

Exhibit No.:

Issue(s):

Witness/Type of Exhibit:

Sponsoring Party:

Case No.:

ECAM/
Revenue
Mantle/Rebuttal
Public Counsel
WR-2015-0301

REBUTTAL TESTIMONY

OF

LENA M. MANTLE

Submitted on Behalf of the Office of the Public Counsel

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2015-0301

February 11, 2016

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

In the Matter of Missouri-American Water)
 Company's Request for Authority to) Case No. WR-2015-0301
 Implement a General Rate Increase for) Case No. SR-2015-0302
 Water and Sewer Service Provided in)
 Missouri Service Areas.)

AFFIDAVIT OF LENA MANTLE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Lena Mantle, of lawful age and being first duly sworn, deposes and states:


1. My name is Lena Mantle. I am a Senior Analyst for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.


 Lena M. Mantle
 Senior Analyst

Subscribed and sworn to me this 11th day of February 2016.



JERENE A. BUCKMAN
 My Commission Expires
 August 23, 2017
 Cole County
 Commission #13754037


 Jerene A. Buckman
 Notary Public

My Commission expires August 23, 2017.

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REBUTTAL TESTIMONY

OF

LENA M. MANTLE

MISSOURI AMERICAN WATER COMPANY

CASE NO. WR-2015-0301

1 **I. INTRODUCTION AND PURPOSE**

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

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

5 **Q. Are you the same Lena M. Mantle that filed direct testimony in this case?**

6 A. Yes, I am.

7 **Q. What is the purpose of your rebuttal testimony?**

8 A. The purpose of this rebuttal testimony is to provide the justification for OPC’s
9 recommendation that the Commission not approve the Environmental Cost Adjustment
10 Mechanism (“ECAM”) proposed by Missouri American Water Company (“MAWC”). In
11 support of this recommendation, I first give my qualifications for reviewing MAWC’s
12 ECAM proposal. I provide an overview of some of the differences between the
13 Commission’s electric utility Environmental Cost Recovery Mechanism rules and the
14 Commission’s water utility ECAM rule. This testimony then provides an explanation of
15 why an ECAM should not be granted to MAWC.

16 In addition, I provide rebuttal to the residential water district revenue
17 normalizations recommendation sponsored by MAWC witnesses Kevin H. Dunn and
18 Gregory P. Roach.

19

ECAM REBUTTAL

II. RECOMMENDATION

Q. What recommendation are you making in this rebuttal testimony?

A. OPC recommends the Commission not grant MAWC an ECAM.

Q. Would you summarize why the Commission should not grant MAWC an ECAM?

A. The Commission should not approve an ECAM for MAWC because it has not shown that it expects to incur costs due to environmental laws, statutes or regulations. In addition, MAWC did not meet the Commission's ECAM rule requirements regarding the application for approval of an ECAM. Lastly, the ECAM proposed by MAWC lacks the details necessary for implementation.

Q. What filings did MAWC make to propose and support its request for an ECAM?

A. MAWC witness Dunn provided three question and answers regarding the ECAM in his direct testimony¹ beginning on page 22, line 13 and ending on page 23, line 18. There were no schedules attached to his testimony regarding the ECAM. A proposed one-page ECAM tariff sheet was included in the tariff revision filed on July 31, 2015.² On that day MAWC also filed a six-page *Application for an Environmental Cost Adjustment Mechanism (ECAM)*.³

¹ EFIS item no. 8

² EFIS item no. 5

³ EFIS item no. 21

1 **Q. Did these filings include enough information for the Commission to approve**
2 **an ECAM for MAWC?**

3 A. No, they do not. An ECAM would change customers' rates for a single issue
4 (environmental costs) without examining all other costs and revenues of the water utility. It
5 is a mechanism that moves risk regarding cost of environmental regulations from the water
6 company to its customers. The limited amount of information and effort MAWC took in
7 requesting this mechanism shows the indifference of MAWC to this shift of risk to its
8 customers.

9
10 **III. WITNESS ECAM QUALIFICATIONS**

11 **Q. Please provide your qualifications to testify with regard to an ECAM.**

12 A. The authority for the Commission's rule, 4 CSR 240-50.050 Environmental Cost
13 Adjustment Mechanism rule ("ECAM rule"), is § 386.266, also known as Senate Bill 179,
14 which was passed in 2005. Section 386.266.2 allows electric, gas and water utilities to
15 request that the Commission allow them to make adjustments to rates between rate cases
16 due to federal, state, or local environmental law, regulation or rule. While I worked for
17 Staff, I was one of the principal drafters of the Commission's rules implementing the
18 electric utility Environmental Cost Recovery Mechanism ("ECRM") rules.⁴ While I did
19 not participate in the development of the ECAM rule for water utilities, it is my
20 understanding from a review of the Commission working Case No. WW-2013-0347, *In the*
21 *matter of a Working Case to Draft a Rule to Implement an Environmental Cost Adjustment*

1 *Mechanism for the Water Industry*, the Commission’s rules implementing § 386.266.2 for
2 the electric industry were the beginning point for the development of the Commission’s
3 rule implementing § 386.266.2 for the water industry.

4
5 **IV. COMPARISON OF THE ELECTRIC UTILITY ECRM RULES AND THE WATER**
6 **UTILITY ECAM RULE**

7 **Q. What are the differences between the water utility ECAM rule and the**
8 **electric utility ECRM rules?**

9 A. There are several differences. The most obvious difference is that there is no minimum
10 filing rule for water utilities requesting an ECAM.

11 **Q. What is the significance of having a minimum filing rule?**

12 A. Section 386.266.2 allows the Commission to approve mechanisms that shift the risk of
13 increasing environmental costs from utilities to their customers. The Commission
14 determined that for electric utilities this transfer of risk necessitated the filing of
15 information regarding the costs that would pass through the ECRM. The ECRM minimum
16 filing rule, 4 CSR 240-3.162, prescribes minimum filing requirement for electric utilities
17 that are requesting the establishment, continuation, modification or discontinuance of an
18 ECRM. In addition, if the Commission approves an ECRM for an electric utility, it
19 requires certain information to be filed when it files to change its ECRM rate between rate
20 cases and requires the provision of monthly reports to Staff, OPC and other parties so that
21 the parties have an opportunity to track the costs incurred by the utility. Quarterly

⁴ 4 CSR 240-3.162 Electric Utility Environmental Cost Recovery Mechanisms Filing and Submission

1 surveillance reports also are required to inform Staff and other parties on the earnings of
2 the utility.

3 In addition, an important component of the ECRM rule is that an electric utility
4 requesting an ECRM is required to provide an Environmental Compliance Plan. This plan
5 is required to include a twenty-year forecast of environmental compliance investments and
6 a detailed four-year plan for complying with federal, state, and local environmental laws,
7 regulations and rules. It requires the electric utility to investigate the potential
8 environmental costs that the utility likely will have to meet and that it is asking to recover
9 from customers between rate cases. There is no such requirement for water utilities.

10 In addition, if an ECAM is granted by the Commission, there are no requirements
11 to supply information regarding costs that are being flowed through an ECAM between rate
12 cases. There are no minimum filing requirements that the water utility must provide when
13 filing to change the ECAM rates. There are no requirements for monthly reports that
14 would provide the parties with information regarding the costs that MAWC would be
15 requesting recovery of in its ECAM.

16 **Q. Would an ECAM transfer risk of environmental costs from MAWC to its**
17 **customers?**

18 A. Yes, it would.

19 **Q. Does the ECAM rule have minimum filing requirements?**

20 A. While there are some filing requirements in the ECAM rule, the requirements are not as
21 prescriptive as the requirements in the electric ECRM minimum filing requirement rule.

1 **Q. What is the impact of MAWC not providing the same amount of information**
2 **as is required of an electric utility when it filed for Commission approval of**
3 **an ECAM?**

4 A. MAWC provided very little information regarding what costs it would include in its ECAM
5 beyond the generic statement that it would include costs incurred to comply with federal,
6 state, and local environmental laws, regulations and rules.

7 This minimal information means that, if granted an ECAM, when MAWC files to
8 change its ECAM rate, parties will not know what costs are being recovered. The other
9 parties will know only that MAWC made a determination that the costs were purportedly
10 incurred to comply with a federal, state, or local environmental law, regulation or rule.

11 Staff is given only thirty (30) days to review the filing to change the ECAM rate.
12 Typically, this would consist only of a review to make sure that the filing followed the
13 tariff sheet. The tariff sheet review would be difficult due to the vagueness of the
14 information provided by MAWC in this filing and the lack of the provision of additional
15 information provided on an ongoing basis as required by the ECRM rules.

16 In addition, the ECRM rules require the electric utilities to provide monthly
17 submissions regarding the environmental costs incurred. This allows Staff and other
18 parties the opportunity to review costs as they are incurred. The ECAM rules do not
19 require monthly submittal requirements for water utilities. This increases the difficulty of
20 the prudence reviews required of the Staff by §386.266. More information about
21 difficulties with ECAM prudence reviews can be found in the rebuttal testimony of OPC
22 witness Charles Hyneman.

1 **Q. Is there an information submission requirement included in the ECAM rule**
2 **that is included in the electric utility ECRM minimum filing rule?**

3 A. Yes, there is. The water utility ECAM rule requires water utilities with more than 8,000
4 customers who are granted an ECAM to submit to Staff, OPC and other parties “a
5 Surveillance Monitoring Report in the form and having the content provided for by [the
6 Electric Utility Environmental Cost Recovery Mechanisms Filing and Submission
7 Requirements rule] 4 CSR 240-3.162 (6).⁵

8 **Q. What is the purpose of providing this information?**

9 A. The purpose of this requirement is to provide information regarding the earnings of the
10 utility. This information could be used by other parties to file an earnings complaint with
11 the Commission if the water utility is overearning.

12 **Q. Is this a comprehensive comparison of the ECRM rules and the ECAM rule?**

13 A. No, it is not. There are many other differences.
14

15 **V. MAWC HAS NOT SHOWN THAT IT EXPECTS TO INCUR ENVIRONMENTAL**
16 **COSTS OVER THE NEXT FOUR YEARS**

17 **Q. What costs did MAWC request be included in its ECAM?**

18 A. On page 22 of his direct testimony, MAWC witness Dunn states that in the ECAM that
19 MAWC is proposing “MAWC would be allowed to recover prudently incurred capital and
20 expense costs outside of a rate case whereby the costs incurred are a result for MAWC
21 being in compliance with federal, state, or local environmental law, regulations, or rules.”

1 Its proposed tariff sheet states that its “Rate E is designed to recover the Company’s
2 eligible capital and operating costs required to comply with any federal, state, or local
3 environmental law, regulation or rule.”

4 **Q. According to its ECAM rule, is the Commission required to determine the
5 costs that are included in an ECAM?**

6 A. Yes, it is. Section (2) *Applications to Establish or Modify an ECAM*, subsection (D) starts
7 with the phrase “In determining which environmental cost components to include in an
8 ECAM, the commission will consider, ...” The next subsection, (E) states “The
9 commission may, in its discretion determine what portion of prudently incurred
10 environmental costs may be recovered in an ECAM and what portion shall be recovered in
11 base rates.” If no costs are identified in the application to establish an ECAM, then the
12 Commission can neither determine which costs to include in an ECAM nor can it determine
13 what portion of prudently incurred environmental costs may be recovered in an ECAM and
14 what portion shall be recovered in base rates.

15 **Q. Were more detailed descriptions requested from MAWC of the costs that
16 MAWC is requesting be recovered from the customers in its ECAM?**

17 A. Yes. Missouri Industrial Energy Consumer’s (“MIEC”) data request 2-0001 asked for a list
18 of all projects that MWAC would be proposing to include in the ECAM for the next three
19 years. MWAC responded that it did not have a list of projects for the next three years that
20 would be included in the ECAM. MIEC data request 2-0001 and MAWC’s response is
21 attached to this testimony as Schedule LMM-R-1.

⁵ 4 CSR 240-50.050(9)

1 **Q. Is that consistent with other statements about environmental costs made by**
2 **MAWC?**

3 A. It is consistent with MAWC's response to Staff DR 313 which is attached to this testimony
4 as Schedule LMM-R-2. In this data request, Staff requested a listing of all approved or
5 proposed legislation and rules/regulations that MAWC was aware of that will or may have
6 a material cost of service impact on MAWC over the next four years for which the
7 associated costs would be recoverable through the ECAM. In its response, MAWC
8 discusses the Clean Water Law and the National Pollutant Discharge Elimination System
9 permits. MAWC concludes its response to this DR with "The cost impact is not expected
10 to occur within the next five years."

11 **Q. Why is the time period of five years significant?**

12 A. Section 386.266 requires that, if granted an ECAM, MAWC would be required to file a
13 general rate increase case with the effective date of new rates to be no later than four years
14 after the effective date of the Commission's order implementing the ECAM. Granting an
15 ECAM when there is no significant costs expected could result in MAWC having to file a
16 rate case in four years even if its earnings were significant enough to otherwise keep it from
17 filing a rate case.

18 **VI. MAWC FAILED TO FOLLOW THE COMMISSION ECAM RULE**

19 **Q. What provisions of the ECAM rule did MAWC not meet?**

20 A. MAWC did not provide a Commission-approved notice to its customers and did not
21 provide for Commission approval of the language that it proposed be used to identify the
22 ECAM surcharge on the customers' bill.

1 **Q. What does the Commission ECAM rule state about the provision of notice to**
2 **customers?**

3 A. Commission Rule 4 CSR 240-50.050(2)(B) requires a water utility that is requesting an
4 ECAM to include in its initial notice to its customers a commission-approved description of
5 how the water utility proposes the ECAM would operate.

6 **Q. Did MAWC file a customer notice for the Commission to approve?**

7 A. Yes. Its proposed customer notice can be found on page 4 of MAWC's *Application for an*
8 *ECAM*⁶ filed on July 31, 2015 in this case.

9 **Q. Did MAWC provide a notice to its customers?**

10 A. Yes, it provided a customer notice. A copy of the notice that I received as a customer of
11 MAWC is attached as Schedule LMM-R-3 to this testimony.

12 **Q. Did the notice provide a description as the ECAM rule requires?**

13 A. No, it did not. The portion of the notice pertaining to the ECAM is reproduced below:

14 This case also seeks approval to implement two regulatory mechanisms.
15 The first is a Revenue Stabilization Mechanism, which would allow the
16 Company to adjust future rates up or down to ensure the Company
17 recovers no more and no less revenue than authorized. **The second is a**
18 **request to establish an Environmental Cost Adjustment Mechanism to**
19 **allow a surcharge between rate cases to recover revenues associated**
20 **with investments and costs required to comply with new federal, state**
21 **and local environmental regulations.** (emphasis added)
22

23 **Q. What requirement does this notice not meet?**

24 A. It does not inform the customer how the ECAM would operate. It merely informs the
25 customer that MAWC is asking for an ECAM to recover revenues between rate cases
26 associated with compliance with environmental regulations. It does not tell the customers

1 that this would be a surcharge based on usage and that the surcharge would be the same for
2 all of its districts regardless the district in which the costs were incurred.

3 **Q. Did MAWC provide the language that it proposes to use regarding the**
4 **disclosure of the ECAM on each customer's bill for the Commission's**
5 **approval as required by 4 CSR 240-50.050(8)?**

6 A. I could not find such a disclosure in any of MAWC's filings in this case. However,
7 MAWC in its *Application for an ECAM* acknowledges in paragraph 7 that any amount
8 charged under the ECAM will be separately disclosed on each customer's bill.

9
10 **VII. MAWC'S PROPOSAL LACKS DETAILS NECESSARY FOR AN ECAM**

11 **Q. What details are lacking in MAWC's ECAM proposal?**

12 A. There are several details that MAWC fails to address. In addition to the lack of
13 information regarding the costs that would be included, there is no mention in MAWC's
14 proposal of the 2.5 percent cap on ECAM revenues or how any costs over the 2.5 percent
15 would be recorded for future recovery. It did not provide when the ECAM rates would
16 change or how often the rates would change. The testimony does not describe how costs
17 would be allocated to different classes. There is no explanation of why the same ECAM
18 rate should apply to all districts or how the costs would be allocated to those customers
19 who pay a flat rate regardless of how much water they use.

20

⁶ EFIS item no. 21

1 **Q. Is a 2.5 percent cap required in an ECAM?**

2 A. Yes. Section 386.266.2 and 4 CSR 240-50.050(4)(D) require that any periodic adjustment
3 made to ECAM rate schedules not generate an annual amount of revenue exceeding two
4 and one-half percent (2.5%) of the water utility's Missouri gross jurisdictional revenues.

5 **Q. Is the 2.5 percent cap mentioned in any of MAWC's ECAM filings in this**
6 **case?**

7 A. It is not mentioned in MAWC's *Application for an ECAM*, the direct testimony of
8 MWAC's ECAM witness Dunn, or in MAWC's proposed ECAM tariff sheet.

9 **Q. Why is it important to discuss the cap on revenues that could be generated by**
10 **an ECAM?**

11 A. Commission rule 4 CSR 240-50.050(4)(D) states that the annual cap on revenues that can be
12 collected through an ECAM is calculated as 2.5 percent of the water utility's Missouri
13 gross jurisdictional revenues established in the most recent rate case. That amount would
14 be determined at the end of this rate case. However, MAWC does not describe the process
15 or timing of how it will calculate the revenues that would be collected through its proposed
16 ECAM. In addition, MAWC does not describe in the tariff sheet the procedure and process
17 for stopping the ECAM billing when it hits the cap or the process of tracking costs not
18 recovered through the ECAM and how that amount would be included in the next change
19 of the ECAM rates.

20

1 **Q. Did MAWC provide any information on when it would change its ECAM rates if the**
2 **Commission approved an ECAM for MAWC?**

3 A. No, it did not. MAWC provided no information regarding when it would make changes to
4 its ECAM. The tariff sheet does state that the ECAM would be implemented in accordance
5 with § 386.266, RSMo and Commission rule 4 CSR 240-50.050. The Commission rule
6 states that a water utility can adjust its ECAM up to two times a year but it must file one
7 mandatory adjustment a year. MAWC’s ECAM application, testimony and proposed tariff
8 sheet do not mention when the mandatory adjustment would be filed. It did not provide
9 any details regarding the time period in which the ECAM costs would be billed to
10 customers.

11 **Q. Why are these details important?**

12 A. The ECAM moves the risk of incurring additional environmental costs from the utility to
13 its customers. While this information does not change this transfer of risk, information on
14 the timing of changes to rates is important to customers and their planning process.

15 **Q. Turning to the design of the ECAM rates, what classes are shown on**
16 **MAWC’s proposed ECAM tariff sheet?**

17 A. The proposed ECAM tariff sheet shows that there could be different ECAM rates for Rate
18 A Customers (residential and commercial), Rate B Customers (Sales for Resale), and Rate
19 J Customers (Industrial and Large users).
20

1 **Q. What description was provided regarding how the rates would be calculated?**

2 A. The proposed tariff sheet states that “The surcharge is calculated consistent with the
3 customer class cost-of-service study recognized by the Missouri Commission in the
4 Company’s recent applicable general rate proceeding.”

5 **Q. How do you interpret this language?**

6 A. The Commission would have to “recognize” a class cost-of-service study. ECAM costs
7 would be allocated to the classes based on that study. This presents a challenge because,
8 the proposed tariff sheet shows that the same rates would be applicable to all of MAWC’s
9 Missouri Service Area. That means that a class cost-of-service for a consolidated MAWC
10 would need to be done and “recognized” by the Commission in order to determine how
11 ECAM costs would be allocated to the customer classes.

12 In addition, different types of costs are allocated to the classes based on different
13 allocation factors. Because ECAM costs could be different types of costs (e.g, capital
14 costs, labor, expenses), the ECAM would have to be calculated based on the allocation
15 factors for different types of costs.

16 **Q. Are there problems with the same ECAM being applied across all MAWC
17 districts?**

18 A. Yes, there are. If applied as proposed, customers in St. Louis County could be charged the
19 cost of environmental regulations that the City of Joplin may impose on MAWC customers
20 in Joplin. While spreading the cost over all of the districts would minimize the impact on
21 the customer’s bill, MAWC’s proposed rate design could result in customers paying for
22 environmental regulations that do not apply to them.

1 In addition, MAWC has some customers that are charged a flat rate. The tariff
2 sheet does not describe what these customers would be charged. These customers do not
3 have meters and therefore could not be charged the volumetric ECAM charges proposed by
4 MAWC.

5
6 **VIII. SUMMARY OF OPC’S POSITION REGARDING COMMISSION APPROVAL OF**
7 **AN ECAM**

8 **Q. Would you please summarize OPC’s position regarding the approval of an**
9 **ECAM for MAWC?**

10 A. Yes. The Commission should not approve an ECAM for MAWC. Most significantly,
11 MAWC has not shown that it expects to incur significant costs due to environmental laws,
12 statutes and regulations. In addition, MAWC did not meet the requirements of the
13 Commission rules regarding the application for approval of an ECAM. Lastly, the ECAM
14 proposed by MAWC lacks the details necessary for implementation of an ECAM.

15
16 **WATER DISTRICT RESIDENTIAL CLASS**
17 **REVENUE NORMALIZATION ADJUSTMENT REBUTTAL**

18 **IX. OVERVIEW**

19 **Q. Which MAWC witnesses filed direct testimony regarding residential revenue**
20 **normalization of its water districts?**

21 A. MWAC witnesses Kevin H. Dunn and Gregory P. Roach discuss residential usage.
22 However, the actual normalization adjustment to water revenues due to residential class

1 usage normalization is not included in Mr. Dunn or Mr. Roach’s direct testimony. It can be
2 found on page 2 of 33 of Schedule CAS-8 attached to the direct testimony of MAWC
3 witness Jeanne M. Tinsley. This schedule shows that MAWC made a positive adjustment
4 to residential water district revenues of \$956,278.

5 **Q. What is OPC’s recommended adjustment to MAWC’s residential water**
6 **revenues?**

7 A. As described in my direct testimony, OPC recommends a positive adjustment to residential
8 water district revenues of \$8,454,110.

9 **Q. Why is there such a large difference between OPC’s and MAWC’s**
10 **recommendations?**

11 A. For its districts with ten or more years of billing data, MAWC bases its adjustment to
12 revenues on a ten-year analysis of its billing data to derive a base usage and a non-base or
13 discretionary usage. It uses this analysis to estimate a projected residential usage for each
14 of these districts for the calendar year 2016.

15 For the water districts without ten years of billing data, MAWC derived an
16 estimated 2016 usage by applying a negative “state-wide average” growth adjustment.

17 Because of problems it found in MAWC’s water usage and customer number data,
18 OPC used, for each district with at least five years of billing data, a simple five year
19 average of usage ending with the test year.

20

1 **Q. Why should the Commission approve OPC’s simple approach over MAWC’s**
2 **approach?**

3 A. The Commission should approve OPC’s residential revenue normalization for three
4 reasons. First, MAWC conducted its analysis on usage and customer numbers recorded in
5 its billing data without regard to the integrity of these numbers. MAWC normalized to its
6 billing system not to the actual residential water usage. Second, MAWC is recommending
7 usage that it has projected past the test year and true-up year. This violates the ratemaking
8 matching principle. Lastly, while MAWC did considerable analysis on this billing data
9 regarding what it characterizes as reduction in base usage, it did no analysis on the impact
10 of weather on the water usage of its customers.

11
12 **X. MAWC’S REVENUE CALCULATION IS NOT BASED ON ACTUAL CUSTOMER**
13 **USAGE**

14 **Q. What is the difference between normalizing to MAWC’s billing system and**
15 **normalizing to customer usage?**

16 A. Billing data does include a usage amount to which a volumetric charge is applied.
17 However, it also includes billing flaws and inconsistencies. If MAWC analyzed the billing
18 data and cleaned up these billing flaws, this would create another data base that would
19 include customer usage and numbers that could be used in the revenue normalization
20 process.

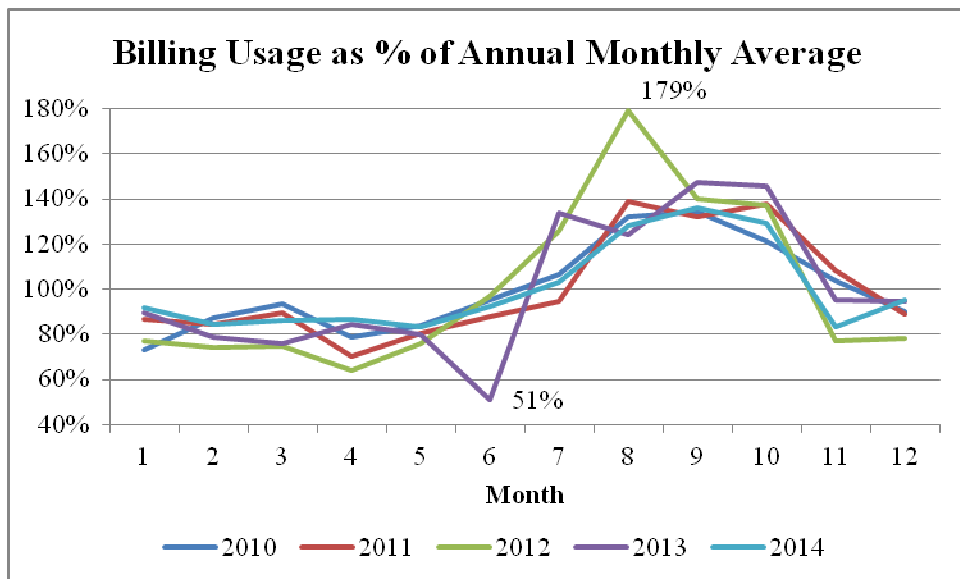
21

1 **Q. Can you describe billing flaws and inconsistencies?**

2 A. While I am not familiar with the specific billing practices of MAWC, I do see flaws, most
3 likely due to no bills and rebills, in the data MAWC used in its analysis.

4 **Q. Would you show some of what you found?**

5 A. Yes, I will. To get an idea of the relative magnitude and relationship of monthly usage, I
6 looked at graphs of the billing usage and customer numbers for all of MAWC's water
7 districts. In order to review the monthly data for each year on a basis that was easily
8 comparable, I graphed the monthly billing and customer number data used by MAWC as a
9 percent of each year's annual average monthly billed usage. The graph below shows, for
10 MAWC largest water district, St. Louis Quarterly billed customers, the monthly usage from
11 the billing system for each month of 2010 through 2014 as a percent of the average monthly
12 usage billed for each year.



13
14 For the years 2010, 2011, and 2014 the pattern of monthly billed usage as a percent of the
15 average monthly usage for that year is fairly consistent. Billed usage is typically low

1 through June and then increases in July through October after which it drops. However, the
2 pattern of billing usage in 2013 varies considerably in the months of June, July and August.
3 The June billed usage was 51 percent of the 2013 annual average which is considerably
4 lower than the percentages of the June billing usage of the other four years in this graph,
5 2010 through 2012 and 2014. In these years the June billed usage ranged from 88 to 97
6 percent of the annual average for the year.

7 The billed usage for July 2013 is 134 percent of the average monthly usage for
8 2013 which is higher than the percentage for July for all the other years. In fact, it is more
9 than 30 percent higher than the percentages calculated using billing data for July 2010,
10 2011 and 2014. This leads me to suspect that there was under-billing in June, 2013 which
11 was corrected in July, 2013.

12 This may be the reason that the usage percentage for August 2013 dropped below
13 that of July 2013 which is different than the trend of all the other years. All the other years
14 show that the percentage for August of the average monthly usage is always higher than the
15 percentage for July.

16 **Q. Can you explain the other point that you have labeled?**

17 A. Not as easily. The data shows that the monthly billed usage for August, 2012 is 179
18 percent higher than the average billed usage in 2012. For the other years, August usage
19 ranges from 124 percent to 139 percent of the annual average. There is no corresponding
20 drop in September, 2012 billed usage so it is not apparent that this was an over-billing that
21 was corrected the next month. It may have been due to the weather. It may be billing
22 errors. However, if it was, an over billing, then it should be corrected so that infrastructure
23 is not built to meet this billing usage. If it was real usage, then, due to the magnitude of the

1 usage, MAWC needs to understand why the usage of its customers was higher just that one
2 month and whether or not it is likely to ever occur again.

3 For instance, if it was due to weather, MAWC needs to understand if it was due to
4 extreme temperature or lack of rainfall or both.

5 **Q. Do you believe weather conditions caused this large increase in usage shown**
6 **in the billing data for August, 2012?**

7 A. Although I have not done an extensive analysis of the weather, I do not think that the large
8 usage in 2012 is due to weather. The chart below shows the average temperature and the
9 total rainfall for the National Oceanic and Atmospheric Administration (“NOAA”) area
10 that includes St. Louis County for the month of August for each year from 2010 to 2014.
11 As a comparison point, the twentieth century average for each of these measures of weather
12 from the NOAA website⁷ is also shown.

	Average	
	Temperature	Rainfall
Aug 2010	77.8	3.74
Aug 2011	77.0	2.25
Aug 2012	75.6	1.91
Aug 2013	74.4	1.09
Aug 2014	75.3	5.68
20 th Century Avg	75.6	1.91

13
14 As shown in this table, August 2010 was neither the hottest August of the five years nor the
15 driest. However, to truly be able to understand why the usage was so high and extensive
16 analysis of the bills rendered and the weather across time would need to be conducted.

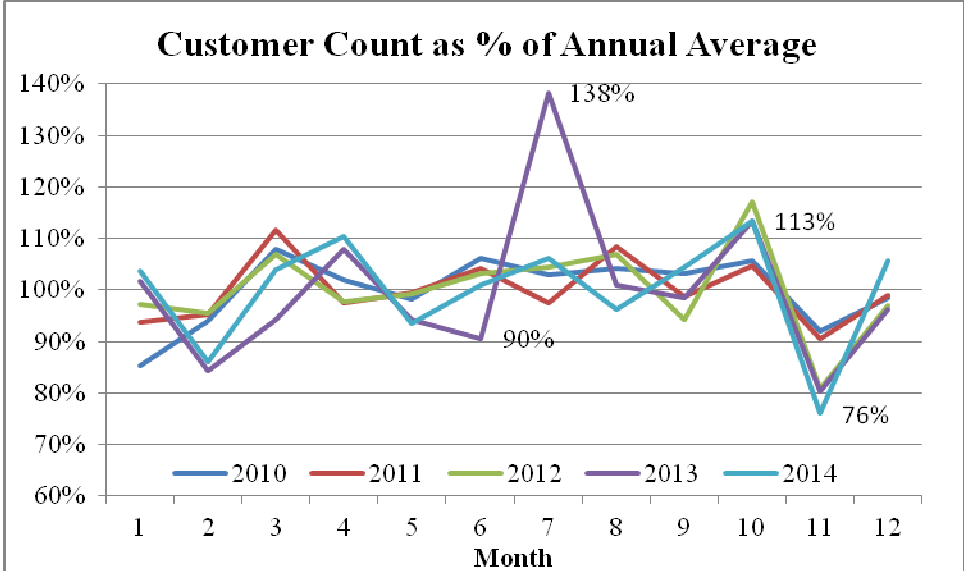
⁷ <https://www.ncdc.noaa.gov/temp-and-precip/climatological-rankings/index.php?periods%5B%5D=1¶meter=tavg&state=23&div=2&month=8&year=2010>

1 **Q. Why is it important that MAWC understand why the usage is so high in this**
2 **month?**

3 A. Infrastructure should not be built to meet this demand if it was indeed a billing error.

4 **Q. Is billed usage the only data that shows these inconsistencies?**

5 A. No, it is not. The customer numbers used in MAWC's analysis also show inconsistencies.
6 I also found inconsistencies in the customer numbers used in MAWC's water district usage
7 analysis. Attached below is a graph of the monthly billing customer counts divided by the
8 average monthly number of customers for the years of 2010 through 2014 for the St. Louis
9 Quarterly district.



10
11 This graph shows that in 2013 the number of customers recorded in the billing
12 system jumped 48% from June to July. If the billing system is an accurate representation of
13 what actually occurred, MAWC added 53,130 customers from June to July and then
14 dropped 41,447 customers in August 2013. This seems very unlikely.

1 This graph also shows that in 2014 there was almost a 40 percent drop in the
2 number of customers from October to November. This corresponds to a drop of 40,366
3 customers. Just as unlikely as this drop in customers, the billing data shows in December,
4 of that same year, MAWC added 31,900 customers.

5 **Q. Why are correct customer numbers important in the normalization of usage**
6 **for a rate increase?**

7 A. MAWC's revenue normalization is done on a use per customer basis. Even if the billing
8 usage was correct, if the customer number is too low, then the use per customer included in
9 the analysis is too high. If the customer number is too high, then the use per customer is
10 too low.

11 This simple analysis of the data that MAWC used for its normalization of its
12 largest district – St. Louis Quarterly billed customers – shows that the usage per customer
13 from this data cannot be trusted as a true representation of how MAWC's customers use
14 water. The billing data is not an accurate representation of the usage of MAWC's
15 customers and should not be used for normalization of revenues. To be usable for revenue
16 normalization, the billing system data, both usage and customer numbers, should be
17 analyzed and the reason for anomalies should be determined and if possible corrected.

18 **Q. Is this just a problem with the St. Louis County quarterly water customers?**

19 A. No, it is not. These problems are prevalent in all of the water districts in which MAWC
20 made a residential usage normalization adjustment.

1 **Q. Were there just anomalies in the data MAWC used in its residential usage**
2 **normalization?**

3 A. No. These types of anomalies are found in every source of usage and customer numbers
4 that I reviewed in this case. I found different district names, different monthly usages and
5 different customer numbers. I created a table with the different customer numbers and
6 names from different MAWC sources. This table is attached to my testimony as Schedule
7 LMM-R-4.

8 **Q. Do these problems with the billing data show up in MAWC's testimony?**

9 A. Yes, they do. Schedule GPR-2, page 1 of 3 of Mr. Roach's direct testimony shows the
10 residential sales per customer of June, 2013 substantially below any month in the January,
11 2006 through April, 2015 time period shown on the graph. When asked in OPC data
12 request 8007 for any analysis conducted by MAWC to understand why the usage per
13 customer shown on this graph was so low, MAWC replied that "Beyond the numerical
14 analysis provided by this data set, the graphical and regression information provided in Mr.
15 Roach's direct testimony, no description is available of the Company's analysis."

16 **Q. Why is this important?**

17 A. This data response shows that MAWC did not investigate why the use per customer was
18 substantially lower than anything it has experienced since January 2006. It does not know
19 if its customers changed the way they used water, and if they did why, or if there were
20 billing errors that were rectified in the next month.

21

1 **Q. What usage and customer count data did you use to calculate the five year average**
2 **normalization adjustment for water district residential revenues?**

3 A. I used monthly water usage and customer numbers by district as provided by MAWC in
4 response to Staff data requests 235 and 239.

5 **Q. Were these data sets free from the problems you found in the data that**
6 **MAWC used to determine the normalization adjustments to its residential**
7 **water districts?**

8 A. No. OPC witness Dr. Geoff Marke will discuss problems with this data in his rate design
9 rebuttal testimony regarding MAWC's request for a Revenue Stabilization Mechanism.

10 **Q. Why did you use the data supplied in response to Staff data requests 235 and**
11 **239 instead of the data used by MAWC to calculate a revenue adjustment?**

12 A. I used water district usage and customer number information provided in the spreadsheets
13 from MAWC's responses to Staff data requests 235 and 239 because the information was
14 easier to understand and work with than the data supplied in MAWC revenue normalization
15 workpapers.

16 **Q. If the billing data is bad, why should there be any adjustment to test year**
17 **residential water revenues?**

18 A. From 2010 through 2014 the total annual residential water usage varied by 17 percent, with
19 the highest usage occurring in 2012 and the lowest occurring in 2014. Using test year
20 revenues (2014) would most likely result in revenues that are below normalized revenues.
21 Even MAWC's adjustment using the billing data with numerous problems and projecting
22 into 2016 showed that the test year usage was too low and a positive adjustment to the

1 revenues should be made. Therefore, OPC chose a methodology that takes into account
2 five years of billing usage and customer numbers.

3 **Q. Why is five years important?**

4 A. Five years is long enough that no one year has substantial impact on the revenue adjustment
5 and is short enough that it incorporates how customers currently use water.

6 **Q. Is it possible to have customer usage information and customer counts that
7 are accurate?**

8 A. Yes, it is. In my time on the Commission Staff, my department worked with the electric
9 utilities to improve their usage data so that the electric utility would have an understanding
10 of how their customers use electricity. MAWC is a large enough company that it has the
11 resources available to review its billing data and make corrections so that it, too, could have
12 monthly data that shows how its customers use water.

13
14 **XI. MAWC'S REVENUE ADJUSTMENT VIOLATES THE RATEMAKING
15 MATCHING PRINCIPLE**

16 **Q. Another problem with MAWC's analysis is that it violates the ratemaking
17 matching principle. What is the "ratemaking matching principle"?**

18 A. In a rate case, the revenue increase is the difference between normalized current revenues
19 and the revenue requirement set by the Commission. The revenue requirement is based on
20 actual and normalized costs and expenses for a historical time period. Some of the costs
21 and expenses included in revenue requirement are based on the usage and customer
22 numbers that are used to determine revenues. In addition, rates to recover the Commission-

1 approved revenue requirement are calculated using normalized customer usage. Therefore,
2 a mismatch occurs if a projected normal usage and revenue for 2016 is used and the
3 revenue requirement is based on test year ending December 2014 with costs tried-up
4 through January 31, 2016. MAWC's recommended approach should be disregarded
5 because it violates this matching principle.

6
7 **XII. MAWC DID NOT INCLUDE THE IMPACT OF WEATHER IN ITS ANALYSIS**

8 **Q. MAWC witnesses Dunn and Roach opine in their direct testimony⁸ that**
9 **water usage is impacted by weather. Does the usage normalization**
10 **methodology explicitly take into account weather?**

11 A. No, it does not. MAWC's methodology estimates what it labels "base usage" and then
12 calculates a ten year average of "discretionary usage" - the difference between actual
13 annual usage and its estimated base usage. No measures of weather are incorporated in
14 MAWC's analysis. There is no measure of temperature or rainfall incorporated in
15 MWAC's analysis.

16 **Q. Does MAWC's methodology implicitly incorporate weather?**

17 A. Only to the extent that weather influences the ten years of its estimated annual discretionary
18 usage. There is no estimate of how weather influences usage apart from other factors that
19 impact usage such as economic conditions. It also assumes that the weather over these ten
20 years averages out to be "normal" weather. NOAA uses thirty years of weather to calculate
21 normal temperatures.

1 **Q. Does OPC’s include an explicit recognition of weather?**

2 A. No, it does not. Based on my experience with weather normalization, the problems with
3 the monthly water usage and customer numbers would make identifying the impact of
4 weather on usage difficult if not impossible.

5
6 **XIII. SUMMARY OF TESTIMONY**

7 **Q. Would you please summarize this testimony?**

8 A. OPC recommends that the Commission not approve an ECAM for MAWC. MAWC has
9 not identified or estimated any new environmental regulations that it expects to be required
10 to meet over the next four years. In addition, it did not comply with the Commission’s
11 ECAM rules and did not provide the details necessary for the Commission to move the risk
12 of future environmental cost from MAWC to its customers.

13 With respect to normalized water revenues, the Commission should not adopt
14 MAWC’s methodology. The data used is not representative of the usage of MAWC’s
15 residential customers. MAWC’s normalization adjustment is a projection of revenues for
16 2016, not the test year thus violating the ratemaking matching principle. Lastly, even
17 though MAWC’s witness opine about what an impact weather has on its residential
18 customers’ usage, a measure of weather is not included in its analysis.

19 **Q. Does this conclude your rebuttal testimony?**

20 A. Yes, it does.

⁸ EFIS item no. 8, Direct Testimony of Kevin H. Dunn, page 15 and EFIS item no. 14, Direct Testimony of Gregory P. Roach, page 8.

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2015-0301

Requested From: Tim Luft
Date Requested: 10/15/15

Information Requested:

Please provide a list of all projects that MWAC will be proposing to include in the Environmental Cost Adjustment Mechanism for the next three years. Please include the estimated capital costs and operating expenses broken out separately for each identified project.

Requested By: Edward Downey – Bryan Cave – efdowney@BryanCave.com
For MIEC – (Missouri Industrial Energy Consumers)

Information Provided:

MAWC does not currently have a list of projects for the next three years that would be included in the Environmental Adjustment Mechanism. However, federal, state, or local laws can be created or changed at any time, requiring expenditures.

Missouri Public Service Commission

Respond Data Request

Data Request No.	0313
Company Name	Missouri-American Water Company-(Water)
Case/Tracking No.	WR-2015-0301
Date Requested	11/25/2015
Issue	Cost Recovery Mechanism - Environmental Cost Recovery
Requested From	Jeanne Tinsley
Requested By	Kevin Thompson
Brief Description	Environmental Cost Adjustment Mechanism
Description	Please provide a listing of all approved or proposed legislation and rules/regulations that MAWC is aware of that will or may have a material cost of service impact on the Company in the next four years, and for which the associated costs would be recoverable through the ECAM. For each such piece of legislation/rule/regulation, please provide the following information: 1) A brief description of the legislation/rule/regulation and its expected capital and operating requirements upon MAWC; 2) The identity of the governmental or regulatory body promulgating the rule; 3) The effective date of each, or expected effective date (if known); and 4) The expected cost of service impact of each (if known), broken out into capital and O&M components DR Requested by Mark Oligschlaeger (mark.oligschlaeger@psc.mo.gov)
Response	1) In accordance with the state Clean Water Law and regulation 10 CSR 20-6.010, National Pollutant Discharge Elimination System (NPDES) permits are renewed as required and the effluent parameters can be changed for the Missouri Department of Natural Resources (MDNR) to meet new requirements. The St. Louis County District North Plant, Jefferson City Plant, and the Parkville Plant NPDES permits are currently in the renewal phase. Prior to us receiving the new permit we must submit a Best Professional Judgement (BPJ) report for disposing lime softening waste to the Missouri River. If approval to dispose is allowed the new limits will be put in the permit. MAWC is awaiting guidance from MDNR on the BPJ process. 2) MDNR 3) Unknown at this time as the BPJ is required first and once the BPJ is approved the effective dates of compliance will be created. 4) The cost impact is not expected to occur within the next five years. Detail on the costs will not be determined until the compliance requirements for the NPDES permits are finalized. Responsible Witness: Kevin Dunn
Objections	NA

The attached information provided to **Missouri Public Service Commission** Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the **Missouri Public Service Commission** if, during the pendency of Case No. **WR-2015-0301** before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information. If these data are voluminous, please (1) identify the relevant documents and their location (2)

Schedule LMM-R-2

Page 1 of 2

make arrangements with requestor to have documents available for inspection in the **Missouri-American Water Company-(Water)** office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies or data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control or within your knowledge. The pronoun "you" or "your" refers to **Missouri-American Water Company-(Water)** and its employees, contractors, agents or others employed by or acting in its behalf.

Security : Public
Rationale : NA

NOTICE OF PUBLIC HEARINGS REGARDING PROPOSED RATE INCREASE

On July 31, 2015, the Missouri-American Water Company filed water and sewer rate cases with the Missouri Public Service Commission seeking to increase base rates by \$51,028,321 or 19.63%. As a result of the existing ISRS (only applicable to the St. Louis County service area) surcharge being rolled into permanent rates and reset to zero, the net percentage increase in the Company's revenue requirement would be approximately 9.73%.

This case also seeks approval to implement two regulatory mechanisms. The first is a Revenue Stabilization Mechanism, which would allow the Company to adjust future rates up or down to ensure the Company recovers no more and no less revenue than authorized. The second is a request to establish an Environmental Cost Adjustment Mechanism to allow a surcharge between rate cases to recover revenues associated with investments and costs required to comply with new federal, state and local environmental regulations.

A proposal to consolidate the Company's service areas for both water and wastewater services is also included in the case. Currently, Missouri-American has multiple water and wastewater rate districts. Missouri-American's proposal would result in three separate water rate zones and two zones for wastewater.

The local public hearing schedule appears below.

January 25—Jefferson City

Governor Office Building, Room 450, 200 Madison Street. A PSC staff public information/question and answer session starts at 5:00 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

January 26—Branson

Branson City Hall, City Council Chambers, 110 West Maddux Street. A PSC staff public information/question and answer session starts at 11:00 a.m., with the Commission receiving testimony from the public beginning at 12:00 p.m.

January 26—Joplin

Missouri Southern State University, Robert W. Plaster Free Enterprise Center, Cornell Auditorium, 3950 East Newman Road. A PSC staff public information/question and answer session starts at 5:30 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

January 28—Warsaw

Knights of Columbus Hall, 31687 Highway 83. A PSC staff public information/question and answer session starts at 11:30 a.m., with the Commission receiving testimony from the public beginning at 12:00 p.m.

January 28—Warrensburg

University of Central Missouri, Elliott Student Union, Room 236, 511 South Holden. A PSC staff public information/question and answer session starts at 5:30 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

February 1—Riverside

Riverside City Hall, Board of Aldermen Chambers, 2950 West Vivion Road. A PSC staff public information/question and answer session starts at 11:00 a.m., with the Commission receiving testimony from the public beginning at 12:00 p.m.

February 1—St. Joseph

Missouri Western State University, Leah Spratt Hall, Room 214, 4525 Downs Drive. A PSC staff public information/question and answer session starts at 5:00 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

February 4—Brunswick

American Legion Post #7, Downstairs Meeting Room, 209 West Broadway. A PSC staff public information/question and answer session starts at 11:00 a.m., with the Commission receiving testimony from the public beginning at 12:00 p.m.

February 4—Mexico

Mexico Senior High School Auditorium, 639 North Wade. A PSC staff public information/question and answer session starts at 5:30 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

February 8—St. Louis County

Florissant Valley Community College, Center for Workforce Innovation (adjacent to the campus), Rooms 134/135/136, 3344 Pershall Road, Ferguson, MO. A PSC staff public information/question and answer session starts at 5:30 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

February 9—Arnold

Arnold City Hall, City Council Chambers, 2101 Jeffco Boulevard. A PSC staff public information/question and answer session starts at 11:30 a.m., with the Commission receiving testimony from the public beginning at 12:00 p.m.

February 9—St. Louis County

University of Missouri-St. Louis, Summit Room, J.C. Penney Building, 8001 Natural Bridge Road, St. Louis, MO. A PSC staff public information/question and answer session starts at 5:30 p.m., with the Commission receiving testimony from the public beginning at 6:00 p.m.

We encourage you to attend a meeting in your area as representatives from the Company, the Public Service Commission, and the Office of the Public Counsel will be available to answer questions. If you are unable to attend a local public hearing and wish to make written comments or secure additional information, you may contact the following:

- Office of the Public Counsel, P.O. Box 2230, Jefferson City, Missouri 65102, telephone (866) 922-2959, or email opcservice@ded.mo.gov.
- Missouri Public Service Commission, P.O. Box 360, Jefferson City, Missouri 65102, telephone (800) 392-4211, email pscinfo@psc.mo.gov.
- Comments may also be submitted using the Commission's electronic filing system at <https://www.efis.psc.mo.gov/mpsc/Comments.html> with reference to Case No. WR-2015-0301.

These local public hearings will be held in facilities that meet the accessibility requirements of the Americans with Disabilities Act. Any person who needs additional accommodations to participate in these hearings should call the Public Service Commission's hotline at (800) 392-4211 (voice) or Relay Missouri at 711 before the hearings.

Residential Customer Numbers Supplied by MAWC
December 2014

	(1)	(2)	(3)	(4)
St. Louis Monthly	744			712
St. Louis Metro Monthly/ Anna Meadows/St. Charles			32,288	
St. Louis Quarterly	313,226		323,811	113,828
St. Louis Metro Quarterly prorated			17,043	
St. Louis County		313,418		
St. Joseph	28,463	28,395	28,814	28,466
Platte County (Parkville)		5,394	5,334	5,401
Parkville	5,402			
Warrensburg	6,615	6,644	6,613	6,657
St. Charles		29,686		29,258
Warren County				444
Warren/St. Charles	29,703			
Anna Meadows				
Mexico	4,281	4,275	4,287	4,285
Joplin	20,668	20,608	20,653	20,670
Jefferson City	8,997	8,981	9,019	8,996
Tri-States	2,923	2,923	2,925	
Brunswick	333	332	330	333
Rankin Acres	87	86	86	
Spring Valley/LWM	133			
Spring Valley/Lake Manor		132	134	
Ozark Mountain/LTA	490	489	499	
Whitebranch	134	134	136	
Maplewood/Riverside/Stonebridge	1,277	1,274		
Saddlebrooke	88	88		
Maplewood/Riverside/Stonebridge/ Saddlebrooke			1,352	
Emerald Pointe	347	349	350	
Redfield Water				
Total	423,911	423,208	453,674	219,050

- (1) MAWC response to Staff DR 154
- (2) MAWC response to Staff DR 239
- (3) MAWC workpaper CAS 11 & 12 - based on number of meters
- (4) MAWC workpaper Missouri Residential Declining Usage for Rate Case by District Using 2016 Forecasting to adjust 2014