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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

MAWC Exhibit No. 7
Date 2-21-12 Reporter JL
File No. WR-2011-0337

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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

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.



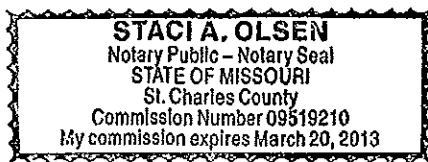
Kevin H. Dunn

State of Missouri
County of St. Louis
SUBSCRIBED and sworn to
Before me this 17th 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.