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Issues:  
Witness: Gregory P. Roach  
Exhibit Type: Supplemental Direct  
Sponsoring Party: Missouri-American Water Company  
Case No.: WR-2015-0301  
SR-2015-0302  
Date: February 10, 2016

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. WR-2015-0301  
CASE NO. SR-2015-0302**

**SUPPLEMENTAL DIRECT TESTIMONY**

**OF**

**GREGORY P. ROACH**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

*MAWC* Exhibit No. 25  
Date 3-21-16 Reporter HR  
File No. WR-2015-0301

BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI

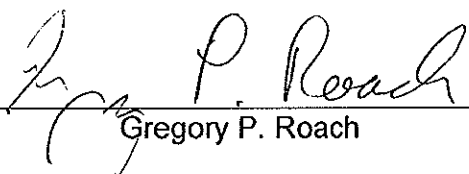
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IN THE MATTER OF MISSOURI-AMERICAN )	
WATER COMPANY FOR AUTHORITY TO )	
FILE TARIFFS REFLECTING INCREASED )	CASE NO. WR-2015-0301
RATES FOR WATER AND SEWER )	CASE NO. SR-2015-0302
SERVICE )	

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AFFIDAVIT OF GREGORY P. ROACH

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

  
\_\_\_\_\_  
Gregory P. Roach

State of New Jersey  
County of Camden

SUBSCRIBED and sworn to

Before me this 10<sup>th</sup> day of FEBRUARY 2016.

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

My commission expires: 4/15/2020

ANN G. ALFANO  
NOTARY PUBLIC OF NEW JERSEY  
ID # 50014130  
My Commission Expires 4/15/2020

**SUPPLEMENTAL DIRECT TESTIMONY  
GREGORY P. ROACH  
MISSOURI-AMERICAN WATER COMPANY  
CASE NO. WR-2015-0301  
CASE NO. SR-2015-0302**

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**SUPPLEMENTAL TESTIMONY**

**Gregory P. Roach**

**I. INTRODUCTION**

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**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Gregory P. Roach, and my business address is 555 E. County Line Road, Suite 201, Greenwood, IN 46143.

**Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?**

A. Yes, I have submitted direct testimony in this proceeding.

**Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY?**

A. My Supplemental testimony will address is to respond to the Commission Order issued February 3, 2016, to address the Water Utility Rate Design Analysis submitted by Staff on June 16, 2015.

**Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION")?**

A. My prefilled testimony in this proceeding was my first testimony before the Commission. I have, however, both presented prefilled testimony and testified before several regulatory commissions that regulate various American Water Works Company regulated utility subsidiaries.

1 **II. OVERVIEW**

2 **Q. WHICH RATE STRUCTURE SUBJECTS WILL YOUR SUPPLEMENTAL**  
3 **TESTIMONY ADDRESS?**

4 A. I will address concepts 5 and 6, as follows:

5 5. Modified future test year for consumption.

6 6. One way tracker for Consumption

7 Company witness Mr. Scott Rungren will address item 7.

8  
9 **III. MODIFIED FUTURE TEST YEAR FOR CONSUMPTION**

10 **Q. PLEASE DISCUSS WHY A FUTURE TEST YEAR SHOULD BE MODIFIED**  
11 **FOR CHANGES IN CONSUMPTION?**

12 A. A forecasted future test year allows for the projection of unit water sales  
13 volumes that account for reductions in non-discretionary usage which are  
14 dependent on contemporary and future water conservation water fixture  
15 regulations and discretionary water usage associated with normalized climatic  
16 conditions. Such a forecast allows for a rate design based on water sales  
17 volumes that more accurately reflect what MAWC or any other water utility  
18 would experience in the future thus minimizing the probability of either over or  
19 under recovery the authorized revenue requirement. This allows the water  
20 service provider to charge rates that more accurately reflect the contemporary  
21 cost of consuming water as opposed to a unit price that is under-inflated due  
22 to over statement of water sales volumes associated with historic test years  
23 or averaging techniques that fail to capture the impact of reductions in the  
24 usage of discretionary indoor water flows.

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2 Q. IS THERE EMPIRICAL EVIDENCE OF THE FINANCIAL IMPACT OF SUCH  
3 BILLING UNIT INFLATION OF TEST YEAR WATER SALES VOLUMES  
4 WHICH HAVE FAILED TO CAPTURE THE EFFECT OF DISCRETIONARY  
5 INDOOR WATER USAGE THROUGH THE BILLING UNITS UTILIZED FOR  
6 RATE DESIGN?

7 A. Yes, as I illustrated in my direct testimony in this proceeding and reproduce  
8 herein as Table GPR-1S, the analysis demonstrates that over the period of  
9 2012-2015, including a record warm/drought in 2012, that MAWC under  
10 collected its authorized revenue by approximately \$42.6 million and failed to  
11 hit its authorized water sales volumes by 5.193 million gallons. This is a clear  
12 example of how using historic test year consumption data leads to chronic  
13 under collection of the authorized revenue requirement due to setting water  
14 sales consumption levels that do not take into consideration of the declining  
15 trend of non-discretionary water consumption.

**Table GPR-1S**  
**Missouri American Water Co.**  
**Actual Revenue/Water Sales Compared to Authorized**  
**(2012-2015)**

	2012**	2013	2014	2015***	2011-2015
MAWC Total Annual Revenue	279,467,636	264,778,072	270,239,218	266,369,812	
Total Authorized Revenue*	265,856,142	276,498,635	289,598,802	291,518,793	
Revenue Recovery to Allowed (Under)/Over	13,611,494	(11,720,563)	(19,359,584)	(25,148,981)	(42,617,634)
MAWC Total Annual Water Sales	64,866,438	58,083,752	56,927,384	56,979,050	
Total Authorized Water Sales*	60,512,361	60,512,361	60,512,361	60,512,361	
Water Sales to Allowed (Under)/Over	4,354,077	(2,428,610)	(3,584,977)	(3,533,311)	(5,192,822)

\* Per State of Missouri Public Service Commission Order WR-2011-0337, Issued March 7, 2012, adjusted for subsequent ISRS Filings.  
\*\* Summer 2012 historically warm and dry; 4th driest summer since 1895, warmest summer since 1895 NOAA/NCDC  
\*\*\* 2015 Annualized based on average ratio of YTD/Annual for the period 2010-2014

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**Q. PLEASE DISCUSS HOW A FUTURE TEST YEAR SHOULD BE MODIFIED FOR CHANGES IN CONSUMPTION?**

A. A future test year should be modified by setting future water sales volumes such that they capture the effect of two factors that impact future water sales volumes; 1) The declining water consumption of non-discretionary indoor water usage which is dependent on the replacement of older less efficient water fixtures with those fixtures meeting enhanced water conservation standards, the addition of new housing stock whose water fixtures must meet the then contemporary revised water use standards and various responses to economic indicators such as income, employment and price of water among others and 2) discretionary outdoor water usage normalized for average anticipated weather conditions over a period that mitigates short-term climatic weather fluctuations.

**Q. WHY SHOULD FUTURE TEST YEAR CONSUMPTION VOLUMES BE FORECASTED WITH SUCH A DIFERCATED PROCESS AS YOU DESCRIBE ABOVE?**

A. Simple averaging techniques such as the one employed by the Commission Staff and OPC in this proceeding to set Test Year water sales volumes fail to meet either criterion detailed above. First, a simple averaging technique utterly fails to identify any trend in the non-discretionary indoor water usage as any variation in the total water use data employed in the averaging technique is completely driven by short-term changes in climatic conditions

1 during the period used for averaging. Second, by averaging total usage over  
2 a certain discrete time period, the simple averaging technique is completely  
3 dependent on the weather conditions experienced during that time frame as  
4 opposed to being normalized for weather conditions reflecting a much longer  
5 term not bias by short term climatic fluctuations. Only by segregating water  
6 usage into its discreet indoor non-discretionary and outdoor discretionary  
7 weather related components can the impact of longer term trends related to  
8 water fixture replacement, new conservation standards and changing  
9 economic conditions be incorporated into the forecasted future test year.

10

11 **Q. COULD ECONOMETRIC REGRESSION MODELING BE USED AS A**  
12 **FORECAST TOOL TO CAPTURE BOTH THE DISCRETIONARY AND**  
13 **NON-DISCRETIONARY TRENDS AND FORECAST THEM INTO THE**  
14 **FUTURE?**

15 A. In theory that would be possible. However based on my own modeling  
16 experience for other utility forecasting efforts, these models tend to be  
17 dominated by the climatic variable used in the analysis and the time variable  
18 which leaves very little variance to be explained by any economic variables  
19 (price, income, employment, etc.). As a result, these types of models do not  
20 bring an additional fidelity to a future test year forecast then the bifurcation  
21 method employed by MAWC in this proceeding.

22

23 **Q. WHAT IS YOUR RECOMMENDATION RELATED TO A MODIFIED**  
24 **FUTURE TEST YEAR FOR CONSUMPTION?**



1 A. I recommend that the Commission approve a modified future test year for  
2 consumption in this proceeding as a forecasted test year for consumption is in  
3 the best interest of both the rate payer and the stockholder providing a fix  
4 authorized level of revenue that insulates the rate payer from frequent rate  
5 cases and revenue requirement increases while providing the stockholder  
6 with an insured investment return.

7

8

#### **IV. ONE-WAY TRACKER FOR CONSUMPTION**

9 **Q. WHAT IS THE GENERAL PURPOSE OF A CONSUMPTION TRACKER IN**  
10 **THE REGULATORY PROCESS?**

11 A. A consumption tracker is generally used as part of a revenue stability  
12 mechanism whereby changes in the realization of the authorized revenue due  
13 to changes in water consumption levels results in either a credit to the  
14 customer (instances of revenue over collection or instances where actual  
15 sales are greater than authorized) or a surcharge to the customer (instances  
16 of revenue under collection or instances where actual sales are less than  
17 authorized). In this manner, the Consumption tracker balances the interests  
18 of protecting the rate payer from over collection and protects the interests of  
19 the shareholder by insuring the authorized return on investment. Further, this  
20 type of tracker insulates BOTH the rate payer and the shareholder from  
21 prolonged over or under collection of the revenue requirement due to  
22 abnormal weather conditions.

23

1 **Q. HOW WOULD THE PROPOSED ONE-WAY CONSUMPTION TRACKER**  
2 **WORK IN PRACTICE?**

3 A. As proposed, the one-way consumption tracker would only be active in  
4 instances where the realization of actual revenue due to changes in water  
5 consumption levels would result in a credit to the customer (instances of  
6 revenue over collection or instances where actual sales are greater than  
7 authorized). In instances where actual revenue is under collected as  
8 compared to authorized due to changes in water consumption levels (where  
9 actual sales are less than authorized) a surcharge would NOT be available to  
10 MAWC to allow the company to make its authorized return.

11  
12 **Q. WHAT ARE THE ECONOMIC IMPLICATIONS OF THE PROPOSED ONE-**  
13 **WAY CONSUMPTION TRACKER?**

14 A. As proposed, the one-way tracker mechanism would have significantly  
15 different impacts on rate payers and stockholders. First it would provide  
16 incentive for rate payers to over consume water as they will be rewarded with  
17 a rate decrease when their consumption exceeds the authorized consumption  
18 level. Second, conversely, since MAWC would not be insulated from the  
19 effects of water use conservation resulting in actual usage and hence  
20 revenue falling short of their authorized levels, MAWC would be unable to  
21 guarantee its authorized return on investment to stockholders and such  
22 additional investment risk would tend to retard future investment in the MAWC  
23 system.

24

1 **Q. IS THE PROPOSED ONE-WAY CONSUMPTION TRACKER VIABLE IN**  
2 **THE LONG TERM?**

3 A. No, because the proposed one-way consumption tracker does not balance  
4 risk and reward between the rate payer and the stockholder, in the long run it  
5 will result in the inefficient consumption of scarce water resources while  
6 providing a significant disincentive for future investment in the MAWC system.  
7 In the long run it would inject significant externalities beyond price into the  
8 consumption decision for water while providing the exact opposite externality  
9 for investment in the very system that is being over consumed.

10

11 **Q. WHAT IS YOUR RECOMMENDATION RELATED TO THE PROPOSED**  
12 **ONE-WAY TRACKER FOR CONSUMPTION?**

13 A. I recommend that the Commission reject this or any tracker mechanism that  
14 is one-sided, creates externalities that provide for an incentive to consume  
15 water inefficiently while not providing for any certainty to shareholders to  
16 invest in the very system that would be potentially over consumed under the  
17 proposed one-way tracker mechanism. In summary, the proposed one-way  
18 tracker mechanism is unfair to investors, promotes inefficient use of water, is  
19 terrible public policy as it relates to water conservation practices and is very  
20 short sighted as a rate making concept.

21

22 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

23 A. Yes, it does.