

Exhibit No.:  
Issues: Riverside Public Safety and Adequacy  
of Water Service  
Witness: Kevin H. Dunn  
Exhibit Type: Rebuttal  
Sponsoring Party: Missouri-American Water Company  
Case No.: WR-2011-0337  
SR-2011-0338  
Date: January 19, 2012

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. WR-2011-0337  
CASE NO. SR-2011-0338**

**REBUTTAL TESTIMONY**

**OF**

**KEVIN H. DUNN**

**ON BEHALF OF**

**MISSOURI-AMERICAN WATER COMPANY**

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

<b>IN THE MATTER OF MISSOURI-AMERICAN )</b>	
<b>WATER COMPANY FOR AUTHORITY TO )</b>	
<b>FILE TARIFFS REFLECTING INCREASED )</b>	<b>CASE NO. WR-2011-0337</b>
<b>RATES FOR WATER AND SEWER )</b>	<b>CASE NO. SR-2011-0338</b>
<b>SERVICE )</b>	

**AFFIDAVIT OF KEVIN H. DUNN**

Kevin H. Dunn, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Kevin H. Dunn"; that said testimony was prepared by him and/or under his direction and supervision; that if inquires 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.



Kevin H. Dunn

**State of Missouri**  
**County of St. Louis**  
**SUBSCRIBED and sworn to**  
**Before me this 17<sup>th</sup> day of January 2012.**



**Notary Public**

**My commission expires:**



1 **REBUTTAL TESTIMONY**

2 **KEVIN H. DUNN**

3  
4  
5 **WITNESS INTRODUCTION AND PURPOSE**

6  
7 **Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.**

8 A. My name is Kevin H. Dunn and my title is Director - Engineering for Missouri-  
9 American Water Company ("MAWC or "Company"). My business address is  
10 727 Craig Road, St. Louis, Missouri 63141.

11  
12 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS**  
13 **PROCEEDING?**

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

15  
16 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

17 A. The purpose of my rebuttal testimony is to respond to the direct testimony of  
18 City of Riverside ("Riverside") witnesses Mayor Kathy Rose and David  
19 Blackburn as they relate to the issues of public safety and the adequacy of  
20 water service provided by the Company.

21  
22 **Q. WHAT ARE THE RECOMMENDATIONS OF THE RIVERSIDE**  
23 **WITNESSES?**

24 A. Mayor Rose and Mr. Blackburn request that MAWC be required to take  
25 reasonable action to update its water distribution system in order to comply

1 with the City's fire flow requirements and to ensure that the equity owners of  
2 MAWC share in the cost of such improvements.

3  
4 **Q. WHAT ISSUES DO THE RIVERSIDE WITNESSES POINT TO IN**  
5 **SUPPORT OF THEIR RECOMMENDATIONS?**

6 A. Riverside witness Blackburn indicates the major public safety concerns are  
7 with the water distribution system's low water pressure and low gallons per  
8 minute produced at the fire hydrants located within the City, especially during  
9 periods when responding to fires.

10  
11 **Q. PLEASE DESCRIBE THE SERVICE THAT MAWC HAS PROVIDED TO**  
12 **THE PLATTE COUNTY DISTRICT.**

13 A. Over the last 3 years, MAWC has, on average, invested \$3.2M annually and  
14 delivered 720 MG of water that meets or exceeds all state and federal  
15 standards, at an average pressure of 91 psi, serving over 5,600 customers  
16 24 hours a day every day. The Missouri Department of Natural Resources'  
17 "Design Guide for Community Water Systems", Effective August 29,  
18 2003,Section 8.1.1 Pressure states, ("The system shall be designed to  
19 maintain a minimum pressure of 35 psi at ground level at all points in the  
20 distribution system under all conditions of design flow not including fire  
21 flow").MAWC's compliance with this guide indicates that MAWC is providing  
22 safe and adequate service to its Platte County customers.

23  
24 **Q. DOES MAWC AGREE THAT THERE IS INADEQUATE SERVICE IN THE**  
25 **CITY OF RIVERSIDE'S DISTRIBUTION SYSTEM?**

1 A. No. MAWC believes its distribution system and its maintenance of such are  
2 sufficient for providing safe and adequate service.

3

4 **Q. HOW DO YOU RESPOND TO THE ALLEGATION THAT THE FIRE**  
5 **HYDRANTS PRODUCE LOW WATER PRESSURE AND LOW GALLONS**  
6 **PER MINUTE?**

7 A. Fire flow may be impacted by a number of factors, including size of the main  
8 at the connection to the hydrant. The Company designs its system to meet  
9 fire flow requirements at the time the system is expanded and new hydrants  
10 are installed. However, fire flow standards have changed over time and  
11 MAWC does not agree that it must rebuild portions of its system each time a  
12 new fire flow standard is adopted. The Riverside fire hydrants meet fire flow  
13 requirements based on design requirements for the elements of the water  
14 system at the time they were installed.

15

16 **Q. HAS THERE BEEN A CONSISTENT STANDARD FOR FIRE FLOWS?**

17 A. No. As noted above, fire flows standards have changed over time.  
18 Specifically, fire flow as determined by the International Fire Code or ISO has  
19 changed significantly. In 1984, the fire flow requirements were 250 - 500  
20 gallons per minute for residential areas. However, today some  
21 recommendations are as high as 1500 gallons per minute.

22

23 **Q. ARE THE CITY'S CURRENT MINIMUM FIRE FLOW REQUIREMENTS**  
24 **UNUSUAL?**

1 A. No, many of the Municipal Fire Departments and Fire Protection Districts  
2 located in MAWC operating areas have similar requirements. Residential fire  
3 flow normal minimum range is from 1,000 – 1,800 gpm and  
4 Commercial/Industrial normal minimum range is from 1,500 – 3,500 gpm.  
5

6 **Q. DO ALL PORTIONS OF OTHER MAWC DISTRIBUTION SYSTEMS MEET**  
7 **THESE CURRENT FIRE FLOW REQUIREMENTS?**

8 A. No. Similar to the City of Riverside’s distribution system, the distribution systems  
9 of other MAWC Districts were designed and installed over a number of years.  
10 The fire flow requirements in these mains meet the fire flow as required at the  
11 time the main was installed.  
12

13 **Q. SHOULD MAWC REPLACE ALL MAINS THAT DO NOT MEET CURRENT**  
14 **FIRE FLOW REQUIREMENTS?**

15 A. No. It is neither feasible nor prudent to rebuild a water distribution system to  
16 meet changing fire flow design parameters. The existing system has provided  
17 appropriate levels of pressure and flow throughout its years of service and  
18 continues to perform at such levels today. Just because municipalities or fire  
19 districts increase their recommendations for fire flow does not mean that existing  
20 fire flow is inadequate or unsafe. The funds available to replace mains in MAWC  
21 systems or other water systems are not unlimited and, therefore, priority projects  
22 must be carefully selected to match the available funds. Mains are normally  
23 selected to be replaced based on criteria such as multiple main break history,  
24 insufficient pressure, pavement replacement, etc. Lower fire flow is a

1 consideration that helps to increase the prioritization for replacement of sections  
2 of main, but it is not the sole consideration.

3  
4 **Q. WHAT PRACTICE DOES MAWC RECOMMEND FOR CHANGING ITS**  
5 **DISTRIBUTION SYSTEM TO CONFORM WITH CHANGES TO FIRE FLOW**  
6 **STANDARDS?**

7 A. MAWC believes its distribution system should be built to current standards as the  
8 system is expanded or replaced. This practice is supported by the 2003  
9 International Fire Code, which serves as the basis for fire flow under Riverside's  
10 Ordinance 2005-05. See 2003 International Fire Code, Appendix B "Fire Flow  
11 Requirements for Buildings" Paragraph B101.1 Scope ("The procedure for  
12 determining fire-flow requirements for buildings or portions of buildings *hereafter*  
13 *constructed* shall be in accordance with this appendix.") (emphasis added). It  
14 also is recognized by the Missouri Department of Natural Resources in its design  
15 guidelines for water systems. See the most recent proposed "Minimum Design  
16 Standards for Missouri Public Water Systems," Section 7.1.1. Fire Protection  
17 ("For new water systems or improvements within existing distribution systems, it  
18 is customary to provide for the needed fire flow for one major fire in the design  
19 area using the ISO guide or local requirements. It is very unusual for existing  
20 distribution systems to be capable of providing every needed fire flow within its  
21 service area. Therefore, this guide applies only to proposed new or proposed  
22 improvements to areas of water distribution systems intended to provide fire  
23 protection.").

1 **Q. DOES MAWC PRESENTLY TAKE FIRE FLOW INTO ACCOUNT AS IT**  
2 **EXPANDS OR REPLACES ITS SYSTEM?**

3 A. Yes. The Company regularly performs hydraulic modeling of its systems and  
4 compares this against the fire flow of current design requirements. These  
5 models help to define areas that should be considered for expansion or  
6 future main replacements. Projects are considered in the Platte County  
7 system for the capital budget each year. Main replacement is evaluated  
8 based on a number of factors, including service issues, such as multiple  
9 main break history, insufficient pressure or flow, etc. As noted above, lower  
10 fire flow also is a consideration that helps to increase the prioritization for  
11 replacement of sections of main, but it is not the sole consideration. To the  
12 extent new development requires changes to the water system, MAWC  
13 contracts with developers to put in the proper mains to meet fire flows as  
14 required in the relevant community at the time of the new development.

15  
16 **Q. WHAT IS MAWC'S OPINION AS TO THE ADEQUACY OF ITS EXISTING**  
17 **MAINS?**

18 A. The Company believes its existing mains are adequate as they provide the  
19 flows for which they were designed and which were identified when the  
20 mains were installed. The Company does not believe it is a good use of its  
21 limited capital to retrofit its system based solely on changing fire flow  
22 requirements.

23  
24 **Q. WHAT APPROACH DOES MAWC TAKE IN REGARD TO**  
25 **INFRASTRUCTURE REPLACEMENTS?**



1 A. The Company prudently expends its available funds to meet its many  
2 infrastructure and service needs throughout the State of Missouri and, as a  
3 result, provides safe and adequate service that meets the many regulatory  
4 and customer requirements.

5

6 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

7 A. Yes, it does.