  
11 rate design proposal regarding district pricing.

12 **II.    CLASS COST OF SERVICE**

13          Q.     What is the general purpose of a CCOS study?

14          A.     The general purpose of a CCOS study is to determine a measure of relative  
15 class cost responsibility for the overall revenue requirement of a utility. For any given item of  
16 cost, the responsibility of a certain class of customer to pay that cost can be either directly  
17 assigned or allocated using a reasonable method for determining class responsibility for that  
18 cost.

19          Q.     What is the purpose of Staff's CCOS study in this proceeding?

20          A.     The purpose of Staff's CCOS study is to provide the Commission with a  
21 method to use to ultimately determine the relative class cost responsibility for the overall  
22 revenue requirement of Missouri-American Water Company (MAWC or Company) within its  
23 various service territories.

1 Q. What method of cost allocation did Staff use in its CCOS study when direct  
2 assignment was not possible?

3 A. Staff used the base-extra capacity method as described in the American Water  
4 Works Association manual of water supply practices, Principles of Water Rates, Fees, and  
5 Charges, Fifth Edition (AWWA M1). This is the method used by Staff and other parties in  
6 previous MAWC cases and is a widely accepted method for allocating costs to the various  
7 customer classes.

8 Q. What is Staff's recommendation to the Commission based on its CCOS study?

9 A. Staff recommends that the Commission utilize the results from Staff's CCOS  
10 study in determining the appropriate rate design to use to collect the appropriate revenues  
11 from the various customer classes and districts served by MAWC.

12 **III. RATE DESIGN**

13 Q. What is the general purpose of rate design?

14 A. The purpose of rate design is to take the results from a CCOS study and to  
15 design rates for each customer class in each service territory that will give the utility an  
16 opportunity to collect its Commission approved revenue requirement.

17 Q. What is the purpose of Staff's rate design proposal?

18 A. The purpose of Staff's rate design proposal is to present to the Commission a  
19 method to design rates for the various customer classes receiving service in MAWC's various  
20 service territories. In this proceeding, Staff is proposing a similar method as it proposed in  
21 MAWC's previous rate case, Case No. WR-2011-0337. The purpose of Staff's rate proposal  
22 is to design rates that will be used to collect the appropriate levels of revenue from each  
23 service territory and from each customer class. In the case of MAWC, rate design is

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1 multifaceted. As discussed above, the general purpose of rate design is to develop rates for  
2 each customer class based upon an allocation of the Company's cost of service. However, in  
3 MAWC's case, rates must also be developed based upon the allocation of the Company's cost  
4 of service to its various service territories. This allocation is generally performed prior to the  
5 allocation of the cost of service to the various classes.

6 Q. Is the allocation of costs to the various districts performed in a similar manner  
7 as the allocation of costs to the customer classes?

8 A. Yes. There are costs that can be directly assigned to a particular district. An  
9 example would be costs associated with a treatment facility or the distribution system.  
10 However, there are certain corporate costs that must be allocated to all of the districts. The  
11 Commission's Auditing Staff determined an appropriate manner to allocate corporate costs to  
12 the various districts and between the water and sewer systems as well.

13 Q. How were rates developed in previous MAWC rate cases?

14 A. In previous rate cases, going back to MAWC's rate case in and around 2000,  
15 rates were generally developed based on district-specific pricing (DSP).

16 Q. Please explain DSP.

17 A. District-specific pricing takes all of the costs of providing service to each  
18 individual district and develops rates based upon that district's cost of service. Thus, the rates  
19 that ratepayers in any district pay only cover costs associated with providing service to that  
20 district. As mentioned earlier, certain costs can be assigned directly to each district.  
21 Additionally, certain corporate costs must be allocated to each district based upon certain  
22 allocation factors. These factors can include customer numbers, feet of main, etc., depending

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1 upon the cost. Under DSP, the direct costs and allocated costs are put together to determine a  
2 district's specific cost of service.

3 Q. What is the primary benefit of DSP?

4 A. The primary benefit of DSP is that the cost causers pay for the costs. This is  
5 commonly referred to as cost causation. What this means is that those customers (generally  
6 district-wide or based on customer class) who caused the cost to occur are the customers  
7 responsible for paying those costs.

8 Q. You indicated that rates were "generally developed" using a DSP pricing  
9 strategy in previous cases. Please explain.

10 A. Due to certain districts having very small customer numbers and relatively  
11 high cost of service, certain levels of support were built into rates of larger districts to help  
12 offset the rates for the smaller districts. This was developed to help minimize rate shock and  
13 to try to keep rates in smaller districts as affordable as possible. However, rates in certain  
14 districts were still much higher than rates in other districts.

15 Q. Is there a different type of pricing strategy that can be used to develop rates?

16 A. Yes. The opposite method of DSP is single-tariff pricing (STP), also known as  
17 consolidated-tariff pricing. In STP, all costs from the utility are combined and rates are  
18 developed on a system-wide basis. Thus, residential customers in all of the utility's service  
19 territories will pay the same customer charge and commodity rate. For example, a MAWC  
20 residential customer in St. Joseph will be charged the same rate as a residential customer in  
21 Mexico and as a residential customer in Joplin.

22 Q. What is the primary benefit of STP?



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1           A.     The primary benefit of STP is that it spreads out costs to a larger customer  
2 base. This helps mitigate the impact of large capital expenditures that need to be made by the  
3 Company in any particular district.

4           Q.     Are DSP and STP the only two methods that can be used to develop rates?

5           A.     No. DSP and STP are the two extremes on the rate design spectrum. An  
6 analyst can also use a combination, or hybrid, of the two extremes to develop rates  
7 appropriate to collect the revenues needed by the Company to cover its cost of service.

8           Q.     What is MAWC's current rate design?

9           A.     In the previous rate case, an agreement was reached among the parties, and  
10 approved by the Commission, that combined the principles of both DSP and STP. The largest  
11 seven districts, St. Louis Metro, Mexico, Jefferson City, Warrensburg, Joplin, Platte County,  
12 and St. Joseph had rates designed specific to their cost of service. The remaining service  
13 territories were combined into one district, entitled "District 8." Within District 8, the various  
14 service territories were paired together to create sub-districts. One of those sub-districts that  
15 contained the White Branch and Rankin Acres service territories has only a flat monthly  
16 customer charge due to the fact that these customers do not have meters installed. The rate  
17 structure of the other sub-districts includes a common customer charge and a commodity  
18 charge that varies by sub-district.

19          Q.     What method is Staff recommending in this proceeding?

20          A.     Staff is proposing to re-introduce its hybrid approach in this proceeding,  
21 similar to its approach in the last rate case.

22          Q.     Why is Staff proposing to move away from the design agreed to in the last rate  
23 case?

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1           A.       There are many reasons why Staff is re-introducing its recommended rate  
2 design from the last rate proceeding.

3           First, MAWC continues to increase the number of districts in which it provides  
4 service. Service territories added to MAWC's portfolio since the last rate case include, Anna  
5 Meadows (water and sewer), the City of Arnold (sewer), Meramec (sewer), Redfield (water),  
6 Emerald Pointe (water and sewer), Tri-States (water), and Saddlebrooke (water and sewer).  
7 This list does not include other properties that MAWC has recently been granted approval to  
8 take over, but which will not be included in this rate case, i.e. Hickory Hills, Jaxon Estates,  
9 and Benton County Sewer District. The service territories that have been added to MAWC's  
10 territory are relatively small with a mainly residential customer base. With so many districts,  
11 especially many that are very small, it becomes difficult to continue to develop rates on a  
12 district-specific basis.

13           The reason for the difficulty in developing rates on a district-specific basis is the need  
14 to allocate corporate costs to each separate service territory. Corporate costs are a substantial  
15 portion of the cost of service for MAWC. Trying to determine the most equitable manner to  
16 allocate those costs to each service territory (especially the very small service territories) is  
17 difficult when attempting to determine the true cost of service to those service territories.  
18 Combining these service territories in the manner as Staff has in this proceeding alleviates  
19 some of the need for precision. Corporate costs are allocated to a larger grouping of service  
20 territories via the hybrid-district in which they are assigned. While the method approved in  
21 the last case resulted in reducing the number of districts, Staff proposes additional reductions  
22 in districts to help further alleviate those cost allocation concerns.

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1           Second, because of an agreement in the last rate case that required Staff to perform  
2 separate cost of service studies for each district, many Staff hours were devoted in this  
3 proceeding to the allocation and direct assignment of costs to the nearly 30 separate districts  
4 where MAWC provides service. While Staff was able to adequately perform such a task in  
5 this case, Staff will be able to more efficiently allocate its resources to the overall audit and  
6 investigation of the Company's books and records, rather than separating and allocating each  
7 cost to the separate districts if the Commission approves Staff's proposed rate design. Staff's  
8 recommended approach may benefit the customers through reduced rate case expense, as it is  
9 likely that the Company will not have to allocate as many resources to future rate cases.

10           Third, as noted above, the systems that MAWC has been purchasing are small systems  
11 with mostly small, primarily residential customer bases. In order to keep these small systems  
12 in proper working order so that they can continue to provide safe, adequate, and reliable  
13 service to their customers, investment is needed or will need to be made in the future. When  
14 improvements need to be made, the higher cost of upgrades must be spread over the smaller  
15 customer base, which may cause rates to increase dramatically. The dramatic increases may  
16 result in rate shock to the consumers.

17           One way to mitigate or offset potential rate shock from the cost of those needed  
18 repairs is to spread those costs over a larger customer base. Since many of the smaller  
19 systems experience little or no growth, the only way to spread the costs to a larger customer  
20 base is to move away from DSP. Thus, a larger number of customers will be responsible for  
21 providing the appropriate level of revenues to the Company. This helps those smaller system  
22 customers.

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1 Fourth, as described earlier, there are three systems that MAWC has just recently been  
2 approved to take over. In Staff's opinion, moving away from a strict DSP rate design  
3 philosophy will encourage not only MAWC, but other water and sewer utilities, to invest in  
4 Missouri. It will also ensure that safe, adequate and reliable water and sewer service is  
5 available to the citizens of the State.

6 Q. What is Staff's specific rate design proposal in this proceeding?

7 A. Specifically, Staff proposes to create three hybrid water districts. The hybrid  
8 districts would be made up of the following service territories:

- 9 • Water District 1 – St. Louis Metro (St. Louis County, Warren County and St.  
10 Charles), Mexico, Jefferson City, Anna Meadows, Redfield, and Lake Carmel.
- 11 • Water District 2 – St. Joseph, Platte County, and Brunswick.
- 12 • Water District 3 – Joplin, Stonebridge, Warrensburg, White Branch, Lake  
13 Taneycomo, Lakewood Manor, Rankin Acres, Spring Valley, Tri-States,  
14 Emerald Pointe, Maplewood, and Riverside Estates.

15 For sewer service, Staff proposes five districts:

- 16 • Sewer District 1 – Arnold.
- 17 • Sewer District 2 – Platte County
- 18 • Sewer District 3 – Cedar Hills, Warren County, Anna Meadows, and Meramec
- 19 • Sewer District 4 – Jefferson City, Maplewood, and Ozark Meadows
- 20 • Sewer District 5 – Stonebridge, Saddlebrooke, and Emerald Pointe.

21 Q. Please explain Staff's rationale for its recommendation regarding the water  
22 districts.

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1           A.       Staff's rationale was to choose the combination of service territories for each  
2 of the three hybrid districts for water with respect to the basic concept of cost causation that  
3 underlies DSP. Staff reviewed the operating characteristics of all of the systems and generally  
4 placed each system with other systems that exhibited similar operating characteristics and are  
5 in geographic proximity. Staff grouped the systems based on operating characteristics  
6 determined by source of supply (surface water, alluvial wells, or deep wells) and based on  
7 geographic location. It is Staff's opinion that these hybrid districts would exhibit the general  
8 principles of cost causation as explained in more detail below.

9           For Water District 1, the two larger territories, St. Louis and Jefferson City, receive  
10 their source of water supply from surface water locations. Also, MAWC's operations  
11 combine all service areas in Staff's proposed District 1. These areas share many of the same  
12 labor and management functions and thus share in those corporate costs.

13           For Water District 2, the three water systems all receive their source of supply from  
14 alluvial wells. The Company also combines these territories in its operations and thus they  
15 share many of the same labor and management functions.

16           For Water District 3, the systems mainly receive their source of water supply from  
17 deep wells. Joplin utilizes sources of water supply from a surface water site as well as several  
18 deep wells. These systems are geographically close, as well. As a result, MAWC will have  
19 similar labor and management supervising these systems.

20           Q.       Please explain Staff's rationale for its recommendation regarding the sewer  
21 districts.

22           A.       Unlike the water systems, there is no basic rhyme or reason for one system  
23 having a lagoon versus a mechanical treatment plant. Staff tried to group these systems based

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1 on geographic location. This is a reasonable approach because the workers who will be  
2 responsible for any given district will generally also have responsibility for nearby systems.

3 Q. Is Staff abandoning its support of DSP in all instances?

4 A. No. Staff investigates each instance on a case-by-case basis and will make a  
5 recommendation that, in its opinion, is best for that particular situation. Blindly adopting one  
6 pricing strategy over another pricing strategy is not in the public interest. Each situation is  
7 different and conditions are constantly changing which requires a vigilant review and  
8 investigation to determine the best solution. Thus, it is based upon this review and  
9 investigation of MAWC's current situation that Staff proposes its hybrid-district rate design  
10 proposal for Commission approval.

11 Q. Are there any other adjustments that Staff has made to its rate design proposal?

12 A. Yes. According to Staff's cost of service calculations and subsequent rate  
13 design, the customers in Staff's sewer districts 2, 3, and 4 would receive an increase while  
14 customers in sewer districts 1 and 5 would receive a decrease. Overall, the total cost of  
15 service for sewer is \$39,345. Based on the limited overall increase to sewer operations, Staff  
16 is recommending leaving all sewer rates at their current levels at this time. The \$39,345 in  
17 revenue responsibilities has been transferred to water district 2 since Staff's cost of service  
18 shows it having the largest overall decrease of over \$3,000,000. In Staff's opinion, this is a  
19 reasonable adjustment to make.

20 Q. Please explain why "transferring" the \$39,345 is a reasonable adjustment.

21 A. When determining an appropriate cost of service for a service territory or  
22 district, many corporate costs need to be allocated to those separate districts, both water and  
23 sewer. There is no one right way to allocate those costs and there is never 100 percent

1 | certainty in the overall actual cost of providing service to any one service territory or district.  
2 | However, Staff has used an appropriate method to allocate corporate costs to each district.  
3 | Thus, the shifting of approximately \$39,000 in revenue responsibilities from the sewer  
4 | districts to a water district is within a zone of reasonableness in determining the appropriate  
5 | cost of service to each district.

6 | **IV. TARIFF ISSUES**

7 | Q. Has MAWC proposed various changes to its tariffs?

8 | A. Yes. In its direct filing, MAWC proposed to consolidate its sewer tariff as  
9 | well as proposing other tariff changes. For Staff's direct filing, Staff is not proposing any  
10 | changes to MAWC's tariffs. However, Staff reserves the right to make further  
11 | recommendations in its rebuttal testimony.

12 | **V. RECOMMENDATION**

13 | Q. What is Staff's recommendation to the Commission?

14 | A. Staff recommends that the Commission accept Staff's class cost-of-service  
15 | study and adopt its hybrid-district rate design recommendation of combining certain service  
16 | territories as outlined in this testimony.

17 | Q. Does this conclude your direct testimony?

18 | A. Yes.