

**Exhibit No.:**  
**Issue(s):**  
**Witness/Type of Exhibit:**  
**Sponsoring Party:**  
**Case No.:**

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Revenue  
Mantle/Direct  
Public Counsel  
WR-2015-0301

**DIRECT TESTIMONY**  
  
**OF**  
  
**LENA M. MANTLE**

Submitted on Behalf of the Office of the Public Counsel

**MISSOURI-AMERICAN WATER COMPANY**  
  
**CASE NO. WR-2015-0301**

December 23, 2015



**DIRECT TESTIMONY**  
**OF**  
**LENA M. MANTLE**  
**MISSOURI AMERICAN WATER COMPANY**  
**CASE NO. WR-2015-0301**

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

2 A. My name is Lena M. Mantle and my business address is P.O. Box 2230, Jefferson City,  
3 Missouri 65102. I am a Senior Analyst for the Office of the Public Counsel (“OPC”).

4 **Q. PLEASE DESCRIBE YOUR EXPERIENCE AND YOUR QUALIFICATIONS.**

5 A. I worked for the Staff of the Missouri Public Service Commission (“Staff”) from August  
6 1983 until I retired in December 2012. During the time that I was employed at the Missouri  
7 Public Service Commission (“Commission”), I worked as an Economist, Engineer,  
8 Engineering Supervisor and Manager of the Energy Department. During my employment  
9 with Staff, my responsibilities included review of usage data and the calculation of weather  
10 normalization adjustments of electric usage. In addition, I oversaw the usage normalization  
11 analysis for large customer changes, billing problems, and billing-cycle adjustments  
12 recommended by the Economic Analysis Section of the Energy Department in electric and  
13 gas cases.

14 I was employed by the OPC in my current position in August 2014.

15 Attached as Schedule LMM-1 is a brief summary of my experience with Staff and  
16 a list of the Commission cases in which I filed testimony, Commission rulemakings in  
17 which I participated and Commission reports to which I contributed.

18 I am a Registered Professional Engineer in the State of Missouri.

1 **REVENUE NORMALIZATION RECOMMENDATION**

2 **Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?**

3 A. The purpose of this testimony is to provide the recommendation regarding the normalized  
4 revenues of Missouri American Water Company (“MAWC”) of the Office of Public  
5 Counsel (“OPC”) and to explain why it is necessary to apply this adjustment to test year  
6 revenues.

7 **Q. WHAT IS OPC’S RECOMMENDATION REGARDING THE NORMALIZATION**  
8 **OF REVENUES?**

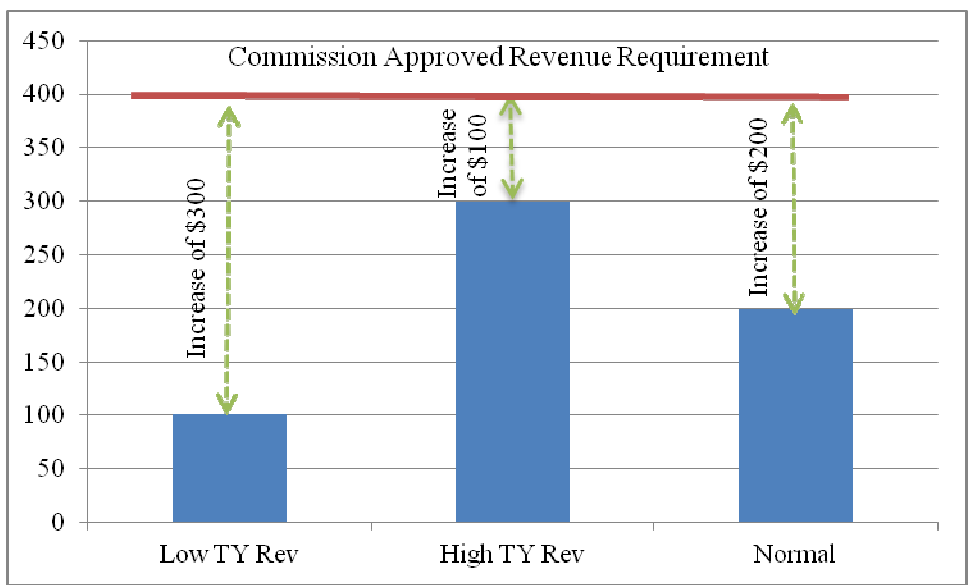
9 A. OPC is recommending that the test year revenues in this case be increased by \$8,454,110.

10 **REASON FOR REVENUE NORMALIZATION**

11 **Q. WHY IS A NORMALIZATION ADJUSTMENT TO TEST YEAR REVENUES**  
12 **NECESSARY?**

13 A. In this case, the Commission will determine the revenue requirement for MAWC and rates  
14 will be changed to provide MAWC the opportunity to collect this revenue requirement.  
15 The amount of change is the difference between this new revenue requirement set by the  
16 Commission and the revenue already being collected by MAWC. The revenue currently  
17 collected by MAWC is dependent upon the usage of its customers, and this usage varies  
18 from year to year. If normalization adjustments are not done and the usage in the test year  
19 is lower than normal then, given normal usage and all else remaining equal, the new rates  
20 will generate more revenue than the revenue requirement set by the Commission. If the  
21 usage in the test year is higher than normal then, given normal usage and all else remaining

1 equal, the new rates will generate less revenue than the revenue requirement determined by  
2 the Commission. This concept is shown in the graph below.



3  
4 In this example, the Commission determines that a revenue requirement of \$400 is  
5 necessary for the utility. The correct increase, given normal usage, is \$200. If the test year  
6 revenues are lower than normal, \$100, and no adjustment takes place, the increase would  
7 be \$300 which, even though the Commission set the revenue requirement at \$400, would  
8 result in rates being set to obtain a revenue requirement of \$500 for normal usage.  
9 Likewise, if test year revenues were higher than normal, in this example \$300, the increase  
10 would only be \$100 resulting in revenues of \$300, not the \$400 ordered by the  
11 Commission.

1 **Q. ACCORDING TO YOUR ANALYSIS, WAS THE REVENUE BILLED BY MAWC**  
2 **IN THE TEST YEAR ABOVE OR BELOW NORMAL?**

3 A. Both my analysis and the analysis of MAWC show that the test year revenue billed was  
4 below normal.

5 **Q. WHAT WOULD BE THE RESULT OF THE COMMISSION USING THE TEST**  
6 **YEAR REVENUES TO DETERMINE THE INCREASE IN RATES?**

7 A. Because the usage used to generate revenues is lower than normal in the test year, if test  
8 year revenues are used, the change in revenues would be greater and rates would be higher  
9 than if normalized revenues were used. This would result in higher bills for customers. In  
10 addition, all other things being equal, MAWC would over-earn for each increment of  
11 usage greater than the usage in the test year.

12 **BASIS FOR OPC'S REVENUE ADJUSTMENT**

13 **Q. HOW DID YOU DETERMINE OPC'S RECOMMENDED ADJUSTMENT TO**  
14 **REVENUES?**

15 A. I calculated the five year average usage per customer by district and the percentage change  
16 for each district to adjust the test year usage to this five year average. I then input these  
17 percentage changes in the spreadsheet that MAWC developed to calculate the impact of its  
18 estimated change on revenues. I accepted all the other MAWC adjustments to revenue  
19 resulting in a total adjustment to revenues of \$8,454,110.

20 **Q. WHY DID YOU USE A FIVE YEAR AVERAGE TO NORMALIZE RESIDENTIAL**  
21 **USAGE?**

1 A. I carefully reviewed the usage and customer data provided in workpapers and in response to  
2 data requests and the revenue analysis provided by MAWC. Due to inconsistencies in the  
3 usage and customer data and fluctuations of usage and customer numbers, I made the  
4 determination that a five year average is the best estimate of normal.

5 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

6 A. Yes, it does.

## **Education and Work Experience Background for**

### **Lena M. Mantle, P.E.**

I received a Bachelor of Science Degree in Industrial Engineering from the University of Missouri, at Columbia, in May, 1983. I joined the Research and Planning Department of the Missouri Public Service Commission in August, 1983 and worked under the direct supervision of Dr. Michael Proctor. I became the Supervisor of the Engineering Analysis Section of the Energy Department in August, 2001. In July, 2005, I was named the Manager of the Energy Department. The Energy Department was renamed the Energy Unit in August, 2011. I am a registered Professional Engineer in the State of Missouri.

In my work at the Commission from May 1983 through August 2001, I worked in many areas of electric utility regulation. Initially I worked on electric utility class cost-of-service analysis and fuel modeling. As a member of the Research and Planning Department, I participated in the development of a leading-edge methodology for weather normalizing hourly class energy for rate design cases. I took the lead in developing personal computer programming of this methodology and applying this methodology to weather-normalize electric usage in numerous electric rate cases. I was also instrumental in the development of the Missouri Public Service Commission electronic filing and information system.

My responsibilities as the Supervisor of the Engineering Analysis section considerably broadened my work scope. I remained the lead Staff member on weather normalization in electric cases but also supervised the engineers in a wide variety of engineering analysis including electric utility fuel and purchased power expense estimation for rate cases, generation plant construction audits, review of territorial agreements, and resolution of customer complaints. As the Manager of the Energy Unit, I oversaw the activities of the Engineering Analysis section, the electric and natural gas utility tariff filings, the Commission's natural gas safety staff, fuel adjustment clause filings, resource planning compliance review and the class cost-of-service and rate design for natural gas and electric utilities.

I retired from the Commission Staff on December 31, 2012.

I began working at the Office of the Public Counsel as a Senior Analyst in August 2014. In my work for the Public Counsel, I provide analytic and engineering support in cases before the Commission.

Lists of the Missouri Public Service Commission rules in which I participated in the development of or revision to, Missouri Public Service Commission Staff reports that I contributed to and Cases that I provided testimony in follow.



### **Missouri Public Service Commission Rules**

4 CSR 240-3.130	Filing Requirements and Schedule of Fees for Applications for Approval of Electric Service Territorial Agreements and Petitions for Designation of Electric Service Areas
4 CSR 240-3.135	Filing Requirements and Schedule of Fees Applicable to Applications for Post-Annexation Assignment of Exclusive Service Territories and Determination of Compensation
4 CSR 240-3.161	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.162	Electric Utility Environmental Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.190	Reporting Requirements for Electric Utilities and Rural Electric Cooperatives
4 CSR 240-14	Utility Promotional Practices
4 CSR 240-18	Safety Standards
4 CSR 240-20.015	Affiliate Transactions
4 CSR 240-20.017	HVAC Services Affiliate Transactions
4 CSR 240-20.090	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms
4 CSR 240-20.091	Electric Utility Environmental Cost Recovery Mechanisms
4 CSR 240-22	Electric Utility Resource Planning
4 CSR 240-80.015	Affiliate Transactions
4 CSR 240-80.017	HVAC Services Affiliate Transactions

### **Staff Direct Testimony Reports**

ER-2012-0175	Capacity Allocation, Capacity Planning
ER-2012-0166	Fuel Adjustment Clause
ER-2011-0028	Fuel Adjustment Clause
ER-2010-0356	Resource Planning Issues
ER-2010-0036	Environmental Cost Recovery Mechanism
HR-2009-0092	Fuel Adjustment Rider
ER-2009-0090	Fuel Adjustment Clause, Capacity Requirements
ER-2008-0318	Fuel Adjustment Clause
ER-2008-0093	Fuel Adjustment Clause, Experimental Low-Income Program
ER-2007-0291	DSM Cost Recovery

**Office of Public Counsel Case Listing**

<b>Case</b>	<b>Filing Type</b>	<b>Issue</b>
ER-2014-0370	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2014-0351	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2014-0258	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
EC-2014-0224	Surrebuttal	Policy, Rate Design

**Missouri Public Service Commission Staff Case Listing**

<b>Case No.</b>	<b>Filing Type</b>	<b>Issue</b>
ER-2012-0175	Rebuttal, Surrebuttal	Resource Planning Capacity Allocation
ER-2012-0166	Rebuttal, Surrebuttal	Fuel Adjustment Clause
EO-2012-0074	Direct/Rebuttal	Fuel Adjustment Clause Prudence
EO-2011-0390	Rebuttal	Resource Planning Fuel Adjustment Clause
ER-2011-0028	Rebuttal, Surrebuttal	Fuel Adjustment Clause
EU-2012-0027	Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2010-0036	Supplemental Direct, Surrebuttal	Fuel Adjustment Clause
ER-2009-0090	Surrebuttal	Capacity Requirements
ER-2008-0318	Surrebuttal	Fuel Adjustment Clause
ER-2008-0093	Rebuttal	Fuel Adjustment Clause Low-Income Program
ER-2007-0004	Direct	Resource Planning
GR-2007-0003	Direct	Energy Efficiency Program Cost Recovery
ER-2007-0002	Direct	Demand-Side Program Cost Recovery
ER-2006-0315	Rebuttal	Demand-Side Programs Low-Income Programs
ER-2006-0315	Supplemental Direct	Energy Forecast
EA-2006-0314	Rebuttal	Jurisdictional Allocation Factor
EA-2006-0309	Rebuttal, Surrebuttal	Resource Planning
ER-2005-0436	Rebuttal, Surrebuttal	Low-Income Programs Energy Efficiency Programs
ER-2005-0436	Direct, Surrebuttal	Resource Planning
EO-2005-0329	Spontaneous	Demand-Side Programs Resource Planning
EO-2005-2063	Spontaneous	Demand-Side Programs Resource Planning
ER-2004-0570	Rebuttal, Surrebuttal	Energy Efficiency Programs Wind Research Program
ER-2004-0570	Direct	Reliability Indices
EF-2003-465	Rebuttal	Resource Planning
ER-2002-424	Direct	Derivation of Normal Weather
EC-2002-1	Direct, Rebuttal	Weather Normalization of Class Sales Weather Normalization of Net System
ER-2001-672	Direct, Rebuttal	Weather Normalization of Class Sales Weather Normalization of Net System

**Missouri Public Service Commission Staff Case Listing (cont.)**

ER-2001-299	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EM-2000-369	Direct	Load Research
EM-2000-292	Direct	Load Research
EM-97-575	Direct	Normalization of Net System
ER-97-394, et. al.	Direct, Rebuttal, Surrebuttal	Weather Normalization of Class Sales Weather Normalization of Net System Energy Audit Tariff
EO-94-144	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
ER-97-81	Direct	Weather Normalization of Class Sales Weather Normalization of Net System TES Tariff
ER-95-279	Direct	Normalization of Net System
ET-95-209	Rebuttal, Surrebuttal	New Construction Pilot Program
EO-94-199	Direct	Normalization of Net System
ER-94-163	Direct	Normalization of Net System
ER-93-37	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EO-91-74, et. al.	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EO-90-251	Rebuttal	Promotional Practices Variance
ER-90-138	Direct	Weather Normalization of Net System
ER-90-101	Direct, Rebuttal, Surrebuttal	Weather Normalization of Class Sales Weather Normalization of Net System
ER-85-128, et. al.	Direct	Demand-Side Update
ER-84-105	Direct	Demand-Side Update