Exhibit No.:	
Issue(s):	*Revenue Requirement (Water Loss Percentage), Lead Service Line Replacement (capitalization*
Witness:	*James A. Merciel, Jr., PE*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Surrebuttal Testimony*
Case No.:	*WR-2017-0285*
Date Testimony Prepared:	*February 9, 2018*

MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

WATER AND SEWER DEPARTMENT

SURREBUTTAL TESTIMONY

OF

JAMES A. MERCIEL, JR., PE

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2017-0285

Jefferson City, Missouri
February 2018

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MISSOURI-AMERICAN WATER COMPANY

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JAMES A. MERCIEL, JR., PE

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2017-0285

Q. Please state your name and business address.

A. My name is James A. Merciel, Jr., PE, and my address is P. O. Box 360, Jefferson City, Missouri, 65102.

Q. Are you the same James A. Merciel, Jr., P.E. who provided rebuttal testimony in this case?

A. Yes.

EXECUTIVE SUMMARY

Q. What is the purpose of this surrebuttal testimony?

A. The purpose of this surrebuttal testimony is to respond to the direct testimony of Missouri Industrial Energy Consumers (MIEC) witness Greg R. Meyer pertaining to water loss; and to address Staff's position on rebuttal testimony, both for revenue requirement and rate design, of James M. Jenkins regarding capitalization of customer-owned lead water service line ("LSL") replacements.

WATER LOSS

Q. In his direct testimony, specifically Table 1 on Page 3, Mr. Meyer proposes a $1 million decrease in requested revenue, based on an analysis of ten year trending water loss expressed as a percentage of system delivery. Do you agree with this adjustment?

A. No, I do not agree with any analysis of water loss, including cost adjustments, by using data that is modified by unrelated variable factors such as water production (system delivery) or customer usage. Although metering and billing inaccuracies are factors affecting apparent losses to some degree, actual water loss occurs primarily because of flow from leakage and main break events, and the volume of loss through leaks and breaks results in a certain flow loss that can be expressed in gallons per year. System delivery and customer usage do not affect water flow that is due to leaks or main breaks. Additionally for most water systems, system delivery and customer usage are variable from year-to-year, and also variable on a per-customer basis from system-to-system. For these reasons, dividing loss flow by these unrelated and variable flow numbers results in percentage numbers that are largely meaningless and skew the analysis.

Q. Can you illustrate this point?

A. Yes, by studying Mr. Meyer's Table 6 on Page 14 of his direct testimony, in which he uses data provided by Missouri-American Water Company (MAWC) for its municipal water systems (excluding rural service areas and small subdivisions), showing for a 10 year period: metered customer usage, system delivery, water loss (which is the difference between the first two), and water loss expressed as a percentage of system delivery. Mr. Meyer's table is copied here for convenience:

Continued on next page.

From Meyer direct, Table 6 (EFIS 94)

Total System Water Loss Percentage

Year	Metered Usage	System Delivery	Water Loss	Water Loss Percentage
2007*	68,045,076	83,904,492	15,859,416	18.90%
2008*	60,462,915	74,914,001	14,451,086	19.29%
2009	58,144,902	71,593,699	13,448,797	18.78%
2010	60,275,866	74,270,470	13,994,604	18.84%
2011	60,491,987	74,353,589	13,861,602	18.64%
2012	64,738,705	79,124,148	14,385,443	18.18%
2013	57,923,363	72,465,107	14,541,744	20.07%
2014	56,548,716	72,569,804	16,021,088	22.08%
2015	55,289,166	70,226,045	14,936,879	21.27%
2016	55,353,866	71,808,109	16,454,243	22.91%
Cumulative	597,274,562	745,229,464	147,954,902	19.85%
Sep 2017 YTD	43,194,070	57,421,050	14,226,980	24.78%

Sources: MAWC responses to Staff Data Requests 35 and 35.1.
**2007 and 2008 results in the Joplin territory were adjusted for data abnormalities.*

Q. What is this table illustrating?

A. Mr. Meyer is showing, in the last column, that MAWC's total company water loss expressed as percentage of system delivery, generally trends up during this period. However, the concern should be the water loss quantity itself, the second to the last column. The table shows that the actual loss in that column is not trending up, certainly not to the same degree. Water loss quantity is shown from 2007 to actually decrease for a few years, and then increase for another few years, and by 2017 is back to about where it was in 2007. Beginning

with the earliest year, 2007, the annual loss is over 15 million gallons and the percentage is 18.9%; however, for three of the following years, 2008, 2013, and 2015, the loss is lower than 2007, and yet Mr. Meyer's percentages are higher. For three additional following years, 2009, 2010 and 2011, the percentages are almost as great as for 2007 while the losses are considerably lower than 2007. Again, the reason the percentages are increasing is not because loss is increasing; it is because usage and corresponding system delivery, as shown on Mr. Meyer's chart, is less in the later years. In effect, Mr. Meyer's proposed adjustment does not penalize MAWC for water loss, but instead penalizes MAWC for decreased sales.

Further, in his testimony, in a question and answer on page 14 lines 9 through 14, in discussing water loss and the Infrastructure System Replacement Surcharge (ISRS) applying only to MAWC's St. Louis County service district, Mr. Meyer states, "If the goal of the special regulatory ISRS mechanism is being accomplished, the water loss percentage should be improving." While I am certain Mr. Meyer would agree that the goal of ISRS is to reduce water losses, I disagree with Mr. Meyer's statement that the percentages expressed in his testimony would necessarily decline. I disagree because the percentages calculated by Mr. Meyer do not accurately reflect system losses, because, again, the percentage numbers for each year are affected by the variable system delivery quantities. I also disagree with applying the ISRS goals to MAWC's company-wide loss issues, since ISRS does not apply statewide to all of MAWC's service areas.

Q. Do you have any issue with Mr. Meyer's concept of attempting to make adjustments for customer usage trends or water loss trends?

A. No, I do not have an issue with that concept, especially in consideration of looking at a future test year. For the reasons stated herein however, I do strongly assert that water loss should not be analyzed using a percentage number that is based on system delivery.

Q. How should water loss be analyzed?

A. First, water loss should be evaluated for each individual water system, and not combine data of many individual water systems, because there are year-to-year variable factors such as major loss events, local customer metering issues, and water system expansions and changes that affect loss data. The effects of these variables should be limited to the specific water system and not combined with other systems. For any one water system, water loss data itself is largely valid on its own (read: gallons lost) unless major changes to the distribution system or major loss events can be identified. Evaluation of water loss for any one water system may need to take into consideration changes to pipe footage, changes in pressure gradient, unmetered flows associated with flushing for construction or hydrant testing, or large industrial and wholesale customer metering issues. And, second, loss study should focus on long-term time-frames. Short timeframes, such as month-to-month timeframes, often do not appear consistent because leak and main break events do not occur consistently month-to-month. Annual loss data, and trends based on annual data, for individual water systems are most desirable. Also, the American Water Works Association, a trade organization comprised of water providers and water-related product manufacturers and representatives, has developed a formula that calculates expected normal losses based on footage of pipe, system pressure, the number of service connections, and metering errors; then, it compares actual loss to this expected loss resulting in a number that is called the "Infrastructure Leakage Index," or ILI. Many of these points, as well as others, were outlined

in rebuttal testimony (revenue requirement) of MAWC witnesses Bruce W. Aiton and Andrew William Clarkson. While this calculation method arguably should not exclusively be used for loss analysis, the use of it could be a good tool, among other observations, to study long-term trends for any one water system.

ACCOUNTING TREATMENT OF LEAD SERVICE LINE REPLACEMENTS

Q. Does Staff have any recommendation on the accounting treatment of the costs of replacing customer-owned Lead Service Lines, also called LSL replacement cost?

A. Yes. Staff's recommendation on the accounting treatment is explained in the surrebuttal testimony of Staff witness Amanda C. McMellen. While Staff takes the position that MAWC should be able to recover customer-owned LSL replacement cost, with conditions as outlined in the rebuttal testimony of Ms. McMellen and myself, Staff also takes the position that customer-owned LSL replacements should not be considered a capital item to be included in a plant account and included in MAWC's rate base. This position is in disagreement with MAWC witness James M. Jenkins in his rebuttal testimony, both for revenue requirement and rate design.

Q. Does Mr. Jenkins state that replacement of any portion of a customer-owned LSL should be capitalized and included in rate base?

A. Yes.

Q. Does he provide reasoning for his position?

A. Yes, he does. Mr. Jenkins considers customer-owned LSL replacements to be incidental to main replacement work, which includes reconnection of water service lines that serve individual customers' premises. This would be treating the cost of customer-owned LSL replacement in the same manner as the cost of other assets not owned by MAWC such as

street pavement, curbing, sidewalks, driveways, lawns or other assets that must be restored after main replacement work is accomplished.

Q. Why does Staff oppose including customer-owned LSL replacement cost as a capital item?

A. Staff opposes capitalization of the customer-owned LSL replacements because those service lines are distinct assets not owned by MAWC, the replacement of which is beyond incidental work associated with water main replacements. LSL replacements are related to main replacement work, as outlined in my rebuttal testimony in this case as well as testimony of others and in Case No. WU-2017-0296 in which MAWC obtained an Accounting Authority Order to handle the cost of customer-owned LSL replacements, but the replacements are not incidental.

Q. What is your reasoning that customer-owned LSL replacements are beyond work that is incidental to water main replacements?

A. Very simply, LSL replacements are undertaken for reasons of health and water quality, as outlined in other testimony in this case and in Case No. WU-2017-0296. Although, at present, MAWC undertakes these LSL replacements while excavation of water mains and service lines is already underway during water main replacement work. The LSL replacements are done at that time for convenience and efficiency. By current practice, the LSL replacements are related to water main replacements, but, if not for the lead issue, the LSL replacements would not be a fundamentally necessary part of main replacement projects.

Q. When MAWC undertakes a main replacement project, are non-lead customer service lines affected?

A. Yes, but only in St. Louis County where customers own the entire service line from the water main to the premises. In St. Louis County, when a water main is replaced it is necessary to disconnect or cut the customer's water service line and then make a new connection to the newly installed water main, with new parts and in some cases some new pipeline material. In such circumstances, the entire service line is not replaced, but the necessary cost of the disconnection and reconnection of the customer service line becomes a part of MAWC's capital cost of the new water main. In service areas other than St. Louis County, MAWC owns the portion of the water service line from the main to the customer's property line, and there is no need to do any work on the customer-owned portion of the service line.

Q. Does Staff support MAWC's recovery of the cost of LSL replacements?

A. As stated in other testimony in this case and in Case No. WU-2017-0296, Staff supports MAWC's LSL replacement program and recovery of the expense. However, even though LSL replacements may take place along with water main replacement projects, Staff considers customer-owned LSL replacements to be a project in and of itself, and the cost should not be capitalized.

As also previously stated, MAWC's recovery of MAWC-owned LSL replacements are not an issue. The reason is MAWC would book that asset in its account for service lines and recover the amount as rate base, the same as recovery of a non-lead MAWC-owned service line replacement.

Q. Does this conclude your surrebuttal testimony?

A. Yes

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 JAMES A. MERCIEL, JR.

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JAMES A. MERCIEL, JR. and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Surrebuttal Testimony; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

JAMES A. MERCIEL, JR.

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 8th day of February, 2018.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

Notary Public