

MoDOE-2

FILED  
April 4, 2016  
Data Center  
Missouri Public  
Service Commission

Exhibit No.:	
Issues:	Energy Efficiency and Water Loss Reduction Deferral Mechanism
Witness:	Jane Epperson
Sponsoring Party:	Missouri Department of Economic Development - Division of Energy
Type of Exhibit:	Surrebuttal Testimony
Case Nos.:	WR-2015-0301 and SR-2015-0302

**MISSOURI PUBLIC SERVICE COMMISSION**

**MISSOURI-AMERICAN WATER COMPANY**

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

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

**SURREBUTTAL TESTIMONY**

**OF**

**JANE EPPERSON**

**ON**

**BEHALF OF**

**MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT**

**DIVISION OF ENERGY**

Jefferson City, Missouri

March 4, 2016

Mo-DOE Exhibit No. 2  
Date 3-21-16 Reporter TR  
File No. WR-2015-0301

**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    )


WR-2015-0301  
and SR-2-15-0302

**AFFIDAVIT OF JANE EPPERSON**


STATE OF MISSOURI    )  
  )  
COUNTY OF COLE    )            ss

Jane Epperson, of lawful age, being duly sworn on his oath, deposes and states:

1. My name is Jane Epperson. I work in the City of Jefferson, Missouri, and I am employed by the Missouri Department of Economic Development as an Energy Policy Analyst, Division of Energy.
2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of the Missouri Department of Economic Development – Division of Energy.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge.

  
\_\_\_\_\_  
Jane Epperson

Subscribed and sworn to before me this 4<sup>th</sup> day of March, 2016

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

My commission expires:

MELISSA ANN ADAMS  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Cole County  
My Commission Expires: March 09, 2019  
Commission Number: 15633820



TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE OF TESTIMONY ..... 1

II. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. KEVIN DUNN ..... 2

III. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. MARK OLIGSCHLAEGER .... 4

IV. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. JAMES MERCIEL ..... 6

V. RESPONSE TO THE REBUTTAL TESTIMONY OF DR. GEOFF MARKE..... 8

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. Jane Epperson, Missouri Department of Economic Development, Division of Energy,  
4 301 West High Street, Suite 720, Jefferson City, Missouri 65102.

5 **Q. Have you previously filed testimony in this case?**

6 A. Yes, on December 23, 2015 I filed direct revenue requirement testimony recommending  
7 the authorization of a deferral mechanism to promote supply-side energy efficiency and  
8 water loss reduction.

9 **Q. On whose behalf are you testifying?**

10 A. I am testifying on behalf of the Missouri Department of Economic Development,  
11 Division of Energy ("DE").

12 **Q. Do you have any revisions to note from your direct testimony?**

13 A. No.

14 **Q. What information did you review in preparing this testimony?**

15 A. In addition to information reviewed in preparation of my direct testimony, I reviewed the  
16 rebuttal testimony of Mr. Kevin Dunn, filed on behalf of the Missouri American Water  
17 Company ("MAWC" or "Company"), Mr. Mark Oligschlaeger and Mr. James A.  
18 Merciel, Jr., filed on behalf of the Public Service Commission Staff ("Staff"), and Dr.  
19 Geoff Marke, filed on behalf of the Office of the Public Counsel ("OPC").

20 **Q. What is the purpose of your testimony?**

21 A. The purpose of my surrebuttal testimony is to 1) respond to questions and criticism from  
22 parties regarding DE's proposal to increase incremental infrastructure investment focused  
23 on energy efficiency and water loss reduction, and 2) express DE's willingness to

1 participate with Staff and other parties in a timely and clearly defined collaborative  
2 process to address the need for such incremental infrastructure investments and to  
3 recommend mechanisms to address this need.

4 **II. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. KEVIN DUNN**

5 **Q. To what part of Mr. Dunn's rebuttal testimony are you responding?**

6 A. Mr. Dunn, on pages 7 and 8 of his rebuttal testimony, addresses my recommendation to  
7 authorize a deferral mechanism to promote supply-side energy efficiency and water loss  
8 reduction.

9 **Q. Does Mr. Dunn oppose your recommendation?**

10 A. No. However, MAWC proposes an alternative in which \$50 million would be used as  
11 the threshold annual expenditure above which the deferral mechanism would apply for  
12 eligible infrastructure investments.

13 **Q. Please elaborate on the differences between your proposal and that of Mr. Dunn.**

14 A. Under my proposal, \$100 million is the threshold annual expenditure above which the  
15 deferral mechanism would apply for eligible infrastructure investments. The origin of the  
16 \$100 million threshold for my proposal is based on the "ordinary" level of annual  
17 investment, which I conservatively estimated to be \$100 million based upon MAWC's  
18 capital investment ("CI") expenditure of \$436 million, inclusive of Infrastructure  
19 Systems Replacement Surcharge ("ISRS") qualified investments, over the four year  
20 period of 2012 – 2016.<sup>1</sup> Mr. Dunn proposes to reduce the \$436 million by \$221 million  
21 to exclude ISRS investment, resulting in a recommended \$50 million threshold annual

---

<sup>1</sup> Kartmann, Frank, Direct Testimony, 2015, July 31, Case No. WR-2015-0301, SR-2-15-0302, page10, line 7.

1 investment, above which the deferral mechanism would apply for eligible infrastructure  
2 investments.

3 **Q. Would DE agree to the alternative proposed by Mr. Dunn?**

4 A. Yes, with two assurances. First, that it is the Company's intent to continue ISRS  
5 investments at the current level, and, second, that the mechanism apply only to  
6 incremental, additional investment in supply-side water and wastewater infrastructure  
7 (e.g. high efficiency pumps and motors, variable frequency drive motors, turbo blowers,  
8 diffuser technology, leak abatement). Lacking any evidence presented to the contrary,  
9 MAWC's capital improvement planning process is effective at prioritizing the  
10 extraordinary number of necessary repairs, renovations, and replacements that make up  
11 the over 6,700 miles<sup>2</sup> of the Company's water and wastewater infrastructure in Missouri.  
12 However, an "ordinary" level of expenditure is inadequate to address the extraordinary  
13 need for infrastructure improvement focused on energy efficiency and water loss  
14 reduction. My proposed deferral mechanism for energy efficiency and water loss  
15 reduction a) can be implemented immediately under the existing authority of the Public  
16 Service Commission ("PSC"), and b) is a conservative first step in addressing an  
17 extraordinary need for statewide water and wastewater infrastructure integrity and  
18 sustainability, focused in a strategic way to also result in energy efficiency and water loss  
19 reduction.

---

<sup>2</sup> 6,700 miles only represents drinking water transmission and distribution mains. Kartmann, Frank, Direct Testimony, 2015, July 31, Case No. WR-2015-0301, SR-2-15-0302, page 5, line 20.

1 **III. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. MARK**  
2 **OLIGSCHLAEGER**

3 **Q. How do you respond to Mr. Oligschlaeger's statement that the practical impact of**  
4 **your deferral mechanism would be to encourage construction activities undertaken**  
5 **for certain purposes over other types of construction for other purposes?**

6 A. The deferral mechanism is intended to encourage incremental investment in infrastructure  
7 that provides energy efficiency and water loss reduction benefits.

8 **Q. Do you agree with Mr. Oligschlaeger's opinion that DE's proposed deferral**  
9 **mechanism does not meet the traditional qualifying criteria of being extraordinary?**

10 A. No. The mechanism meets the criteria of addressing unique and unusual investments. It  
11 is designed to incent the Company toward a goal of increasing investment in energy  
12 efficiency to a level not achieved under traditional recovery mechanisms, and which has  
13 not historically occurred due to investment prioritization. While deferrals may be non-  
14 traditional, it is necessary in this case to incent energy efficiency- focused investment.

15 **Q. Please respond to Mr. Oligschlaeger's suggestion that there is no evidence that**  
16 **MAWC isn't undertaking an optimal level of expenditures to improve energy**  
17 **efficiency and water loss reduction.**

18 A. Mr. Oligschlaeger has proposed no definition or gauge for his concept of an "optimal  
19 level of expenditures". Contrary to his assertion, my direct testimony, the Company's  
20 testimony<sup>3,4</sup>, and other sources recognize the need for additional infrastructure investment

<sup>3</sup> Kartmann, Frank, Direct Testimony, 2015, July 31, Case No. WR-2015-0301, SR-2-15-0302, page 10, lines 20-21.

<sup>4</sup> Tinsley, Jeanne. Direct Testimony, 2015, July 31, Case No. WR-2015-0301, SR-2-15-0302, page 4, lines 2-5.

1 in energy efficiency and water loss reduction. For example, the U.S. Environmental  
2 Protection Agency estimates that, nationally, water systems need \$125.9 billion in  
3 investment to install, upgrade, or replace infrastructure, independent of the additional  
4 \$12.1 billion needed for compliance with the Safe Drinking Water Act.<sup>5</sup> DE's proposed  
5 mechanism, combined with an opportunity for receiving feedback on potential projects  
6 from stakeholders, provides a constructive framework under which the Company can  
7 propose projects and Staff and others can provide feedback on the merits of the proposed  
8 investments. If Staff believes that the level of expenditures on proposed projects is not  
9 optimal, it will have an opportunity to voice its concerns before a project moves forward.

10 **Q. Please respond to Mr. Oligschlaeger's concern regarding the need to more fully**  
11 **flesh out your proposal and his recommendation that, if the Commission sees merit**  
12 **in DE's proposal, parties could meet after the conclusion of the rate case to discuss**  
13 **the structure and details for potential implementation of the proposal within the**  
14 **context of the next general rate case.**

15 **A.** DE would agree to a collaborative to work out implementation details, such as agreeing  
16 to guiding principles about the types of projects that should qualify, how MAWC will  
17 submit project proposals for parties' review, what information should be provided and  
18 what timeframe is appropriate for comment. DE's proposal is a reasonable step in  
19 addressing the need for additional investment in energy efficient and water loss reducing  
20 infrastructure. Under the proposed framework, MAWC retains responsibility for its  
21 decisions about the level and timing of investments to be made. Staff, OPC and other

---

<sup>5</sup> Davies, Clive, Fraser, Dan, Hertzler, Patricia Carrol, and Ralph Jones, 1997. EPA's Infrastructure Needs Survey. American Water Works Association Journal, Volume 89, Issue 12.



1 stakeholders have opportunity to comment on proposed projects before the projects are  
2 undertaken and retain the ability to address prudence concerns within a rate case prior to  
3 recovery of the investments.

4 **IV. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. JAMES A. MERCIEL,**  
5 **JR.**

6 **Q. Does Mr. Merciel conceptually agree with your proposal?**

7 A. Yes. He states:

8 Staff agrees that DE's concept of encouraging MAWC to undertake energy  
9 conservation measures is positive and beneficial, and that MAWC and all water  
10 and sewer utilities should take reasonable measures to evaluate projects and  
11 updates that will decrease the overall amount of energy required to provide water  
12 and wastewater service to its customers.<sup>6</sup>

13 **Q. Despite his conceptual agreement, Mr. Merciel raises five points in opposition to**  
14 **your proposal. What is his first concern?**

15 A. Mr. Merciel believes that a deferral mechanism is not the "proper way" of handling  
16 capital expenditures, with very few exceptions. I previously responded to a similar  
17 concern raised by Mr. Oligschlaeger.

18 **Q. Please respond to the second reason Mr. Merciel opposes your proposal.**

19 A. Mr. Merciel is unsure of the benefit or need to provide an incentive to undertake water  
20 and energy savings projects. However, as I discussed in direct testimony, more efficient  
21 use of water and reduced water loss can significantly and positively impact the cost of  
22 providing water service. EPA estimates that energy costs account for 25-30% of total

---

<sup>6</sup> James Merciel, Jr. Rebuttal Testimony, page 2, lines 19-22.

1 operating costs for water and wastewater utilities.<sup>7</sup> Pumping has been estimated to  
2 constitute over 80% of the total energy used by utility providing potable water.<sup>8</sup> The  
3 2014 MAWC water loss audit report indicated a range from 6.4% to 23.8% loss of water  
4 supplied, at a total lost cost of \$4,442,689 in one year.<sup>9</sup> The benefit of saving money  
5 through energy efficiency and water loss reduction is evident. DE's recommendation is  
6 intended to complement MAWC's existing CI planning process, resulting in increased  
7 supply-side energy and/or water loss savings.

8 **Q. Please respond to the third reason Mr. Merciel opposes your proposal.**

9 A. Mr. Merciel states that there is a lack of detail in DE's proposal with regard to eligibility  
10 criteria for projects. However, as referenced in my direct testimony, the types of  
11 investments DE proposes to include under the mechanism include water transmission and  
12 distribution pipe lining, repair or replacement, pumps and motors, variable frequency  
13 drives, proper sizing of pipes, and aeration and filtration equipment. Ultimately though,  
14 MAWC bears responsibility for its investment decisions and should have the flexibility to  
15 propose specific projects.

16 **Q. Please respond to the fourth reason as to why Mr. Merciel opposes your proposal.**

17 A. Mr. Merciel is concerned that cost effectiveness has not been specified as an eligibility  
18 criterion for projects. However, since MAWC will continue to bear responsibility for its  
19 investment decisions, it should continue to be concerned about the cost-effectiveness of  
20 proposed projects. Staff would also have an opportunity to address concerns regarding

---

<sup>7</sup> U.S. Environmental Protection Agency. 2013a. Water: Sustainable Infrastructure: Cutting Energy Usage and Costs.

<sup>8</sup> Copeland, C. 2014. Energy-Water Nexus: The Water Sector's Energy Usage. January 3. Washington, DC: Congressional Research Service.

<sup>9</sup> Company response to Staff Data Request 198.

1 the cost-effectiveness of specific projects before project commencement, as well as an  
2 opportunity to argue for the disallowance of any cost that the Staff believes to be  
3 imprudent.

4 **Q. Please respond to the fifth reason as to why Mr. Merciel opposes your proposal.**

5 A. Mr. Merciel is unsure whether a) the proposed threshold level above which to begin  
6 deferral is reasonable and b) the deferral cap is reasonable. I address these issues  
7 previously in this testimony.

8 **V. RESPONSE TO THE REBUTTAL TESTIMONY OF DR. GEOFF MARKE**

9 **Q. Does Dr. Marke accurately portray your proposal when he claims, on page 14, line**  
10 **24, that the deferral amount is \$100 million per year?**

11 A. No. My direct testimony clearly proposes to allow the Company to defer costs associated  
12 with up to \$100 million in incremental investments in eligible infrastructure made prior  
13 to the next general rate case.<sup>10</sup> So, for example, if the next rate case is in three years, the  
14 \$100 million cap applies to that three year period.

15 **Q. Please respond to Dr. Marke's opinion that the Missouri-specific examples of water**  
16 **utility supply-side energy efficiency provided in your testimony are inappropriate,**  
17 **from a cost standpoint, because they are municipal systems.**

18 A. Water and wastewater operations utilize the same or similar infrastructure and processes,  
19 regardless of ownership. As water and wastewater facilities are energy-intensive, the  
20 Missouri-specific examples I provided illustrate the significant opportunity for energy  
21 and associated cost savings.

---

<sup>10</sup> Epperson, Jane, Direct Testimony, 2015, December 23, Case No. WR-2015-0301, SR-2-15-0302 page 3, lines4-6; page 10, line 11-14; page 13, lines 1-3.

1 **Q. Please respond to Dr. Marke's criticism that your proposal is silent on Company-**  
2 **specific recommendations beyond the three general supply-side infrastructure**  
3 **components.**

4 A. Beginning on Page 3, line 15 through page 5 of my direct testimony, I describe the three  
5 water/wastewater infrastructure components that Dr. Marke references to make the point  
6 that each component is energy intensive. My description was not intended to be a set of  
7 recommendations with respect to which measures would be eligible. As discussed above,  
8 MAWC should have flexibility to propose specific projects, subject to review.

9 **Q. Please respond to Dr. Marke's suggestion that ISRS is a similar mechanism, along**  
10 **with his concern that two surcharges could lead to double-counting of investments.**

11 A. A deferral mechanism, unlike ISRS, does not allow for the implementation of a surcharge  
12 or adjustment between rate cases. The deferral mechanism would apply to projects within  
13 MAWC's entire service area, not just St. Louis County as is the case with ISRS. The  
14 deferral mechanism would enable a broader scope of project types to be considered for  
15 investment. DE agrees that there should be no double-counting of investments toward  
16 achieving the threshold investment.

17 **Q. Please respond to Dr. Marke's opinion that the example of a leak detection program**  
18 **provided in your testimony is inappropriate because out-of-state examples are not**  
19 **transferrable.**

20 A. While it is true that Missouri enjoys lower utility rates than some other states, this fact  
21 does not negate the point illustrated in my direct testimony, which is that a significant  
22 amount of water losses through distribution pipes could be cost-effectively prevented.  
23 Water not lost equates to money not spent on energy and chemicals to process and

1 distribute water which no one uses. If MAWC's total cost of \$4,442,689<sup>11</sup> from lost  
2 water was reduced by 25%, customers would save \$1.1 million per year. The City of  
3 O'Fallon's Energy Management Initiative for Water and Wastewater Utilities resulted in  
4 the implementation of a leak detection program which reduced unaccounted-for water  
5 loss by 5%.<sup>12</sup>

6 **Q. Please respond to Dr. Marke's discussion of the Missouri Energy Efficiency**  
7 **Investment Act ("MEEIA").**

8 A. Dr. Marke's focus on MEEIA is not directly relevant to DE's proposal. MAWC is not  
9 currently participating in MEEIA, although MAWC has received MEEIA program  
10 rebates in the past. DE's proposal would not alter MAWC's potential to participate in  
11 future MEEIA program opportunities.

12 **Q. Please respond to Dr. Marke's opinion that DE's proposal amounts to single issue**  
13 **ratemaking.**

14 A. I've been informed by DE's counsel that my proposal does not constitute single-issue  
15 ratemaking because it doesn't allow for interim recovery or adjustments between rate  
16 cases or where other costs and revenues are not considered. Under Des recommendation  
17 the Commission may consider all relevant factors such as operating expenses, revenues,  
18 and return. The Commission has approved similar mechanisms in the past, as referenced  
19 by Staff witness Mr. Oligschlaeger in rebuttal testimony.

---

<sup>11</sup> Company response to Staff Data Request 198.

<sup>12</sup> U.S. Environmental Protection Agency, 2013. Energy Efficiency in Water and Wastewater Facilities, Local Government Climate and Energy Strategy Series, A Guide to Developing and Implementing Greenhouse Gas Reduction Programs. pp 32-33.

1 **Q. Please respond to Dr. Marke's assertion that DE's proposal would be burdensome**  
2 **for regulators to monitor.**

3 A. Company accountants routinely document costs incurred for purposes of business  
4 planning and cost recovery. Return on capital investment and depreciation expenses are  
5 not new concepts and would be routine for the Company to document and for regulators  
6 to monitor.

7 **Q. Does this conclude your surrebuttal testimony?**

8 A. Yes, thank you.