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Residential Usage
Mantle/Surrebuttal
Public Counsel
WR-2017-0285

SURREBUTTAL TESTIMONY

OF

LENA M. MANTLE

Submitted on Behalf of the Office of the Public Counsel

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2017-0285

February 9, 2018

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


In the Matter of Missouri-American Water)
Company's Request for Authority to Implement)
General Rate Increase for Water and Sewer)
Service Provided in Missouri Service Areas.) Case No. WR-2017-0285

AFFIDAVIT OF LENA M. MANTLE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

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


1. My name is Lena M. 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 surrebuttal 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 9th day of January 2018.



JERENA. BUCKMAN
My Commission Expires
August 23, 2021
Cole County
Commission #13754037


Jerene A. Buckman
Notary Public

My Commission expires August 23, 2021.

SURREBUTTAL TESTIMONY

OF

LENA M. MANTLE

MISSOURI AMERICAN WATER COMPANY

CASE NO. WR-2017-0285

1 **Q. Would you state your name and business address?**

2 A. My name is Lena M. Mantle and my business address is P.O. Box 2230, Jefferson
3 City, Missouri 65102.

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

6 A. Yes, I am.

7 **Q. What is the purpose of this surrebuttal testimony?**

8 A. The purpose of this surrebuttal testimony is to respond to MAWC witness Gregory
9 Roach's rebuttal testimony regarding normalization adjustments to water revenues.

10 **Q. Would you summarize your surrebuttal testimony?**

11 A. Mr. Roach provides in his rebuttal testimony that there are meter reading/billing
12 peculiarities in the billing usage and proposes that the best way to deal with such
13 peculiarities is to aggregate the billing data. The same billing usage was used in
14 OPC's, Staff's, and MAWC's analysis and it is this billing usage that contains these
15 peculiarities. The data used by Staff in its analysis of annual data from 2012 through
16 2016 which, although it may contain errors, does not include the disconnect in the data
17 that I describe in my direct testimony. In addition, Staff's analysis is conducted on an
18 annual basis which should mitigate much of the meter reading/billing peculiarities
19 described in Mr. Roach's testimony. For this reason, the Commission should adopt
20 Staff's average normalized usage calculations.

1 **Q. Would you summarize Mr. Roach’s rebuttal testimony?**

2 A. Mr. Roach begins his testimony by describing how Staff’s and OPC’s “simple”
3 should not be adopted and then goes on to show how a correction to an outlier billing
4 data point that I pointed out in my direct testimony was indeed an outlier and the effect
5 of “correcting” this outlier has on his analysis.

6 **Q. Mr. Roach provides in his testimony a chart on page 5 that shows declining**
7 **actual residential annual usage for the time period between 2012 and 2016. Did**
8 **the usage continue to decline in 2017?**

9 A. No. According to MAWC’s update to its response to Staff data request 76 provided
10 on January 31, 2018, the annual residential usage for 2017 was 32,599,069 thousand
11 gallons. This is higher than the annual residential usage shown in Mr. Roach’s
12 testimony in 2014, 2015, and 2016.

13 **Q. What conclusion should the Commission draw from the usage shown in Mr.**
14 **Roach’s table with the addition of annual usage for 2017?**

15 A. The addition of the 2017 usage to this table shows that the annual consumption of
16 water is not declining as Mr. Roach opined in his rebuttal testimony.

17 **Q. Did Mr. Roach’s “complex” analysis capture this increase in consumption in**
18 **2017?**

19 A. No, it did not. Mr. Roach’s analysis projected declining usage for 2017. While Mr.
20 Roach would likely opine that the difference was due to “extreme” weather in 2017,
21 data from the National Weather Service does not support this. OPC’s review of
22 annual¹ cooling degree days (“CDD”), a measure of how “warm” the year was, shows
23 that, based on the climatological data for St. Louis, the summers of 2012 through 2017

¹ OPC reviewed annual CDD and precipitation because Mr. Roach used annual CDD in his model.

1 were all warmer than the average since 1960.² The summer of 2012 was the hottest
2 since 1960. The table below gives the CDD for 2012 through 2016.

3

Year	CDD
2012	2217
2013	1728
2014	1732
2015	1873
2016	2162
2017	1959
Average	1625

4 I also looked at the amount of rainfall in St. Louis that occurred in each of these years.³
5 The table below shows that 2013 through 2016 were in the top half of the 137 years
6 of precipitation data for St. Louis with 2015 being the wettest year in the 137 years.

	Precipitation	
	Rank	Amount
2012	110	32.30
2013	33	42.68
2014	29	43.43
2015	1	61.24
2016	41	41.44
2017	77	36.65

7 **Q. Is Mr. Roach’s complex analysis a good predictor of usage?**

8 A. There is nothing to show that his complex method is any better of a predictor than the
9 “simple” average method utilized by Staff and OPC. When a forecasted value is so
10 far off so soon in the forecast period, it typically signifies problems with the modeling
11 assumptions, the input data, or both. The Commission should not adopt a projected

² http://www.weather.gov/media/lx/climate/stl/temp/temp_stl_cooling_degree_days.pdf

³ http://www.weather.gov/media/lx/climate/stl/precip/precip_stl_ranked_annual_amounts.pdf, Ranking of wettest to driest years with 1 being the driest and 137 being the wettest

1 usage for mid-2018 as requested by MWAC when the projection is so far off at the so
2 soon.

3 **Q. In this case, could a simple average of annual usage be a better predictor than**
4 **Mr. Roach’s complex method?**

5 A. Yes. Mr. Roach explains in his rebuttal testimony that there are meter reading/billing
6 peculiarities in the billing usage data used in all parties analysis.⁴ He also states that
7 the proper way to deal with these peculiarities is to aggregate the billing data.⁵ Mr.
8 Roach states:

9 Our experience indicates that a biased analysis, and resulting biased
10 conclusions will result from employing discreet monthly residential
11 base usage values due to variance associated with the monthly meter
12 reading/billing peculiarities.

13 While he discusses this with respect to the “base months,” it is equally true for non-
14 base usage months. So use of annual data, as Staff does in its analysis, resolves more
15 of these “peculiarities” in the data.

16 **Q. Is there any measure of the potential impact of these peculiarities on Mr. Roach’s**
17 **analysis?**

18 A. Yes. Mr. Roach “corrected” the April 2017 usage he included in his analysis after
19 OPC pointed out in its direct testimony that this usage seemed too low. After
20 “correcting” this one data point, Mr. Roach’s estimated “reduction in base usage” was
21 6% less than it was before the correction was made. Mr. Roach’s rebuttal testimony,
22 as provided above, is that there is a potential for every month to have peculiarities. By
23 dividing the usage data into “base” and “non-base” usage, Mr. Roach is increasing the
24 amount of influence of these peculiarities in his analysis.

⁴ Roach rebuttal, page 12:4-5

⁵ Id, page 12:20 through 13:4

1 **Q. What is your recommendation to the Commission?**

2 A. My recommendation to the Commission is that it adopt the normalized residential
3 billing usage as calculated by Staff. The meter reading/billing peculiarities combined
4 with known problems with meters that MAWC began installing in 2012⁶ that are
5 running “slow” as described in Staff report in WO-2017-0012, along with recent
6 reports from customers regarding bills doubling⁷, should alarm the Commission. One
7 customer, Ms. Nonetta Sode, testified that her bill was so high that she decided to
8 contact Missouri-American Water Company about it and get an explanation.⁸ Ms.
9 Sode was told by the Company that the bill was simply reporting higher because her
10 new meter “was more efficient and more accurate” suggesting prior usage data was
11 *not* accurate for this customer and others.⁹ OPC has also received several phone calls
12 and e-mails of similar accounts, and the press has picked up stories of abnormal
13 usage.¹⁰

14 The Staff’s average usage may be more than usage in the test year as shown
15 in Mr. Roach’s testimony but, if the trend continues with newly installed meters
16 showing more usage than the meters they are replacing, Staff’s annual average may
17 actually be too low. Therefore it is OPC recommendation that the Commission
18 conclude that the better predictor is Staff’s average annual usage.

⁶ Memorandum to File WO-2017-0012, *Staff Report Regarding the Investigation of Missouri-American Water Company (“MWAC”) with Respect to MWAC’s Faulty Water Meter and Negative Reserve Balance Issues as Disclosed during Rate Case No. WR-2015-0301*, page 4.

⁷ Local Public Hearing, Volume 8, January 29, 2018, P. 35-36 (reporting neighborhood concern about historically abnormal bills and skepticism as to the accuracy of his usage); <http://www.ksdk.com/article/news/local/overland-family-gets-600-water-bill/63-513700123>

⁸ Local Public Hearing, Volume 8, January 29, 2018, P.52:4-17

⁹ *Id.*

¹⁰ <http://www.ksdk.com/article/news/local/overland-family-gets-600-water-bill/63-513700123>; also see <http://stlouis.cbslocal.com/2018/01/24/customers-shocked-by-water-bill-after-hot-dry-summer/>

1 **Q. What would be the results if the Commission used normalized units that are too**
2 **low?**

3 A. Normalized actual usage is used for two things in a rate case: 1) determination of
4 normalized current revenues, and 2) determination of rates that would give MAWC
5 an opportunity to earn the revenue requirement set by the Commission. If the
6 normalized current revenue is too low, the increase in revenue requirement will give
7 MAWC the opportunity to earn more than the revenue requirement authorized by the
8 Commission because 1) the increase in revenues would be too great, and 2) the rates
9 charged the customers would be too high.

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

11 A. Yes, it does.