FILED
March 22, 2018
Data Center
Missouri Public
Service Commission

Exhibit No.:	27
Issues:	Lead Service Line Replacement
Witness:	Gary A. Naumick
Exhibit Type:	Rebuttal-Revenue Requirement
Sponsoring Party:	Missouri-American Water Company
Case No.:	WR-2017-0285
	SR-2017-0286
Date:	January 17, 2018

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2017-0285
CASE NO. SR-2017-0286

REBUTTAL TESTIMONY
REVENUE REQUIREMENT

OF

GARY A. NAUMICK

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

MAWC Exhibit No. 27
Date 3-7-18 Reporter A.F.
File No WR-2017-0285

Exhibit 27
WR-2017-0285
Rebuttal Testimony – Revenue Requirement of Gary A. Naumick

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER AND SEWER SERVICE	)))))	**CASE NO. WR-2017-0285** **CASE NO. SR-2017-0286**

AFFIDAVIT OF GARY A. NAUMICK

Gary A. Naumick, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony Revenue Requirement of Gary A. Naumick"; that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

Gary A Naumick
Gary A. Naumick

State of New Jersey
County of Camden
SUBSCRIBED and sworn to
Before me this 5th **day of** JANUARY **2018.**

Robert L. Fredericks
Notary Public

My commission expires: 4/2/2019

ROBERT L FREDERICKS
ID # 2444295
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires April 2, 2019

REBUTTAL TESTIMONY
REVENUE REQUIREMENT
GARY A. NAUMICK
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2017-0285
CASE NO. SR-2017-0286

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REBUTTAL TESTIMONY
REVENUE REQUIREMENT

GARY A. NAUMICK

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Gary Naumick, and my business address is 1025 Laurel Oak Rd, Voorhees, NJ 08043.

Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("AWWSC") as Vice President of American Water Engineering.

Q. What are your responsibilities in this position?

A. In my role as Vice President of Engineering, I am responsible for directing the engineering function for American Water Works Company, Inc. ("American Water"). The engineering department's responsibilities include providing engineering services for all American Water water and wastewater systems, including strategy, standards, governance and oversight for water and wastewater system master planning; capital budgeting and capital investment management; asset technical standards; design and design management; capital project delivery and construction management; support to operations, environmental management, and rates functions.

Q. Please describe your educational background.

A. I received a Bachelor of Science degree in Civil Engineering from the Pennsylvania State University in 1977. I received a Master of Science degree in Engineering Management from the New Jersey Institute of Technology in 2002.

Q. Please describe your professional experience.

A. From 1977 to 1986, I was employed by the U.S. Environmental Protection Agency as an Environmental Engineer. I have been employed by AWWSC since 1986. From 1986 to 1988, I was a Senior Planning Engineer. I was promoted to Director of Planning in 1988, and to the position of Director of Planning & Strategy and Capital Investment Management in 2003. I was promoted to Senior Director of Engineering for American Water in 2008 and Vice President- Engineering in 2015.

I am a licensed Professional Engineer in the Commonwealth of Pennsylvania. I am an active member of the American Water Works Association ("AWWA"), and have served on AWWA's Conservation Committee. Since 2005, I have served as a faculty member for the Institute of Public Utilities Regulatory Studies Program. I have presented on the topic of lead in drinking water at several national water industry functions including (i) Mid-America Regulatory Conference, (ii) National Association of State Utility Consumer Advocates, and (iii) New Mexico State University Center for Public Utilities Advisory Council.

I am a participating member of the national Lead Service Line Replacement Collaborative ("LSLR Collaborative") since its formation in 2016 at the invitation of the National Association of Water Companies ("NAWC"), a steering committee member. The LSLR Collaborative is a joint effort of 24 national public health, water utility, environmental, labor, consumer, housing, and 1 state and local governmental

organizations to help communities to accelerate full removal of the lead service lines providing drinking water to millions of American homes.

Q. Have you previously participated in regulatory matters?

A. Yes. I have provided testimony in support of various American Water utility subsidiary rate filings before public utility commissions in Illinois, Indiana, Kentucky, New Jersey, New Mexico, Missouri, Pennsylvania and Virginia, including Missouri-American Water Company's ("MAWC" or the "Company") Accounting Authority Order ("AAO") proceeding regarding lead service line replacement ("LSLR") costs (Case No. WU-2017-0296).

Q. What is the purpose of your revenue requirement rebuttal testimony in this proceeding?

A. The purpose of my revenue requirement rebuttal testimony is to support the Company's request for cost recovery of its customer lead service line replacement ("LSLR") program. Specifically, I will respond to testimony submitted by Geoff Marke on behalf of the Office of the Public Counsel ("OPC").

II. ADOPTION OF LSLR TESTIMONY

Q. In his Direct Testimony in this case, OPC witness Marke indicates that OPC is opposed to MAWC's LSLR program. How does he purport to support that opposition?

A. OPC witness Marke provides his written direct testimony, rebuttal testimony and surrebuttal testimony in the Company's LSLR AAO proceeding as schedules to his testimony.

Q. You mentioned participating in the Company's LSLR AAO proceeding (Case No. WU-2017-0296). Did you provide testimony in that proceeding?

A. Yes. I provided written direct testimony, rebuttal testimony and surrebuttal testimony in that proceeding in support of the Company's proposal and in response to OPC witness Marke's testimony regarding the Company's LSLR program and OPC's proposed pilot study. I also provided live testimony at the hearing held in that proceeding on September 27, 2017 ("LSLR AAO Hearing").

Q. Would you respond similarly to OPC witness Marke in this case?

A. Yes. Accordingly, I have attached my LSLR AAO proceeding direct testimony as **Schedule GAN-1**; rebuttal testimony as **Schedule GAN-2**; and, surrebuttal testimony as **Schedule GAN-3**. Further, as **Schedule GAN-4**, I have attached an excerpt from the transcript in the LSLR AAO Hearing containing my testimony provided at the hearing in that case.

Q. Will other MAWC witnesses also address MAWC's proposed LSLR program?

A. Yes. MAWC witnesses Bruce Aiton and James Jenkins provide additional testimony in support of the Company's LSLR program and proposed cost recovery.

Q. Does this conclude your revenue requirement rebuttal testimony?

A. Yes, it does.

Exhibit No.:	
Issues:	AAO Lead Line Replacements
Witness:	Gary A. Naumick
Exhibit Type:	Direct
Sponsoring Party:	Missouri-American Water Company
Case No.:	WU-2017-0296
Date:	August 1, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WU-2017-0296

DIRECT TESTIMONY

OF

GARY A. NAUMICK

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF THE APPLICATION OF MISSOURI-AMERICAN WATER COMPANY FOR AN ACCOUNTING ORDER CONCERNING MAWC's) LEAD SERVICE LINE REPLACEMENT PROGRAM.	**CASE NO. WU-2017-0296**

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Gary A. Naumick

State of New Jersey
County of Camden
SUBSCRIBED and sworn to
Before me this 1st day of August 2017.

Linda K. Stapleton
Notary Public

My commission expires:

LINDA K. STAPLETON
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES MAY 19, 2021

DIRECT TESTIMONY
GARY A. NAUMICK
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WU-2017-0296

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environmental, labor, consumer, housing, and state and local governmental organizations to help communities to accelerate full removal of the lead service lines providing drinking water to millions of American homes.

Q. Have you previously participated in regulatory matters?

A. Yes. I have provided testimony in support of various American Water utility subsidiary rate filings before public utility commissions in Illinois, Indiana, Kentucky, New Jersey, New Mexico, Missouri, Pennsylvania and Virginia.

Q. Please list the public presentations you have made on the topic of lead service line replacement.

A. I have made presentations at the following conferences:

"A Coordinated Approach to Reduce Lead Exposure from Drinking Water". National Association of State Utility Consumer Advocates ("NASUCA") 2016 Annual Meeting, November 15, 2016; Palm Springs, CA.

"A Coordinated Approach to Reduce Lead Exposure from Drinking Water". New Mexico University Center for Public Utilities Advisory Council, 2017 Current Issues Conference. April 26, 2017; Santa Fe, NM.

"A Coordinated Approach to Reduce Lead Exposure from Drinking Water". NASUCA 2017 Mid-Year Meeting, June 5, 2017; Denver, CO.

"A Coordinated Approach to Reduce Lead Exposure from Drinking Water". Mid-America Regulatory Conference ("MARC") 2017 Annual Conference, June 20, 2017; Chicago, IL.

Q. Are you familiar with the properties and business of Missouri-American Water Company ("MAWC" or "Company")?

A. Yes, I am familiar with the properties and business of MAWC.

Q. What is the purpose of your testimony in this proceeding?

A. My direct testimony is being submitted in support of the Company's Application for an Accounting Authority Order related to cost recovery of the replacement of customer-owned lead service lines. In this testimony, I will provide an overview of the issue of lead in drinking water. I will also discuss the Company's approach to managing the risk of customer exposure to lead in drinking water consistent with federal and state regulatory standards established by the United States Environmental Protection Agency ("EPA") and Missouri Department of Natural Resources ("DNR").

II. Overview of Issue of Lead in Drinking Water

Q. Please provide an overview of the issue of lead exposure from drinking water.

A. Lead in contact with drinking water is an important issue to American Water, its operating subsidiaries and the entire water industry. According to the CDC, "Lead can be found in many sources. Lead-based paint and the dust produced as it deteriorates, found mostly in older homes built before 1978, are major contributors of lead exposure in U.S. children. Lead can also be found in some water pipes inside the home or pipes that connect homes to the main water supply pipe. Lead found in tap water usually comes

from the decay of old lead-based pipes, fixtures or from leaded solder that connects drinking water pipes."[1]

Q. How does lead get into drinking water?

A. Lead seldom occurs naturally in water supplies like rivers and lakes, and is rarely present in water coming from treatment plants. Rather, lead, if present in drinking water, is likely a result of corrosion of plumbing materials containing lead such as lead pipe, copper plumbing containing lead-based solders, brass faucets, fittings and other various customer premise fixtures containing lead. The amount of lead in water depends on a number of factors. These factors include the amount of lead that water comes in contact with, the length of time the water stays in contact with the lead, the corrosivity and mineral content of the water, the water temperature and the presence of protective scales or coatings. Lead can leach into water over time through corrosion, which is the dissolving or wearing away of metal caused by a chemical reaction between water and plumbing materials. The risk for lead contamination arises when water passes through lead service lines and/or premise plumbing fixtures with lead-based solder used to join pipes and faucets. Lead solder was banned for use on water pipes in 1986. Congress has also set limits on the amount of lead that can be used in plumbing.[2]

Q. Please explain what is meant by a lead service line?

A. A lead service line is the terminology used to indicate that the service line connecting

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[1] https://www.cdc.gov/nceh/lead/leadinwater/

[2] 42 U.S.C. § 300g-6.

the water distribution main in the street to the customer's home is made of lead pipe. The installation of lead pipe for water service lines dates back 50 to 100+ years ago and its prevalence and period of use varies by geographic region.

Q. Why should we be concerned about lead in drinking water?

A. Lead is a naturally occurring metal that is harmful if inhaled or swallowed, particularly to children and pregnant women. Lead exposure can cause a variety of adverse health effects. For example, lead exposure can cause developmental delays in babies and toddlers and deficits in the attention span, hearing and learning abilities of children. Lead exposure can also cause hypertension, cardiovascular disease and decreased kidney function in adults. The most common sources of lead exposure are paint and dust, but lead can also be found in drinking water. Recent events, including those in Flint, Michigan, have heightened concern about the presence of lead in drinking water.

Q. Please describe the Company's approach to address potential sources of lead in drinking water.

A. As Mr. Aiton describes in this testimony, MAWC employs a proactive, multi-faceted approach to manage the potential exposure to lead as part of its commitment to maintain water quality that meets or surpasses Missouri DNR and USEPA standards for safe drinking water, and protect the health and safety of its customers. These layers of protection include treatment of water (including corrosion control treatment), monitoring of key indicators of water quality, identification and inventorying of service line materials, replacing lead service lines, and customer education.

Q. Please explain the role of treatment in controlling lead corrosion.

A. MAWC treatment plants produce finished water that meets or surpasses Missouri DNR and EPA standards for safe drinking water. The water quality is controlled to produce stable water within an established range of pH, alkalinity and hardness levels. This stability helps maintain disinfection residuals and other parameters needed to maintain the water quality in the distribution system to our customers. Over time, the water deposits a protective coating on the pipes, creating a barrier between the water and the metallic pipe, and prevents corrosion of the metal.

III. Lead Service Line Removals

Q. Please explain why you are discussing the MAWC lead mitigation approach in this testimony?

A. The Company's treatment and sampling efforts have effectively reduced potential lead exposure from drinking water. However, as the research regarding potential exposure to lead has been further developed and refined, the Company has determined it should take additional steps to further mitigate potential customer exposure to lead in drinking water. The growing body of research indicates that the galvanic corrosion that can occur after a partial lead service line replacement and the physical disturbance of the lead service line have the potential to increase lead levels following replacement. Now, when the Company encounters a lead service line during the course of its main replacement projects, the Company believes all segments of lead in the service line should be replaced. Consequently, we have shifted our construction process to favor full lead service line replacements over partial lead service line replacements where possible. The full LSLR

(lead service line replacement) would include both the lead portions owned by the Company and the lead portions owned by the customer/property owner. This work should be done at the same time whenever possible and should be integrated in the Company's water main replacement program.

Q. How have you incorporated the evolving research into the strategy?

A. In the 25 years since USEPA's original Lead and Copper Rule ("LCR") went into effect, several important changes have occurred that are causing the industry to re-evaluate the issue. First, a growing body of work indicates that partial lead service line replacements, where only the utility-owned portion is replaced and the customer-owned portion of lead service line is left intact, have not been effective in reducing potential lead exposure and may in some cases result in a temporary increase in the amount of lead in the drinking water. Second, significant research has gone into helping the industry advance its understanding of corrosion and the stability of scales on the inside of pipes. Third, utilities are facing an increasing need to upgrade aging infrastructure, which accelerates the need to coordinate the replacement of lead service lines. Our lead mitigation strategy, which I will describe in more detail below, includes treatment, monitoring, locating lead service lines, replacing lead service lines, flushing, sampling, and communicating with the customer. See **Schedule** GAN-01 .

Q. Has the industry research looked at a wide range of water utilities?

A. Yes. The industry's research has been cohesive and is building toward solutions for all utilities. The first studies into the effects following partial LSLR were performed at

utilities that had corrosive waters and did not comply with the LCR. These earlier studies also did not consider flushing of the household plumbing. Recent studies have examined the impact of high velocity flushing on existing service lines, and service lines replaced in partial and in full. We have been following all the research and are applying the findings to our specific systems. We have also conferred with other utilities to understand their lessons learned in implementing programs.

Q. Please define a full lead service line replacement and a partial lead service line replacement.

A. A full LSLR means replacement of all segments of service line made of lead, regardless of whether that portion is Company-owned or customer-owned. (A full LSLR does not include replacing non-lead portions of a service line). For a premise where the entire service line is made of lead, full LSLR generally refers to the replacement of the service line from the water main to just outside the home or to the shut off valve within the premise.

A partial LSLR is the term used by the industry to indicate when only a portion of the lead in a domestic water service line from the water main to the customer's premise has been replaced. Generally, a partial LSLR involves the utility replacing the segment of lead service line that it owns, but not replacing the portion of lead service line owned by the customer.

See Schedule GAN-02 for diagrams of two typical situations regarding the ownership of the service line.

Q. Please explain how replacing only part of the lead service line may potentially increase the risk of lead exposure through drinking water at the customer's tap.

A. Physical disturbance of lead service lines and electrochemical processes both contribute to an increased risk of lead contamination following a partial replacement. Removing and replacing the service line and curb box connection may disturb the "scale" or coating that builds up naturally inside of the service line over its years in service. If an insoluble and adherent scale forms, there is a physical barrier that prevents leaching of lead into the water the lead service line delivers.[3] However, following physical disturbances related to infrastructure work, this protective barrier may be susceptible to releasing lead and other accumulated material in the scales. If a lead service line is replaced with a pipe made of another metal, conditions are created for bimetallic corrosion. The lead in the service line is a sacrificial metal that loses electrons to the non-lead material it adjoins. This is the cause of corrosion, which affects the interior wall of the lead service line and accelerates leaching of lead into the water passing through the line. While optimal corrosion control techniques can mitigate this risk, it is still a risk that should be avoided given the health and safety concerns associated with lead contamination.

Q. Please define physical disturbance of a lead service line.

A. The term physical disturbance is used to indicate when a lead service line is either physically cut or otherwise disconnected, or when sufficient vibration occurs in close proximity to the line that the integrity of the interior scale may be vulnerable to breaking

[3] *See Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems*, EPA 816-B-16-003 (Mar. 2016), pp. 9-10.

off. Vibration concerns include when excavation occurs in close proximity to the service line, such as during water main replacement, other nearby underground utility work, or tree removal.

Q. What is a lead gooseneck?

A. A lead gooseneck is the term used to identify a short flexible portion of lead line used to connect the service line to the tap in the main. Goosenecks are usually about 2 - 3 feet in length and shaped like a goose's neck. They were generally utilized to connect a galvanized iron pipe to the water main. During an infrastructure replacement project, lead goosenecks are easier to eliminate as they are the point of connection to the older main and would be removed in the process of transferring a service to a new main.

Q. When are service lines and goosenecks generally replaced?

A. Company owned service lines and gooseneck connections are replaced:

1) during associated main replacement projects when customers are connected to the new water main; and,

2) during targeted service line replacement work when a leak is found on the service line or if roadway reconstruction work necessitates their upgrade.

Q. Are lead service lines a concern in upgrading water distribution system infrastructure?

A Yes. Replacing lead service lines is a challenging yet impactful way to reduce potential lead exposure from drinking water. Generally, if a lead service line is encountered, it is found during a cast iron water main replacement project. Because lead is so durable, lead service lines can physically outlast cast iron pipe. An old cast

iron water main may show signs of failing via main breaks or discolored water before any sign of physical failure is apparent on the lead service line. The proactive replacement of lead service lines needs to be considered in terms of reducing our customers' potential exposure to lead in drinking water.

Q. Why are you and others proposing full lead service line replacement?

A. As addressed earlier, numerous recent industry studies have documented the potential for continued and/or increased lead release from the portion of the lead service line that remains after a partial replacement. By removing the entire lead service line from active operation, a source of lead will be removed, reducing the potential for exposure to lead in the drinking water we supply our customers.

Q. Are there things that can be done to mitigate lead exposure during the replacement process and have you included these in the LSLR Program?

A. Yes. Recent industry studies have been investigating the benefits of flushing the service line after any lead service line replacement (partial or full). In addition, material selection for the replacement service line can also help to reduce the impact of galvanic corrosion.

Q. What is your flushing protocol?

A. Our protocol includes two steps. First, our contractor [4] flushes the new service line for 30 minutes. Next, our contractor works with the customer to flush their household

[4] The Contractor uses a licensed plumber to perform certain activities, including flushing, as explained in Mr. Aiton's testimony

plumbing for an additional 30 minutes (see also Mr. Aiton's Direct Testimony).

Q. What is your sampling protocol?

A. A water sample is taken immediately following the flushing steps described above and a sample bottle is left with the customer to take a second sample within 72 hours of the work being completed. The customer (or contractor) is directed to take the second sample after the water has remained motionless for at least 6 hours (e.g., first thing in the morning, or upon arriving home after the workday).

Q. How did you develop your flushing and sampling protocol?

A. Our participation in the LSLR Collaborative has given us access to a range of national experts on this topic. We reviewed relevant research, as well as information from other utilities that have already implemented a full LSLR process. Our processes were further refined following data verification and evaluation of an intensive monitoring program during replacement work performed by American Water subsidiaries in New Jersey and Illinois.

Q. Do you share the sample results with the customer?

A. Yes. The Company contacts the customer with the results as soon as available.

Q. Do you provide any additional information to the customer?

A. Yes. We inform the customer that they can further mitigate their potential exposure to lead in drinking water by flushing their kitchen faucet or any other faucet they use for drinking

water anytime the water sits motionless for 6 hours or more. We also advise the customer that they can consider using bottled water or using a filter until the sample results are returned. We provide them with a fact sheet that suggests they should look for NSF certified filters that specifically are tested to remove lead.

Q. How do other plumbing materials containing lead impact the customers' potential exposure to lead in their drinking water?

A. Materials in contact with drinking water that could contain lead may include lead service lines, lead pipe gooseneck connections attaching the service line to the water main, customer-owned copper pipe with lead solder and customer-owned brass plumbing fixtures. I have discussed replacing lead goosenecks and lead service lines. Lead solder has been banned from use, and new rules on plumbing fixtures greatly reduce the amount of lead allowed in plumbing materials and fixtures. Copper plumbing installed before the lead solder ban is generally protected by good corrosion control treatment. Effective corrosion control treatment by the water utility and flushing by the customer after long periods of non-use generally also protects against exposure due to lead solder in brass fittings and faucets.

Q. Does the Company's LSLR Program also provide the customer with information about how to reduce their potential exposure to lead from faucets, pipe solder and other household plumbing materials containing lead?

A. Yes. We provide a lead fact sheet with information about how to reduce exposure to lead in drinking water. This information is also on our website with links to:

1) MAWC's water quality reports,
2) The Missouri DNR website
3) the AWWA webpage on guidance to cleaning aerators,
4) the NSF website page to search for NSF certified home water treatment devices,
5) the USEPA lead webpage, and
6) the AWWA Lead Resource Community page.

Q. If the sample results are above the LCR's lead action level, what do you do?

A. If the sample exceeds the lead action level, we contact the customer and schedule a second round of flushing and sampling.

Q. What if the lead concentration remains above the lead action level after a second round of flushing?

A. We will provide the sample results to the customer and perform a third round of flushing and sampling. If after the third sample round, the level still exceeds the lead action level, then we suggest that the customer have a plumber evaluate their internal household plumbing for other sources of lead.

Q. In the work performed in Missouri to date, has MAWC needed to refer any customers to a plumber for additional evaluation?

A. No. Of the 189 samples taken so far in 2017 during removal of lead service lines, 100% have been resolved by the second round of flushing.

Q. Are you proposing to replace in home plumbing for any customers?

A. No. We are not proposing to replace home plumbing. This would remain the responsibility of the property owner. Research by the Water Research Foundation ("WRF")[5] has indicated that the lead service line can be the largest contributor to lead in drinking water.

Q. Do you discuss filters with your customers as part of your LSLR Program?

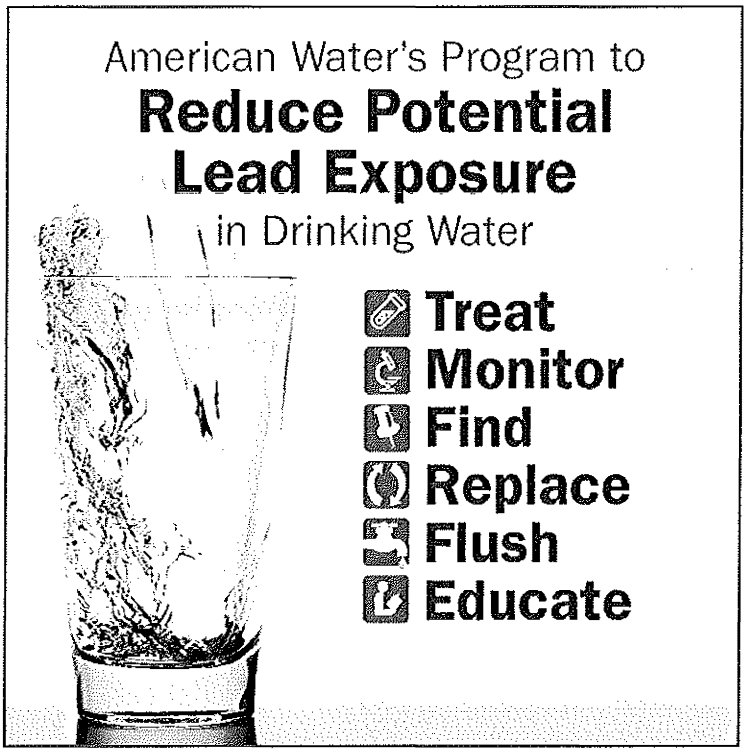
A. Yes. The recommended process includes significant flushing, sampling and education. The education component provides a link on where to find the NSF guide to home filters certified for lead removal (NSF/ ANSI 53). Most filters certified by NSF / ANSI 53 for lead reduction are models that are plumbed-in, refrigerator type or connected to faucets.

Q. Does this conclude your direct testimony at this time?

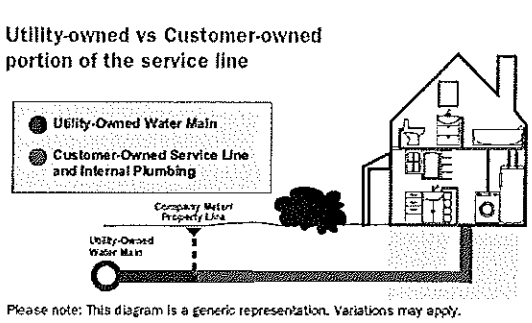
A. Yes, it does.

[5] WRF 2008: Contribution of Service Line and Plumbing Fixtures to Lead and Copper Rule Compliance

Schedule GAN-01



Schedule GAN-02 – Service Line Ownership Diagram for MAWC and MAWC St Louis County



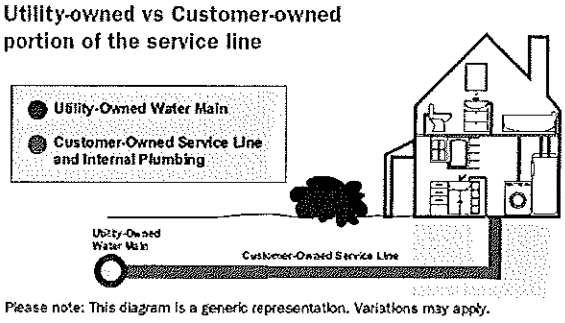


Exhibit No.:	
Issues:	AAO Lead Line Replacements
Witness:	Gary A. Naumick
Exhibit Type:	Rebuttal
Sponsoring Party:	Missouri-American Water Company
Case No.:	WU-2017-0296
Date:	August 23, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WU-2017-0296

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Gary A. Naumick

State of New Jersey
County of Camden
SUBSCRIBED and sworn to
Before me this 17 **day of** August **2017.**

Robert L. Fredericks
Notary Public

My commission expires: 4/2/2019

ROBERT L. FREDERICKS
ID # 2444295
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires April 2, 2019

REBUTTAL TESTIMONY
GARY A. NAUMICK
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WU-2017-0296

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GARY A. NAUMICK

REBUTTAL TESTIMONY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Gary Naumick, and my business address is 1025 Laurel Oak Road, Voorhees,NJ 08043.

Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("AWWSC") as Vice President of American Water Engineering.

Q. Are you the same Gary Naumick that previously filed Direct Testimony in this matter?

A. Yes, I am.

II. PURPOSE

Q. What is the purpose of your rebuttal testimony?

A. I will respond to the Direct Testimony of Geoff Marke of the Office of the Public Counsel ("OPC"). In particular, I will explain that the lead service line pilot study he has proposed is unwarranted because: 1) It is redundant to the voluminous amount of research already conducted across the country; 2) It would impose unneccesary costs on Missouri-American

Water Company's ("MAWC", "Missouri-American" or "Company") customers; 3) It contains proposed tasks that are beyond the scope and purview of any water utility; and 4) It would delay the important public health benefit to Missouri-American's customers that implementation of the Company's lead service line replacement ("LSLR") program will provide.

III. PROPOSED PILOT STUDY

Q. **Please briefly describe OPC witness Marke's proposed pilot study.**

A. OPC witness Marke proposes a "two-year pilot study" to "explore the feasibility, legality and associated policy implications of full lead service line replacement across MAWC's entire service territory and the state of Missouri with the results presented to the Missouri Public Service Commission, the Missouri Legislature and the Missouri Governor's Office for consideration."[1] The program would include five "policy tracks": (1) an advisory committee lead by a third party consultant and responsible for issuing a final report taking into account a large range of considerations; (2) a scoping analysis to provide lead service line estimates and information and the feasibility of developing a repository to contain lead service line information and water testing results; (3) a two-year LSLR pilot program that includes testing and modeling to verify the link between lead service line removal and lead abatement in drinking water; (4) a review and summary of the advisory committee's thoughts on communications, disclosure, prioritization and implementation; and (5)

[1] Direct Testimony of Geoff Marke ("Marke Direct"), p.5, l.15 – p.6, l.1.

ancillary considerations such as potential job creation, lead paint and soil abatement, and potential funding sources.[2]

Q. What is your opinion of this pilot study proposal?

A. MAWC fully understands the importance of implementing its LSLR program in a careful and effective manner, and has carefully considered its program in many aspects, including field construction methodology, sampling, flushing, customer communication, and community coordination. In fact, as discussed in my direct testimony, that of Mr. Bruce Aiton, and further below, many of the activities listed in the proposed pilot study have already been explored and considered in developing MAWC's proposed LSLR program. Engaging a third party to repeat these activities would unnecessarily delay the Company's ability to implement its LSLR program, and do so at an additional cost to customers.

Q. OPC witness Marke bases his proposal in part on what he describes as a "dynamic regulatory environment and uncertainty surrounding the Lead and Copper Rule Revisions . . ."[3] Has the primary question posed by the OPC pilot study, whether or not to perform full lead service line replacements, been extensively researched and previously addressed?

[2] *See* Marke Direct at pp.6-11.
[3] Marke Direct, at 11.

A. Yes. The United States Environmental Protection Agency ("EPA") and Water Research Foundation ("WRF") along with partners from utilities and universities have performed much research on this topic and have concluded that full lead service line replacement is in the best interest of the public. The WRF has published a summary of its extensive library of research on lead and copper corrosion and the Lead and Copper Rule[4] and has enlisted research partners, which include EPA, National Science Foundation ("NSF"), and Water Environmental Research Foundation ("WERF").

Q. On page 7, line 3 of the Marke Direct Testimony, OPC recommends a literature review of historic and current lead exposure sources and explanation of health-related benchmark metrics (blood, parts-per-million, parts-per-billion). Has this review already been performed?

A. Yes. This information has been studied extensively and is readily available. Lead has been a topic of intense interest to many health agencies including EPA, the Center for Disease Control, the Department of Housing and Urban Development, National Institute of Health, National Toxicology Program, National Institute of Environmental Health Sciences and others over the past several years. In November 2016, the President's Task Force on Environmental Health Risks and Safety Risks to Children[5] issued a report

[4] *See* Water Research Foundation, *Lead and Copper Corrosion: An Overview of WRF Research* (Oct. 2016), available at http://www.waterrf.org/resources/StateOfTheScienceReports/LeadCorrosion.pdf ("WRF Overview"). *See also* Water research grant information is available at https://www.epa.gov/research-grants/water-research-grants; DC WASA information is available at https://archive.epa.gov/region03/dclead/web/html/corrosion_research.html.

[5] The inclusiveness of the task force on lead exposure is evidenced by the broad range of federal agencies represented on the task force and listed at the end of the Task Force Report.

entitled "Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts" ("Task Force Report"). The Task Force Report covers a wide range of topics on the issue of lead exposure and health impacts including sources of lead, health related benchmark metrics, and a summary of children's health effects by blood lead levels.[6] The Task Force Report clearly indicates that prevention, which "...requires the removal or reduction of lead in a child's environment before exposure occurs..." is still the best strategy to protect children from lead.[7] MAWC's program to replace full lead service lines aligns with the goal to remove sources of lead from the environment.

Q. OPC also recommends that the proposed two-year pilot study consider the current Lead and Copper Rule ("LCR") methodology and limitations.[8] Has there already been extensive engagement with stakeholder groups and the public on the current LCR methodology and limitations?

A. Yes. EPA has conducted extensive engagement with stakeholder groups and the public to inform revisions to the LCR. EPA published the "Lead and Cooper Rule Revisions White Paper" ("LCR Revisions White Paper") in October 2016 that discusses the key principles for revision to the LCR, the health effects of lead, lead in plumbing materials, a summary of the LCR, key challenges of the current LCR, a summary of the National

[6] *See* Task Force Report, available at https://ptfceh.niehs.nih.gov/features/assets/files/key_federal_programs_to_reduce_childhood_lead_exposures_and_eliminate_associated_health_impactspresidents_508.pdf
[7] Task Force Report, p. 12.
[8] Marke Direct, p.7.

Drinking Water Advisory Council Recommendations and a summary of other stakeholder input.[9] As stated in the LCR Revisions White Paper:

> EPA's goal for the LCR revisions is to improve public health protection while ensuring effective implementation by the 68,000 drinking water systems that are covered by the rule...In developing proposed revisions to the LCR, EPA will be guided by several key principles, including:
>
> > Focus on Minimizing Exposure to Lead in Drinking Water: Improve public health protection by reducing exposure to lead in drinking water to the maximum amount possible through proactive measures to remove sources of lead and educating consumers about the health effects of lead and actions to reduce exposure.[10]

MAWC considered the limitations of the LCR in our approach. One major limitation of the current LCR is the requirement of replacing lead service lines only for those utilities that exceed the lead action level, with no guidance to utilities in compliance with the LCR. For its part, MAWC is in compliance with the LCR lead action level but is seeking to "remove sources of lead" (as recommended in the LCR Revisions White Paper) by replacing full lead service lines on a proactive basis.

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[9] *See* U.S. EPA Office of Water, *The Lead and Copper Rule Revisions White Paper* (Oct. 2016), available at https://www.epa.gov/sites/production/files/2016-10/documents/508_lcr_revisions_white_paper_final_10.26.16.pdf ("LCR Revisions White Paper").

[10] LCR Revisions White Paper, p. 4.

Other limitations of the current LCR that have received much scrutiny over the past several years surround some ambiguities in the sampling methodology. As a result, EPA issued a memorandum on February 29, 2016, to the Water Division Directors Regions I –X. (see Schedule GAN- RT3) clarifying the approach. We reviewed this memorandum in detail and confirmed our sample collection methodology is consistent with the approach detailed in the clarifying memorandum. Thereafter, MAWC updated its customer sample collection instruction sheet (see Schedule GAN- RT4) to clarify the information for our customers consistent with EPA guidance.

Q. OPC further suggests that the pilot study consider topics such as review of the Flint, Michigan and other case studies.[11] Is documentation of such stakeholder engagement already available?

A. Yes. The LCR Revisions White Paper includes recommendations from many stakeholders, including the National Drinking Water Advisory Council (NDWAC), Flint Water Interagency Coordinating Committee, local citizens impacted by the experience in Flint, other stakeholders, and the Board of the American Water Works Association (AWWA).[12] There recommendations recognize the significant lead exposure risks that can accompany partial service line replacements.[13]

[11] Marke Direct, p.7.
[12] NDWAC is Federal Advisory Committee that supports EPA in performing its duties and responsibilities related to the national drinking water program.
[13] LCR Revisions White Paper, p. 6.

Q. Do you think MAWC's LSLR program can proceed effectively while the inventory of lead service lines is further refined?

A. Yes. As Mr Aiton will address in his rebuttal testimony, MAWC has used the best available information to develop its inventory, and will adjust this estimate as additional information is gained. Any customer or interested party that has relevant data is welcomed to contact MAWC to help to refine the information. The Company will use the information it has and develops over time to refine its prioritization of main replacement projects. Not having a complete or perfect inventory, however, is not a legitimate reason to delay implementing the LSLR program and is not in the best interest of the health and safety of our customers. Other water utilities across the country are not waiting for complete or perfect inventories to begin the important work of full lead service line replacements. (See Schedule GAN-RT1)

Q. OPC witness Marke also suggests that MAWC solicit a contractor to provide "independent testing and modeling verification of the link between lead service line replacements and lead abatement in water at the tap."[14] Would this consultant's efforts be duplicative of efforts already conducted?

A. Yes. The proposed pilot study would be duplicative of the work of the Lead Service Line Replacement Collaborative ("LSLR Collaborative"),[15] which MAWC already has access to and has been utilizing. As I dscussed in my Direct Testimony, a major focus of the

[14] Marke Direct, p.7.

[15] As noted on pages 2 and 3 of my testimony, "[t]he LSLR Collaborative is a joint effort of 24 national public health, water utility, environmental, labor, consumer, housing, and state and local governmental organizations to help communities to accelerate full removal of the lead service lines providing drinking water to millions of American homes."

LSLR Collaborative is to share best practices. Utilities all across the country are facing the challenge of lead service lines, and the LSLR Collaborative recognized that sharing of research and best practices is much more efficient and cost-effective than every utility across the country having to re-create this information on their own. The LSLR Collaborative invited members and other utilities to submit best practices and case studies. A listing of resources available to a community undertaking a LSLR program can be found on the Collaborative's website at http://www.lslr-collaborative.org/resources.html.

Q. Are these resources provided by the LSLR Collaborative extensive?

A. Yes. A total of one hundred and forty-three (143) resources are provided. I have provided a list of these in Schedule GAN-RT2. In addition, many other organizations, such as Ammerican Water Works Association, WRF, and EPA have published materials to help guide water utility LSLR efforts. We have made use of this body of research and case studies in the development of MAWC's LSLR program.

Q. What aspects of the proposed OPC pilot study are beyond the scope for a water corporation's expertise and responsibility?

A. There are several aspects of the proposed OPC pilot study that are beyond the expertise and responsibility of MAWC or any water corporation to undertake and would require the Company to expend additional money and resources to evaluate issues outside the scope of the Company's provision of water service, at an additional cost to Missouri-American's customers. Examples include considering:

- "…lead contamination from external sources separate from the distribution system (e.g., lead paint)" (Marke Dir., p. 9)
- ". . . real estate and legal implications of Missouri's Seller Disclosure Statement for properties with lead service lines" (Marke Dir., p. 10)
- … potential job creation as well as lead paint and soil abatement messaging or service offerings." (Marke Dir., p. 10)

Q. **In your opinion, is MAWC's plan to replace lead service lines in the best interest of the health and safety of its customers?**

A. Yes. As discussed in my direct testimony, numerous recent industry studies have documented the potential for continued and/or increased lead release associated with partial lead service line replacement. By removing the entire lead service line from active operation, a source of lead will be removed, reducing the potential for exposure to lead in the drinking water we supply our customers.

Q. Does this conclude your rebuttal testimony at this time?

A. Yes, it does.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 29 2016

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Clarification of Recommended Tap Sampling Procedures for Purposes of the Lead and Copper Rule

FROM: Peter C. Grevatt, Director
Office of Ground Water & Drinking Water

TO: Water Division Directors
Regions I - X

The Lead and Copper Rule, 40 C.F.R. Sections 141.80 to 141.91, requires monitoring at consumer taps to identify levels of lead in drinking water that may result from corrosion of lead-bearing components in a public water system's distribution system or in household plumbing. These samples help assess the need for, or the effectiveness of, corrosion control treatment. The purpose of this memorandum is to provide recommendations on how public water systems should address the removal and cleaning of aerators, pre-stagnation flushing, and bottle configuration for the purpose of Lead and Copper Rule sampling.

Removal and Cleaning of Aerators

EPA issued a memorandum on *Management of Aerators during Collection of Tap Samples to Comply with the Lead and Copper Rule* on October 20, 2006. This memorandum stated that EPA recommends that homeowners regularly clean their aerators to remove particulate matter as a general practice, but states that public water systems should not recommend the removal or cleaning of aerators prior to or during the collection of tap samples gathered for purposes of the Lead and Copper Rule. EPA continues to recommend this approach. The removal or cleaning of aerators during collection of tap samples could mask the added contribution of lead at the tap, which may potentially lead to the public water system not taking additional actions needed to reduce exposure to lead in drinking water. EPA's recommendation about the removal and cleaning of aerators during sample collection applies only to monitoring for lead and copper conducted pursuant to 40 C.F.R. 141.86.

Pre-Stagnation Flushing

EPA is aware that some sampling instructions provided to residents include recommendations to flush the tap for a specified period of time prior to starting the minimum 6-hour stagnation time required for samples collected under the Lead and Copper Rule. This practice is called pre-stagnation flushing. Pre-stagnation flushing may potentially lower the lead levels as compared to when it is not practiced.

Flushing removes water that may have been in contact with the lead service line for extended periods, which is when lead typically leaches into drinking water. Therefore, EPA recommends that sampling instructions not contain a pre-stagnation flushing step.

Bottle Configuration

EPA recommends that wide-mouth bottles be used to collect Lead and Copper compliance samples. It has become apparent that wide-mouth bottles offer advantages over narrow-necked bottles because wide-mouth bottles allow for a higher flow rate during sample collection which is more representative of the flow that a consumer may use to fill up a glass of water. In addition, a higher flow rate can result in greater release of particulate and colloidal lead and therefore is more conservative in terms of identifying lead concentrations.

Conclusion

EPA is providing these recommendations for collection of Lead and Copper Rule tap samples to better reflect the state of knowledge about the fate and transport of lead in distribution systems. The three areas discussed above may potentially lead to samples that erroneously reflect lower levels of lead concentrations. The recommendations in this memorandum are also consistent with the recommendations provided by the EPA's Flint Task Force. For more information about the Task Force please view EPA's website at: http://www.epa.gov/flint.

To provide further information on this topic, EPA included an amended "Suggested Directions for Homeowner Tap Sample Collection Procedures" in Appendix D of the 2010 revision of *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems* (EPA 816-R-10-004). This document can be found at:
http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100DP2P.txt

Please share these recommendations with your state drinking water program directors. If you have any questions, please contact Anita Thompkins at thompkins.anita@epa.gov.

Attachment

cc: James Taft, Association of State Drinking Water Administrators

Suggested Directions for Homeowner Tap Sample Collection Procedures

Schedule 1 PART 2

Revised Version: February 2016

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your State under the Lead and Copper Rule, and is being accomplished through a collaboration between the public water system and their consumers (e.g. residents).

Collect samples from a tap that has not been used for at least 6 hours. To ensure the water has not been used for at least 6 hours, the best time to collect samples is either early in the morning or in the evening upon returning from work. Be sure to use a kitchen or bathroom cold water tap that has been used for drinking water consumption in the past few weeks. The collection procedure is described below.

1. Prior arrangements will be made with you, the customer, to coordinate the sample collection. Dates will be set for sample kit delivery and pick-up by water system staff.
2. There must be a minimum of 6 hours during which there is no water used from the tap where the sample will be collected and any taps adjacent or close to that tap. Either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist. Do not intentionally flush the water line before the start of the 6 hour period.
3. Use a kitchen or bathroom cold-water faucet for sampling. If you have water softeners on your kitchen taps, collect your sample from the bathroom tap that is not attached to a water softener, or a point of use filter, if possible. Do not remove the aerator prior to sampling. Place the opened sample bottle below the faucet and open the cold water tap as you would do to fill a glass of water. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. If any plumbing repairs or replacement has been done in the home since the previous sampling event, note this information on the label as provided. Also if your sample was collected from a tap with a water softener, note this as well.
6. Place the sample kit in the same location the kit was delivered to so that water system staff may pick up the sample kit.
7. Results from this monitoring effort and information about lead will be provided to you as soon as practical but no later than 30 days after the system learns of the tap monitoring results. However, if excessive lead and/or copper levels are found, immediate notification will be provided (usually 1-2 working days after the system learns of the tap monitoring results).

Call_____at_____if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT

Water was last used: Time_____ Date_____
Sample was collected: Time_____ Date_____

Sample Location & faucet (e.g. Bathroom sink): _____

I have read the above directions and have taken a tap sample in accordance with these directions.

Signature_____ Date_____

MISSOURI
AMERICAN WATER

Missouri American Water thanks you for your assistance in collecting samples to determine the contribution of service line, faucet fixtures, household pipes, and/or solder to the lead and copper levels in the tap water. This sampling effort is required by the Missouri Department of Natural Resources (MDNR) and the United States Environmental Protection Agency (USEPA) under the Lead and Copper Rule, and is being accomplished through the cooperation of homeowners and residents like you.

Our records indicate that your house at, **ADDRESS**, is a Tier **X** site. An explanation of Tiers is provided below.

Tier 1: Single family with copper pipes installed after 1982 or lead service
Tier 2: Multi-family with lead service or copper pipes installed after 1982
Tier 3: Single family with copper pipes with lead solder before 1983
F-1: Structure with lead-free plumbing. This may include plastic, galvanized or copper with flair fittings.
F-2: Any site in a structure with a water softener or other treatment device.

If any plumbing repairs or replacements have been completed in your home or the Tier listed above for your home is incorrect, please call us at PHONE NO to discuss if your home is still eligible for sampling.

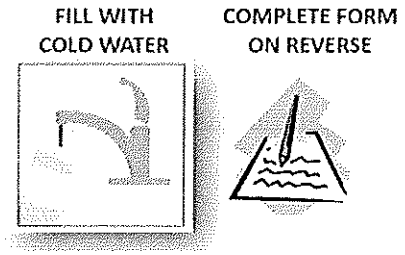
Sampling Instructions

STEP I Fill bottle and complete form on reverse side (please print legibly)

- Collect water sample from the **kitchen cold water tap** AFTER water has sat motionless for AT LEAST 6 HOURS. (This may be first thing in the morning or after returning home from work, etc.)
- Prior to turning on the water, position the sample bottle under the tap.
- If a water treatment unit or filter is attached to the plumbing system or faucet, remove the filter or bypass the unit before sampling. Do not remove the aerator.

Sampling

1. Open the **cold water tap** (*that has been unused for at least 6 hours*) and fill the bottle to the top (marked with a line).
2. Turn off water and tightly cap the sample bottle.
3. Complete the reverse side of this paper including the checklist, dates/times, name, and address.



STEP II Sample Pickup

Please call us at PHONE NO for sample pickup. Leave the box, containing this completed sheet and bottle, outside of your residence in an accessible location (ie. front porch step). We will be by later in the day.

Homeowner Sample Collection Procedure

Please complete the attached checklist so we can be sure of obtaining a valid sample.

Sampling Procedure: **(Check appropriate box when completed)**

1. Sample only a kitchen ☐
   Sample COLD water only ☐

2. Do you have a have a water softener, reverse osmosis unit, or other home treatment of any type? Y / N

   If YES:

   We bypassed our treatment device for sampling ☐
   We were *not* able to bypass our treatment device ☐

3. Do not remove the faucet aerator ☐
   Do not sample a dripping faucet ☐

4. Record the date and time this tap was last used:

   Date _____ Time _____ am/pm ☐

5. DO NOT USE ANY WATER IN THE DWELLING FOR AT LEAST SIX HOURS PRIOR TO TAKING THE SAMPLE ☐

6. Collect the water sample:
   a) Do **not** flush the water faucet ☐
   b) Place bottle under cold water faucet ☐
   c) Do not touch the bottle to the faucet ☐
   d) Fill the bottle to the top as you would fill a glass ☐
   e) Cap the bottle tightly ☐
   f) Record the date and time of sample collection: ☐

   Date _____ Time _____ am/pm

Please ensure the above is filled out completely prior to returning the sample

Were all instructions followed in collecting this sample? YES ☐ NO ☐

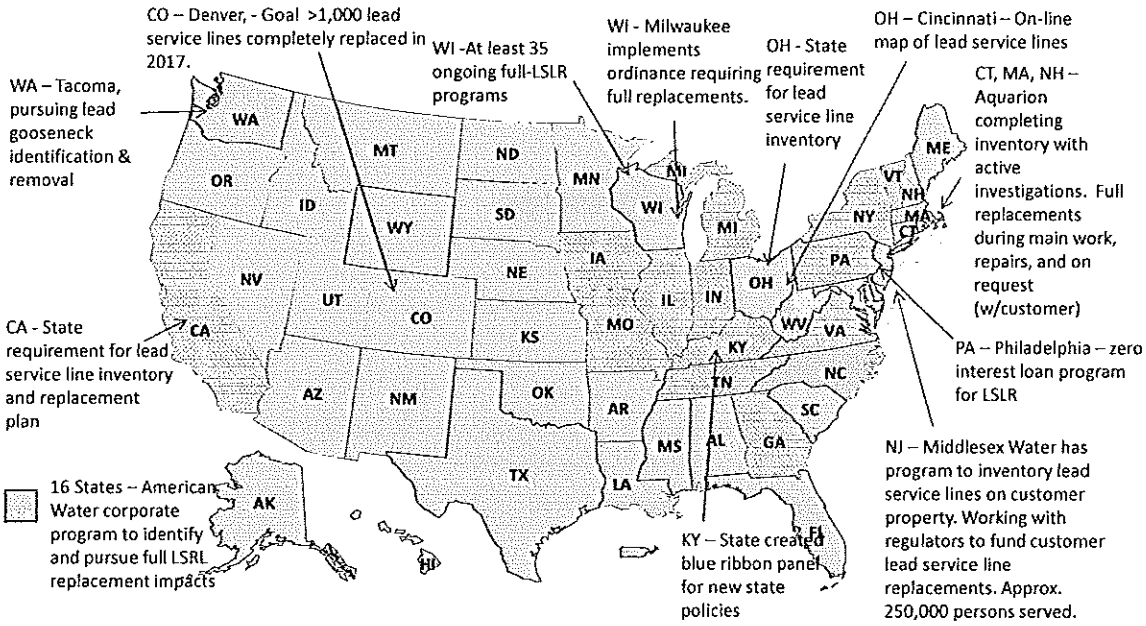
Signature: Date:

Printed Name_____

Physical Address_____

Mailing Address_____

Local communities are taking steps



Missouri-American Water Company
WU-2017-0296

The Lead Service Line Removal Collaborative was formed in 2016, bringing together stakeholders from the areas of public health, justice and sustainability, national associations, non-profits, environmental groups and utilities. The goal of the Lead Service Line Replacement Collaborative is to accelerate voluntary lead service line replacement in communities across the United States. American Water is a participant in the Collaborative.

To help communities and utilities develop lead service line replacement programs, the Collaborative has posted an extensive library of 143 references, resources, research studies, tools, and case studies for use in all aspects of implementation of a leade service line removal programs. These 143 reference materials can be found at this site:

http://www.lslr-collaborative.org/references.html

Here is a full listing of the resources available from the Lead Service Line Collaborative website.

References

Roadmap

Getting Started

Building Consensus

- Good Public Participation Results in Better Decisions
- Working Together for Healthier Communities
- Community Collaborative Life Stages
- Community Collaboration for School Innovation Toolkit

Making Decisions

- Communicating about LSLs: A Guide for Water Systems Addressing Service Line Repair and Replacement
- 7 Ways Leaders can Address Racial Inequities
- Webinar: How to Address Racial Inequities in Your City
- How Cities Can Advance Racial Equity Through Community Conversation

Legal Factors

- Dillon Rule and Home Rule States
- Lansing: Lead Service Advisory Information

Funding

- UNC Environmental Finance Center: Designing Water Rate Structures for Conservation and Revenue Stability
- EPA: Resources for Setting Small System Water Rates
- HUD Community Development Block Grants (CDBG)
- EPA Drinking Water State Revolving Loan Fund (SRF)
- EPA Water Infrastructure Finance Innovation Act (WIFIA)
- USDA Rural Development Fund
- Michigan Department of Health & Human Services
- Wisconsin Department of Natural Resources
- Washington, DC LSL Replacement Assistance
- Massachusetts Water Resources Authority
- Boston Water and Sewer Commission, Massachusetts
- Philadelphia Water Department, Pennsylvania
- Madison Water Utility, Wisconsin
- Milwaukee Water Works, Wisconsin
- Flint Child Health & Development Fund

Plan Development

- Strategies to Obtain Customer Acceptance of Complete LSL Replacement
- SAB Evaluation of the Effectiveness of Partial Lead Service Replacements
- Greenbay, WI: Chapter 21 - Utilities
- Madison, WI: Lead Water Service Line Replacement
- Certified Product Listings for Lead Reduction
- Innovative Techniques for Locating Lead Service Lines

- Communicating About LSLs : A Guide for Water Systems Addressing Service Line Repair and Replacement

Replacement Practices

Preparing an Inventory

- SDWA Lead Ban

Identifying Service Line Material

- OSHA Lead Test Kits
- National Center for Healthy Housing: Lead Test Kits
- EPA: Advice to Chicago Residents about Lead in Drinking Water
- DC Water: Guide to Identifying Household Plumbing
- Cincinnati Water Lead Scratch Test

Understanding Replacement Techniques

- Galesburg: Replacing a Lead Service Line
- Controlling Lead in Drinking Water

Communicating About LSL Replacement

Multiple Audiences

- Creating a Strategic Communication Plan that Gathers No Dust
- US Census Bureau American Fact Finder
- Washington Department of Health: Translations for Public Notice
- Portland Water Bureau: A Guide to Lead in Household Plumbing and Your Drinking Water
- San Francisco Public Utilities Commission: Lead Information

Outreach Materials

- Denver Water: Homeowner Responsibility
- DC Water: Minimize Your Risk of Lead Exposure
- York Water: What Material is Your Water Service Line?
- Cleveland Water Division: Connection Details
- Onondaga County Water Authority: New Water Service Installation
- Denver Water: Getting the lead out when we find it
- Boston Water and Sewage Commission: Lead Service Map

- Tacoma Public Utilities: Possible Gooseneck Locations
- Greater Cincinnati Water Works: Service Line Information
- DC Water: Water Service Information

Coordinating and Implementing Replacement

Coordination of Replacement Activity

- Approved Contractor List
- Plumber Licensing
- Project Permit

Techniques to Control Lead Release from LSL Replacement

- Evaluation of Flushing to Reduce Lead Levels
- High Velocity Household and Service Line Flushing Following LSL Replacement
- Flint MI Residential Flushing Protocol
- Galvanic Corrosion Following Partial Lead Service Line Replacement
- Galvanic corrosion after simulated small-scale partial lead service line replacements

Steps to Ensure LSL Removal Was Successful at Reducing Lead in Water

- High-Velocity Household and Service Line Flushing Following LSL Replacement
- Evaluating the Effects of Full and Partial Lead Service Line Replacement on Lead Levels in Drinking Water
- Investigating dissolved lead at the tap using various sampling protocols
- DC Water: Service Pipe Replacements
- EPA Flint Safe Drinking Water Task Force Recommendations Regarding City of Flint Fast Track Plan for Lead Service Line Replacement
- Halifax Water LSL Replacement Program
- Evaluation of Lead Sampling Strategies

Policies

Community Access to Funding

The Local Need

- Lead and Copper Rule Revisions White Paper
- Civil Rights Act of 1964 (Title VI)

- Complaints Filed with EPA under Title VI of the Civil Rights Act of 1964
- Drinking Water Infrastructure Needs Survey and Assessment
- ASDWA Releases New Resource Needs Report

Examples from Local LSL Replacement Efforts

- EPA seeks details of Madison's Lead Service Replacement Program
- Lansing Board of Water and Light's Lead Service Line Replacement Program
- Massachusetts Water Resources Authority Board Approves $100 Million in Funding to Remove Lead Service Lines
- Boston Water and Sewer Commission: The Lead Replacement Incentive Program
- Wisconsin DNR: Private Lead Service Line (LSL) Replacement Funding Program
- Inslee issues directive aimed at reducing lead exposure
- WA State Department of Health: Owning and Managing a Group A Water System

Opportunities to Support LSL Replacement Efforts

- HUD: Energy Efficient Mortgage Program
- HUD: 203(k) Rehab Mortgage Insurance
- HUD: About Title I Home Improvement and Property Improvement Loans
- Property Assessed Clean Energy (PACE) programs
- High Road Infrastructure Report

Helping Consumers Make Informed Decisions

Examples from Local LSL Replacement Efforts

- DC Water and Sewer Authority: Service Pipe Material Information
- Boston Water and Sewer Commission: Lead Service Map
- Cleveland Water: Lead Treatment
- Greater Cincinnati Water Works Enhanced Program
- New York Real Property Law § 462. Property condition disclosure statement
- Ohio Legislature House Bill 512: Water-lead and copper testing/plumbing-lead contamination
- Ohio EPA Guidelines for Lead Mapping in Distribution Systems

Opportunities to Support LSL Replacement Efforts

- New York Real Property Law § 462. Property condition disclosure statement

Requiring LSL Replacement When Opportunities Arise

The Local Need

- Primary Enforcement of Seat Belt Laws
- Carbon Monoxide Detector Requirements

Examples from Local LSL Replacement Efforts

- California SB-1398: Public water systems: lead user service lines
- California § 64551.60: User Service Line
- Inslee issues directive aimed at reducing lead exposure
- New York City's Code: Section 20.03(s)
- Ohio: Rules, Laws, Policies and Guidance

Opportunities to Support LSL Replacement Efforts

- International Plumbing Code
- HUD: Federal Housing Administration
- Federal Housing Finance Administration (FHFA)
- Qualified Allocation Plan
- Toxic Substances Control Act (TSCA)

Engaging other Lead Poisoning Prevention Programs

The Local Need

- President's Task Force on Environmental Health and Safety Risks to Children
- Eliminating Childhood Lead Poisoning
- Hazard Standards for Lead in Paint, Dust, and Soil (TSCA Section 403)
- Renovation, Repair and Painting Program
- Office of Lead Hazard Control and Healthy Homes
- Lead-Safe Housing Rule
- Lead-Based Paint Activities Professionals
- Real Estate Disclosure
- CMCS Medicaid Lead Screening
- CDC: Lead

Examples from Local LSL Replacement Efforts

- Multnomah County Health Department: Request a Water Test Kit for Lead

Opportunities to Support LSL Replacement Efforts

- Protect Your Family from Lead in Your Home
- The Lead-Safe Certified Guide to Renovate Right

Improving how we Communicate the Risk

The Local Need

- Evaluation of Lead Sampling Strategies
- Contribution of Service Line and Plumbing Fixtures to Lead and Copper Rule Compliance Issues

Resources

Introduction to Lead and LSL Removal

- Lead (Centers for Disease Control and Prevention)
- Consumer Confidence Report (CCR)

Equity in LSL Replacement

- EPA: Environmental Justice
- EPA: Civil Rights
- Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Title VI of the Civil Rights Act of 1964

Child Care Facilities and Schools

- US Dept of Education "Find a School" search tool
- Child Care Resources and Referral
- Eco-Healthy Child Care® (EHCC)
- 3Ts for Reducing Lead in Drinking Water in Schools
- Key Findings: Managing Lead in Drinking Water at Schools and Early Childhood Education Facilities

Filling Information Gaps through Research

- Innovative Techniques for LSL Location
- Evaluation of FLushing to Reduce Lead Levels

Case Studies

- Lansing: Lead Service Line Replacement Process
- Opflow: Get the Lead Out
- Halifax Water: Utiliy Adopts a Complete LSL Replacement Strategy

Additional Resources

- Implementing the Lead Public Education Provision of the Lead and Copper Rule: A Guide for Community Water Systems

Exhibit No.:	
Issues:	AAO Lead Line Replacements
Witness:	Gary A. Naumick
Exhibit Type:	Surrebuttal
Sponsoring Party:	Missouri-American Water Company
Case No.:	WU-2017-0296
Date:	September 14, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WU-2017-0296

SURREBUTTAL TESTIMONY

OF

GARY A. NAUMICK

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF THE APPLICATION OF MISSOURI-AMERICAN WATER COMPANY FOR AN ACCOUNTING ORDER CONCERNING MAWC's LEAD SERVICE LINE REPLACEMENT PROGRAM.	**CASE NO. WU-2017-0296**

AFFIDAVIT OF GARY A. NAUMICK

Gary A. Naumick, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Gary A. Naumick"; that said testimony was prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony, he would respond as therein set forth; and that the aforesaid testimony is true and correct to the best of his knowledge.

Gary A Naumick
Gary A. Naumick

State of New Jersey
County of Camden
SUBSCRIBED and sworn to
Before me this 1st day of August 2017.

Linda K. Stapleton
Notary Public

My commission expires:

LINDA K. STAPLETON
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES MAY 19, 2021

SURREBUTTAL TESTIMONY
GARY A. NAUMICK
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WU-2017-0296

TABLE OF CONTENTS

GARY A. NAUMICK

SURREBUTTAL TESTIMONY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Gary Naumick, and my business address is 1025 Laurel Oak Road, Voorhees, NJ 08043.

Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("AWWSC") as Vice President of American Water Engineering.

Q. Are you the same Gary A. Naumick that filed direct and rebuttal testimony in this matter (WU-2017-0296)?

A. Yes.

II. PURPOSE

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of this testimony is to respond to several items included in the rebuttal testimony of Office of the Public Counsel ("OPC") witness Geoff Marke.

III. NO REASON FOR DELAY

Q. Does the rebuttal testimony of OPC witness Marke provide any new justification as to why he believes Missouri-American Water Company's ("MAWC" or the "Company") proposal to initiate a lead service line replacement ("LSLR") program should be delayed, and his proposed 2 year pilot study should be undertaken?

A. No. He does not offer any new information that justifies delaying a LSLR program that is protective of public health. In fact, he cites 26 literature sources that show that the harmful impacts of lead have already been studied extensively, noting that "[t]here is a voluminous amount of research substantiating the link between the deleterious effects of high BLLs and human health including impairments to brain, kidneys, cardiovascular system, and the blood being some of the most susceptible to breakdown from high dosage or prolonged lead exposure." Marke Rebuttal at p.3, ll.6-9. None of his 26 references advocate delaying actions to remove lead sources.

Q. Has MAWC taken a deliberative approach in developing its LSLR program such that it should proceed without delay?

A. Yes. The health and safety of its customers is a top priority for MAWC. The proposed LSLR program has been developed after careful consideration of extensive research on potential exposure to lead through drinking water as well as how to eliminate that risk effectively. As I stated in my rebuttal testimony: "MAWC fully understands the importance of implementing its LSLR program in a careful and effective manner, and has carefully considered its program in many aspects, including field construction methodology, sampling, flushing, customer communication, and community

coordination." (Naumick Rebuttal, p.3, ll.5-8). Given the risk of potential customer exposure to lead, particularly as the Company continues with its main replacement program, the extensive research on the issue, and researchers' conclusions that no amount is safe, there is no reason to delay MAWC's proposed LSLR program to pursue OPC's proposed pilot study.

Q. Does OPC witness Marke's rebuttal testimony focus on the elimination of the potential exposure to lead in drinking water?

A. No. OPC witness Marke discusses many issues beyond the potential exposure to lead in drinking water, including the history of lead contamination, other conduits of human lead exposure, the regulatory history of lead, etc. His discussion of a broad range of societal issues draws attention away from the issue at hand and loses focus on the part of the problem that we can impact directly. While the myriad of issues raised by OPC witness Marke are important, many of them are outside of the purview of MAWC or any utility.

Q. What part of the problem (i.e., potential exposure to lead) can MAWC impact?

A. One pathway of human exposure that a water utility can resolve is the removal of lead service lines, and this is what MAWC is proposing to do in an aggressive and efficient manner through its proposed LSLR program. MAWC will continue its existing programs to protect public health through proper corrosion control treatment, customer education, and water quality sampling. However, as stated by David LaFrance, the head of the American Water Works Association ("AWWA"): "If there is one lesson to be learned

from the Flint crisis, it is this: Our communities will be safer in the long run with no lead pipes in the ground." *See* OpEd, Water and Waste Digest, March 14, 2016.

Getting the lead out of the water system remains the priority of MAWC, and we must avoid getting bogged down by other issues that cause a loss of focus and progress on this goal.

Q. OPC witness Marke states that it is "important that necessary planning and dialogue among stakeholders occurs before and during a program of this kind." (Marke Reb., p. 2) Does pursuing the proposed LSLR program suggest that MAWC intends to "go it alone", or does not value the input of other stakeholders?

A. Not at all. MAWC will proceed in an open and collaborative manner, and seeks the input from relevant stakeholders as it implements and refines its programs. However, the 2 year pilot study that OPC witness Marke proposes is costly, and effectively delays the public health benefits of a full scale LSLR program by 2 years. MAWC will seek collaboration and input with relevant stakeholders, such as coordination with local health agencies, the Healthy Homes/Lead Poisoning Prevention Programs, the St. Louis County Service Line Protection Program, and road reconstruction entities.

Q. Are there opportunities to protect public health that could be missed during a 2 year pilot study?

A. Yes. An arbitrary limit on replacement expenditures as proposed by OPC would certainly result in missed opportunities to replace lead service lines. However, a more immediate example is in the coordination of water main replacements with road construction.

Q. Does the coordination of water main replacements with road reconstruction provide additional benefits in areas with lead services lines?

A. Yes. The Company routinely coordinates main and service replacements with municipal officials in order to take advantage of scheduled road re-paving to minimize restoration costs and disruption to traffic. In areas with lead service lines ("LSLs"), there are added benefits in removing the lead service lines prior to the roadway construction disturbance. If MAWC's approach is accepted, the Company will eliminate a potential source of exposure that could be caused by the release of lead particles due to the construction disturbance. Without its proposed program, the Company would be simply educating the customers on the potential lead exposure risk due to the construction disturbance without replacing the service line and eliminating the source of potential lead exposure.

Q. Would you anticipate possible delays and increased costs to local road reconstruction projects if OPC witness Marke's proposal of a lengthy pilot study were to be accepted?

A. Yes. The proposed pilot study will jeopardize the ability to coordinate the replacement of lead service lines with road reconstruction projects. If the Company cannot proceed with replacing customer-owned LSLs in streets scheduled for road reconstruction it would be put in a position of requesting municipalities to hold up road reconstruction

work while it forms an advisory committee, selects a facilitator, reviews extensive literature, creates databases for other Missouri water systems, tests and models the link between lead service line replacements and lead abatement, reviews a Biokinetic uptake model, and considers other ancillary items as discussed by OPC witness Marke in his direct testimony. As Company witness Aiton discusses further in his surrebuttal, if the municipality is unwilling to delay, MAWC will be forced to decide between two less than optimal options: (1) replace its main in conjunction with the road construction project and perform partial LSL replacements; or (2) postpone the replacement of the main and deal with the consequences of that delay.

Q. In his concluding statement on page 22, lines 13-14, OPC witness Marke mentions that it is important to "explore ways to mitigate costs". Does the Company do this as a matter of course?

A. Yes. The Company strives to implement efficiency in all its capital programs. For example, the Company's approach to prioritizing mains and service lines for replacement considers potential efficiencies, like the coordination with road construction projects. Further details on the prioritization of service lines scheduled for removal is presented by Company witness Aiton. Also, the Company will prioritize locations where "clusters" of lead service lines are located, in order to take advantage of construction efficiencies to maximize the number of LSLRs achieved early in the program.

IV. ESTIMATED NUMBER OF LEAD SERVICE LINES

Q. OPC witness Marke extrapolates data from the AWWA national survey of lead service lines to imply that the Company's estimate of 30,000 lead service lines is too low (Marke Rebuttal, pages 15 and 20). Is his methodology sound?

A. No. His conclusion is a classic case of circular logic. AWWA's roll-up of the national number of lead service lines is based primarily on input from surveys of water utilities across the country. AWWA does not have its own source of data regarding the number of LSLs in any particular water system. As such, in no way can it be considered more valid than the "ground up" count of lead service lines conducted by MAWC. Extrapolating the AWWA data to discredit the MAWC estimate, as OPC witness Marke has done, is steeped in circular logic and therefore, inappropriate. As Company witness Aiton has testified, MAWC's records of lead service lines are not perfect, but they are far more reliable than an extrapolation of the AWWA data.

In addition, there are several problems with OPC witness Marke's interpretation of the National LSL Survey (defined below). First, his speculation about how to apply and "allocate" the state-wide estimate of 330,000 lead service lines, and to "assign" a higher number of them to MAWC is arbitrary.

OPC witness Marke neglects to point out that the objective of the National LSL Survey was to estimate the number of water systems with LSLs and approximate the number of LSLs nationwide and by region; this updated estimate would then be compared with the estimate performed at the time of the original Lead and Copper Rule (1991). The National LSL Survey's main goal was not to develop an estimate for each municipality or for each water system. Such estimates are better developed from the ground up by the water

utilities themselves. Another reason the estimates may not be as accurate as those currently being developed by water utilities, such as MAWC, is that the National LSL Survey is based on surveys done in 2011 and 2013, prior to the Flint water crisis. Since 2013, many utilities have been actively engaged in improving their service line inventories.

Second, the original data source referenced by OPC witness Marke in footnote 32 to Table 2 in his rebuttal testimony (the National LSL Survey) cautions against the use of the data as accurate state-specific estimates, noting that:

> "[i]t is important to caution that the analysis in this document was performed by grouped region. In order to convert to state occurrence, the same k and N values were assumed for each state in the grouped region. The state information is presented only to provide relative information on state variability."[1]

Third, as noted in the National LSL Survey (page 185), the data published is grouped by regions. Missouri is included in the combined EPA regions 5 and 7 including Michigan, Wisconsin, Minnesota, Ohio, Indiana, Illinois, Iowa, Nebraska and Kansas. While the entire study included responses from 204 community water systems, only 37 responses were the 10 states within EPA regions 5 and 7. Since some states had no or minimal survey responses, the data was combined within the larger EPA regions, and then combined across the country. As noted above, caution is needed in interpreting National

[1] Cornwell, D.A. et al. *National Survey of Lead Service Line Occurrence.* Journal of American Water Works Association (April 2016)(p. E188), available at http://media.mlive.com/news_impact/other/jaw201604cornwell_pr.pdf ("National LSL Survey").

LSL Survey data down to a state level. The count of LSLs at the municipal level is better handled from the ground up.

Q. Does this conclude your surrebuttal testimony at this time?

A. Yes, it does.

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

TRANSCRIPT OF PROCEEDINGS

Evidentiary Hearing

September 27, 2017
Jefferson City, Missouri
Volume 2

In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program.	) No. WU-2017-0296

JUDGE RONALD D. PRIDGIN, Presiding
DEPUTY CHIEF REGULATORY LAW JUDGE
DANIEL Y. HALL, CHAIRMAN
STEPHEN M. STOLL,
WILLIAM P. KENNEY,
SCOTT T. RUPP,
COMMISSIONERS

REPORTED BY: Monnie S. Mealy, CCR, CSR, RPR
Midwest Litigation Services
3432 W. Truman Boulevard, Suite 207
Jefferson City, MO 65109
(573) 636-7551

be glad to rule on it then if you can't agree on it on an order of cross.

But as of now, I've just got the Missouri-American list in front of me. And I can get the other one on EFIS here if I need it.

MR. OPITZ: Okay. Thank you, Judge.

JUDGE PRIDGIN: I'm sorry?

MR. COOPER: Mr. Opitz, you're -- you're thinking it doesn't come up until Mr. Hyman takes the stand, right?

MR. OPITZ: That's correct. I believe there -- everything else is consistent.

MR. COOPER: Yeah.

JUDGE PRIDGIN: Okay. Thank you. Anything further before Mr. Naumick takes the stand? All right. Mr. Naumick, if you'll come forward to be sworn please, sir. If you'll raise your right hand to be sworn, please.

GARY A. NAUMICK,

being first duly sworn to testify the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. COOPER:

JUDGE PRIDGIN: Thank you, sir. Please take a seat. And, Mr. Cooper, when you're ready

sir.

Q (By Mr. Cooper) Please state your name.

A My name is Gary A. Naumick. It's N-a-u-m-i-c-k.

Q By whom are you employed and in what capacity?

A I'm employed by the American Water Works Service Company, and my position is the Vice President of Corporate Engineering.

Q Have you caused to be prepared for purposes of this proceeding certain direct, rebuttal and surrebuttal testimony in question and answer form?

A Yes.

Q So is it your understanding that that testimony has been marked as Exhibits 1, 2 and 3 for identification?

A Yes.

Q Do you have any changes that you would like to make to that testimony at this time?

A I do have -- actually, four inter-related corrections to make, minor corrections, which I can direct to you.

Q Would you go ahead and do that?

A Sure. In my rebuttal testimony, I

actually just transposed some exhibit numbers, so I'll correct those for the record.

The first would be on page 7, line 4 of my rebuttal testimony where it says Schedule GAN RT-3, that should be corrected to say RT-1.

On line 7 of page 7 it says RT-4, that should be corrected to say RT-2. On page 8 of my rebuttal testimony where -- at Line 12, it references schedule GAN RT-1. That should be RT-3.

And on page 9 of my rebuttal, line 12 references schedule RT-2. That should be corrected to Schedule RT-4.

Q Do you have any other changes?

A I don't.

Q If I were to ask you the questions which are contained in Exhibits 1, 2 and 3 today, would your answers as -- as now amended be the same?

A Yes.

Q Are those answers true and correct to the best of your information, knowledge and belief?

A Yes.

MR. COOPER: Your Honor, I would offer Exhibits 1, 2 and 3 into evidence and tender the witness for cross-examination.

JUDGE PRIDGIN: All right. Any

objections? Hearing none, Exhibits 1, 2 and 3 are admitted. Cross-examination, DED?

MR. BEAR: No questions, your Honor.

JUDGE PRIDGIN: Thank you. For Staff?

CROSS-EXAMINATION

BY MS. MERS:

Q Good morning. Mr. Naumick; is that correct?

A Good morning. Good morning.

Q You mention on page 2 of your direct testimony that you are a participating member in the service line replacement collaborative; is that correct?

A That's correct.

Q And the formation of that collaborative was in 2016, correct?

A Correct.

Q And was that in response to a national conversation around lead water contamination or to the proposed lead and copper rule revisions that the EPA Advisory Group authored that supported a move towards full lead service line replacement?

A Primarily related to the -- really, the national issue about lead service lines and about lead service line replacement.

So it sought to bring together a number of stakeholders, which includes regulators, public health agencies, NGOs and utilities to come together in a collaborative way to help communities to move forward with lead service line replacements.

Q Okay. And you mentioned also in your direct testimony on page 7 that that there's been a growing body of research that indicates partial lead service lines have the potential to increase lead levels following a replacement, correct?

A Correct.

Q Do you know who is producing this research? Is that the EPA or Universities or focused organizations?

A I think it's all of the above. And probably very prominently the Water Research Foundation, which is the water utility -- US Water Utility industry's research that has a number -- has had -- has a number of research projects related to lead either done or underway.

Q You also mentioned in your direct on page 16 that Missouri-American is not recommending replacing home plumbing as part of this program, correct?

A Correct.

Q Is that because lead service lines are the largest source of lead contamination in drinking water?

A It is. If -- if -- and I know there was a lot of talk about that in -- in the direct testimony, but if I could -- would you like me to kind of expand on that?

Q Your -- your Counsel probably will help you on redirect for that one.

A Okay.

Q I also imagine, though, one of the justifications behind it, is it correct to say that home plumbing as opposed to the lead service line is probably a little bit less of a financial burden on homeowners?

A Yes. And, also -- but primarily, it's that it's a very finite bit of potential exposure to lead as compared to a lead service line.

In other words, the solder in a fixture is very much contained to -- to that faucet as compared to the length of the service line.

Q Okay. And you've also attached to your rebuttal testimony Schedule GAN RT-3, which lists utility community efforts and lead service line

replacements, correct?

A Yes.

Q Do any of those programs that you list in that schedule, do they cover the -- part of the cost or the entire cost of the customer portion of the lead service line?

A I think there are various -- various approaches that that City and community have taken. And, again, some of them are municipal systems, maybe different, you know, rate-making approaches. So there are -- there have been a number of -- of approaches taken.

Q And I believe your Counsel might have said in his opening this morning that American Water is pursuing similar efforts to the one proposed in Missouri and 16 other states or in some of your other jurisdictions?

A We're moving with programs for lead service line replacement really across -- across our community. So many of them in various forms of the regulatory process as well as -- as field removals.

Q Also, attached to your rebuttal is Schedule GAN RT-4, and that's a listing of resources developed for, by or relied upon by that

lead service line collaborative, correct?

A Yes.

Q And that includes resources and research regarding funding efforts, addressing racial and economic inequalities, legal challenges, communications and -- among other things, correct?

A Correct.

Q So from your understanding, is that the information that OPC would like Missouri-American customers to pay for to use state-wide in their proposed pilot program?

A I think it's an example. And, again, that was really one of the purposes of the collaborative was to help communities who wanted to go forward with lead service line removals.

Cities, countries advertise all across the country facing the same problem. So it is recognized that it doesn't make sense for every city to go it alone.

So the collaborative was brought together to help provide resources to those communities. And the collaborative, which -- which I'm a participating member of, has posted, for instance, on its web site 143 different resources.

I -- I won't say that that's exhaustive.

There are -- there are others too -- you know, there are other studies and resources. But, again, that's the body -- that's the -- the -- the body of work that the collaborative has pulled together to put them in one place to help communities when they want to move forward.

Q So with the -- the 143 resources, that seems like it's a pretty good breadth of resources and research. Do you believe that OPC's proposed pilot program and their study is redundant and in the best use of ratepayer money then?

A It's largely redundant. Yes. There's a host of resources, and we're -- we're moving forward. We've done some of a lot of our own work. We've done some piloting on our own.

And have been really worked there a lot of the details in -- in the field where sampling, flushing, all the aspects of performing that lead service line replacement.

Q And my final question, are you familiar with the rebuttal testimony of OPC Witness DR. Geoff Marke?

A Yes.

Q Do you agree with the statement located on page 9 of his rebuttal testimony? And if you need

a moment to get there, let me know.

A Did you say rebuttal or surrebuttal?

Q Rebuttal.

A Okay. I'm there.

Q Okay. So on page 9, he states that, It is not clear what amount of lead in drinking water pose an urgent health risk. Do you agree with that statement?

A Can you direct me to the line?

Q One second. I'm sorry. It would start at 1 and ends at 5. On page 5?

A Of rebuttal.

Q Yes. That was rebuttal.

A Oh, I'm sorry.

Q It's okay.

A I would actually give my answer to actually the answer that he gives on line 10, Both the EPA and the CDC have said that no amount of lead in water is safe for children.

MS. MERS: Okay. I have no further questions.

JUDGE PRIDGIN: Mr. Mers, than you. Cross from MECG?

MR. WOODSMALL: Very briefly, your Honor.

CROSS-EXAMINATION

BY WOODSMALL:

Q Good morning, sir.

A Good morning.

Q I see that you work in New Jersey; is that correct?

A That's correct.

Q Do you live in New Jersey as well?

A I do.

Q Are you a New Jersey American Water customer?

A I'm not.

MR. WOODSMALL: Okay. No further questions. Thank you.

JUDGE PRIDGIN: Thank you. Consumers Counsel? Public Counsel?

MR. OPITZ: A few, Judge.

CROSS-EXAMINATION

BY MR. OPITZ:

Q Mr. Naumick, do you still have page 9 of Dr. Marke's rebuttal testimony with you?

A I do.

Q And you read a portion of a sentence, and I believe you stopped after the comma. The rest of that sentence says, But neither agency supported that statement with regulatory action. Do you

agree with that statement?

A I do.

MR. OPITZ: Judge, I have a few exhibits. I'd like to just get them marked all at the same time. May I approach and can Dr. Marke help me?

JUDGE PRIDGIN: Sure.

MR. OPITZ: This will be -- Judge, can you refresh my memory as to what we're on?

JUDGE PRIDGIN: This one will be No. 19

MR. OPITZ: No. 19. The DR OPC0034.

MR. OPITZ: It will be 04040.

JUDGE PRIDGIN: Okay. I don't have that one yet, so --

DR. MARKE: I'll bring that one.

MR. COOPER: What is 19?

MR. OPITZ: It's -- it's DR 04040. 20 will be DR0034. 21 will have to be 21-C. It contains a confidential attachment, and that will be DR0044. 22 will be DR0045.

JUDGE PRIDGIN: Thank you.

MR. OPITZ: Judge, may I also have permission to cross from my seat?

JUDGE PRIDGIN: You may.

Q (By Mr. Opitz) Good morning, Mr. Naumick.

A Good morning.

Q You are aware that Public Counsel sent some data requests to the company in this case, correct?
A Yes.
Q And you prepared some of those responses, is that correct?
A Yes.
Q So I've handed you some documents that have been pre-marked. If you'll take a look at what's been marked as Exhibit 19.
DR. MARKE: No. 9 is marked 19 to the -- the number.
JUDGE PRIDGIN: DR0040.
A Okay.
Q (By Mr. Opitz) Have you got it with you?
A I do.
Q Okay. And -- and that data request is from Public Counsel to the company, and you provided the answer to that; is that correct?
A Yes.
Q Is this a true and accurate copy of the company's response?
A I believe it is.
MR. OPITZ: Judge, at this time, I'd offer DR or OPC Exhibit 19 into evidence.

JUDGE PRIDGIN: Any objections? Hearing none, Exhibit 19 is admitted.

(Exhibit 19 was offered and admitted into evidence.)

Q (By Mr. Opitz) Mr. Naumick, if you would look at OPC Exhibit 20, which is DR0034, for a moment. And you would agree that this is a DR response Missouri-American sent to Public Counsel?

A Yes.

Q And would you agree that you prepared this response?

A Myself in conjunction possibly with Mr. Aiton since some of it's about the specific field activities.

Q So on the very back page, it indicates you're the responsible witness for this DR --

A Okay.

Q -- is that correct?

A Yeah. Okay. Yeah.

Q And is this a true and accurate copy of the company's response in this case?

A I believe it is.

Q Would you agree that this DR references your direct testimony, particularly the phrase "replacing pipe to just outside the home."

A That's what it says. Again, that's referencing a part of a sentence. So if you'd like, I can fresh myself by looking at the -- the actual testimony.

Q At the testimony? Do you have a copy of your testimony with you?

A Yeah, I do.

Q It's at your direct testimony, page 9.

A Okay.

Q I believe lines 13 through 14 is what it's --

A Okay.

Q So would you agree with me earlier statement that this DR is asking for more information about your phrase "just outside the home?"

A Yes.

Q Do you agree that even though the company calls this full lead service line replacement, its current program, that sometimes some of the lead service line is left in place?

A That would be a one-off. There may be situations where that's a physical necessity. As -- as the rest of that sentence says, the -- the primary approach is from the main into the home.

Generally, the lead service line will terminate maybe a foot inside the foundation of the home at the inside shut-off valve. And that is the desired and, in fact, I think predominate approach.

There will be situations where that's not accessible for some reason and, therefore, the necessity might be that we would go to the foundation and have to stop there.

Q So -- so you do agree there are instances where the full line is not replaced?

A There may be.

Q And based on the information in this DR, there are -- when that -- when there is some lead service line left in place, the company uses some kinds of coupling to make the connection; is that correct?

A Correct.

Q And is the purpose of that connection to reduce the galvanic corrosion?

A Correct.

Q And that's a way to, I guess, prevent lead from leeching in as a result from the different kinds of metals coming in contact?

A Correct.

MR. OPITZ: Judge, at this time, I'd offer

OPC Exhibit 20 into evidence.

JUDGE PRIDGIN: Any objections? No objections, Exhibit 20 is admitted.

(OPC Exhibit 20 was offered and admitted into evidence.)

Q (By Mr. Opitz) Mr. Naumick, if you will look at OPC Exhibit 21-C, which is DR-44. And since this is C, I'm not actually -- I believe the -- the confidential portion is an attachment that I'm not going to refer to, so I would won't ask to go into closed session. Would you agree this is a data request response provided by the company?

A Yes.

Q Okay. And you were the responsible witness for this --

A Yes.

Q -- response?

A Yes.

Q And you agree that this is a DR asking for the reports -- any reports resulting from the New Jersey's pipe replacement program?

A Yes.

Q And you would agree that no such report has been produced?

A No final report -- no final report was

produced.

Q I believe it -- so -- so when the question says, Provide all reports produced by the American Water subsidiaries in New Jersey relating to the intensive monitoring program during replacement work, your caveat is there may be reports, but you've not produced the final report?

A There may be draft report or -- or -- I know that there were sample results summaries, but no -- no final report.

Q And the company did not provide any of that to Public Counsel?

A Again, it wasn't working product.

MR. OPITZ: Judge, at this time, I'd offer OPC Exhibit 21-C into evidences.

(OPC 21-C was offered and admitted into evidence.)

JUDGE PRIDGIN: Any objections? Hearing none, 21-C is admitted.

(OPC Exhibit 21-C was offered and admitted into evidence.)

Q If you would take a look at OPC Exhibit 22, Mr. Naumick, which is DR-45.

A Yes.

Q And you agree that this is a data request

asking for any reports produced by American Water subsidiaries in Illinois related to lead replacement, correct?

A Yes.

Q And no response has been provided, no report has been provided?

A No report was developed.

Q Is this a -- and you provided the response to this data request?

A Yes.

MR. OPITZ: Judge, I'd offer OPC Exhibit 22 into evidence.

JUDGE PRIDGIN: Exhibit 22 has been offered. Any objections? Hearing no objections, Exhibit 22 is admitted.

(OPC Exhibit 22 was offered and admitted into evidence.)

Q (By Mr. Opitz) Mr. Naumick, if you would -- well, we probably didn't -- Mr. Naumick, if the company -- company's program continues, does Missouri-American intend to stop treating its water?

A No, we do not intend to stop treating our water.

Q If the Commission declines the

application, will Missouri-American continue to conduct partial replacements?

A Repeat that. I just want to make sure I understood the question.

Q So if the Commission declines the condition's AAO application in this case, will Missouri-American then continue -- resume partial replacement of -- of service lines?

A The company would do everything that it could in the field to not do a partial replacement. That would largely mean avoidance of those streets now.

If you have a situation with a leaking service, a leaking main, you have to do something. And so the company would be, in some circumstances, of having to do partials, but would seek to just, by avoidance, just literally stay away from these properties, stay away from those streets.

Q Thank you. So you worked with American Water, and so you have some knowledge of -- of their natural operations; is that correct?

A Yes.

Q Does American Water conduct partial replacements in other jurisdictions?

A We've -- we've taken an approach similar

to what we are, you know, proposing and, of course, you know, exercising in the field is -- is what I said, avoid partial replacements, every possible way to avoid it. And so, therefore, hopefully few, if any, partial replacements.

Q As I understand, a full service line replacement is for lead service pipes relatively new action by Missouri-American and -- and American's other subsidiaries; is that correct?

A Yes.

Q Does the company have any plans to address partial replacements that have already taken place over the -- the course of its history?

A It's -- it's something that's under consideration. It is not at the top of -- of the list. And the -- the reason being that because the work has been done, a new main has been -- or new service line has been put in the company side, we're not in a disruption status as -- as has been discussed as Dr. Marke testifies to.

When there's a disruption, that's when there's the highest risk of -- of release of lead. So that partial is done historically at least in a stable condition.

A It is something that we will be

considering, but they would not be at the front end of the -- of the priority list for mains that need to -- service lines that need to be replaced.

Q So you -- so you agree that if a partial placement has been conducted that it -- it will eventually return to a stable condition?

A That's -- that's generally the predominating research. But stable -- again, stable is a term that relates to this minute. Does it relate to tomorrow? Does it relate to next year? Does it relate to when a tree gets replaced?

You know, so that's -- stable in terms of yes, it's -- it's -- unless it's undergoing a disruption, it -- it would be in the stable condition you're talking about.

Q Can you tell me how long it takes to return to a stable condition if a partial replacement is conducted?

A There's some research that it can be hours or potentially days.

MR. OPITZ: Thank you. No further questions, Judge.

JUDGE PRIDGIN: Mr. Opitz, thank you. Any Bench questions?

CHAIRMAN HALL: Yeah.

JUDGE PRIDGIN: Chairman?

CROSS-EXAMINATION

CHAIRMAN HALL:

Q Good morning.

A Good morning.

Q Are you familiar with the lead service line replacement program in Pennsylvania?

A Generally speaking. I'm not intimately in tune with kind of the regulatory aspect of it. But, generally, yes.

Q My understanding was that there was an agreement reached between all the parties that -- that resulted in the stipulation that was approved by the Commission there. Is that -- is that true?

A I believe that -- I believe that was the -- York Water Company, so it was not an American water property. But I believe it was a York Water Company over --

Q It was not -- not American -- it was not an American Water?

A The one that has reached agreement, I believe, is York Water. Pennsylvania American is presently seeking approval for its program within its rate case.

I don't believe that has been -- I'll --

I'll defer to others in the room who may know. But I don't believe that has been settled. The one that has been settled was the York Water Company program.

Q The -- the -- the program that is currently in Pennsylvania's and York American's rate case, is it the similar to the program being advanced here?

A Yes.

Q And my understanding is that the program that -- that Missouri-American is -- has implemented and -- and wants -- wants our blessing to continue implementing is -- is to -- to replace service lines in the -- in the course of -- of main replacements when they're -- when they are discovered?

A Correct.

Q And is that the -- the customary lead service line replacement program nation-wide?

A Generally speaking, yes. What would be the first priority or the mains that are part of the program and that would be either -- that's part of the plan program or part of an emergency that -- you know, that main has ruptured, so we've got to be in that street. We'd like to handle everything,

the new main, the lead services in that street while the disruption has happened.

Others that would kind of fall into that would be coordination with town, repaving activities. We coordinate with towns if they're going to re-pave a street and we're working on the main that we'd like to get the service lines there, also. Those would be the -- really the primary parts of the -- we want to be the priority.

Q So it's -- so am I correct that -- that what the company is proposing is that it's got a list of -- of main projects, and then it's going to march through that list. And -- and when it discovers a lead service line in connection with the main where -- it wants to go ahead and do the replacement?

A Generally speaking, yes.

Q Okay. So -- and you've -- you've heard some of the arguments and I'm sure read some of the arguments of OPC that -- that that's not necessarily the best way to prioritize projects?

A Well, I'm not --

Q I mean, is that -- is that true? You -- you have read those arguments?

A Yeah.

Q Okay. Is there -- I mean, there is something compelling about both sides of this -- of this argument. I mean, I understand what -- what Missouri-American is -- is -- is saying.

It makes no sense to do a partial replacement when the most efficient and effective process would be to go ahead and complete the replacement when you're -- when you're there on-site.

A Yeah.

Q At the same time, wouldn't it also make some sense to possibly prioritize schools or nursing homes or -- or perhaps low income areas?

A The answer it yes. And I think --

Q Is there any way to marry it?

A There is. There absolutely is. And we are open to that. We are open to collaboration on -- on that. The -- and we have brought up -- because that is an area of collaboration.

As an example, we, the water utility, are not the best or the right one to determine where our sensitive populations are. But we're happy to engage, and I believe Mr. Aiton, has testified in some discussion with the Health Department who -- who would have that information better.

So we're very open to that. And, yes, it can -- short answer, it can be. Yes, it can be a prioritization consideration.

Q Are you aware of that kind of collaboration mandated by a -- by a commission anywhere else in the country as part of the lead service line replacement program?

A I don't -- not to my knowledge. I don't believe that's been implicitly addressed.

Q Okay. If the company were -- were to not do the full lead service line replacement going forward and just do the partial replacement in connection with -- with the main replacement, would -- do you believe that there would be a reduction in capital investment resulting from that decision?

A Not necessarily. What -- what you stated earlier is -- is exactly the case, that there is a list of -- and involved with Mr. Aiton and others in the development of our planning study to develop those lists of needs that are good, valid needs.

There's a lot of old treatment facilities, a lot of old pipes. There's -- Missouri was hit a couple of Januarys ago with a record flooding, and so we're -- we're moving intakes higher.

So there's a -- there's a back log of --

of -- of valid needs. And so it's not necessarily true that this is -- that this has to be additive to that.

Q So and -- and this may be overly simplistic. But, I mean, is it -- is it, in fact, true that there's a pot of money that -- that Missouri-American has available to invest, and if it were -- if it were not to invest some portion of that in the customer lead service lines, it would invest that somewhere else within Missouri-American's service territory?

A I'd probably defer to someone else on the technicalities of that. But generally speaking, it's not so much the pot of money as consideration of rate impact and -- and so forth.

As I say, we could -- we have a much longer list of these, and we know it's not a viable rate impact to customers to come forward t do all of those at once.

Q Did -- did Missouri-American look at the -- the alternative of providing filters to customers as opposed to doing the -- the service line replacement?

A We've -- we've studied that. We've reviewed the research on that. We don't see -- we

don't see filters. It's not an apples and apples thing.

The pipes are -- are a pathway to possible ingestion. And, again, we do a multi-battery approach. We treat. We sample. And so we do a lot to protect.

But that a pathway is there. That pathway can -- can occur if a disruption happened by utility work, by -- by something -- something else. The filter -- some of the challenges with filters I can run through, types of filters, first, and the one that was referenced $50 filter. It's kind of a pull-through filter.

And, yes, an NSF-approved cartridge can remove lead or contaminants. You've got about a hundred gallon life cycle, and that has to be replaced. So two -- two major problems with that.

No. 1, after a hundred gallons, it can actually have a breakthrough and be worse. So now we have thousands of customers responsible for doing that. Now I've got the burden of their self-policing their own health. Did they change that filter in time? The second thing with that is that's basically your refrigerator or whatever. It's not a whole house solution.

If I want to brush my teeth or my child wants to brush my -- brush their teeth upstairs, we could be taking the water up, the filtered water there.

So it's a point type of thing as you get to a whole house filter that actually costs a couple thousand dollars, so we don't see it as a viable tradeoff.

So we -- and many others, we have not seen filters at -- as good a solution. It would be better than New York, but it's not really anywhere near an equivalent type of long-term solution.

Q In your testimony, and I believe it was your direct testimony, you -- you indicated that -- that the research shows that addressing the lead service line is more important than the plumbing fixtures within -- within the home. Could you explain why?

A Sure. Largely -- you know, on the one hand -- and I -- and I do agree with things. This is a complex issue. It has a lot of non-intuitive things that we would think of the partial better. but It's not. On the other hand, it's kind of simple.

Lead in contact with the water -- water

chemistry, it's aggressive and time that it's together is what causes the corrosion and the amount of leeching in.

So you remove the -- the large volume is really -- and there is some research kind of collaborating that it really does reduce the lead.

If we're down to the soldered in the faucet, that's that finite potential pathway of the lead.

And, honestly, our utility and really most, I think, across the country, are not proposing to get involved in the interior plumbing.

Let me say that lead piping within homes is very rare. We have not encountered that. Again, I'm not going to say there aren't any, but that's pretty, so once you're to that shut-off valve I talked about. Within the home, it's generally the solder within -- within a fixture.

That, no. 1, we agree it's the responsibility of the -- of the homeowner. But No. 2, that's controllable pipe. You can flush that for 30 seconds, and you've cleared that spot where that water might have been in contact with that -- with that lead solder as compared to if you tried to flush your line every time you turn on the

water, have to flush for eight or ten minutes.

So it's much more under the reasonable control of the -- of the homeowner either to replace it or to flush the main for 15 seconds.

Q Well isn't it -- isn't it also true that the fixtures in the home, if they aren't replaced every 10 or 15 years, which may be the norm, is -- would take care of this problem?

A Correct. Because the -- because the rules of what could be manufactured -- I don't remember the year. I want to say in the '90s. Mandated virtually lead-free solder. So anything you would buy will be a -- a lead-free -- basically, a lead-free product.

Q And would have been lead-free at any time after sometime in the early '90s?

A I don't -- I can't remember the date. I think that's what -- when it was.

Q Looking at OPC's pilot program, I -- I could see a lot of similarity between that and some of the research conducted by the -- by the Water Research Foundation. It's -- it's my understanding that your -- your position is that -- that research has been done, there's no reason to duplicate it here?

A There's a lot in the OPC pilot proposal that is either, we think, redundant or beyond the scope of a utility.

There was talk about other sources, lead dust or lead paint. It's really beyond our scope to --

Q Is there anything within the pilot program that, from your perspective, actually could be useful, particularly it was -- if it was done in conjunction with the company's implementation of the program of --

A You know, I might like to -- maybe it's just me as the scientist me. I'd like to rephrase the word from pilot study to collaboration because I think that's what we're -- what we're talking about.

And I think a couple of areas jump out at me. One is the one that we talked about about identifying sensitive populations for consideration of prioritization. Where is there a daycare or a cluster other the Health Department having any information about blood lead levels.

I think that is a -- I think that is a good one. Other one, which we will take forward, but we seek anybody and all support in is any

funding, any -- any opportunity for -- for grant funding.

We are very much -- would welcome that possibility. I think that is one that we would certainly like the support of -- of stakeholders. And those are probably the two primarily that come to -- come to my mind of -- of key areas to work on.

Q I believe you, in cross-examination, indicated that if -- if the AAO was not awarded, then your understanding is -- is that the company would cease -- cease doing the full lead service line replacements; is that correct?

A Yes.

Q And you may not be the -- the correct witness to answer this question, and if so, that's fine. But what -- if the -- if the Commission were to take the position that the customer -- that replacement of the customer-owned line should be treated the same way as the company-owned line, meaning it -- it should be included in -- in -- in rate base as of the next rate case, but there should not be carrying costs between the time of the expense and when new rates are set, what would the company's position be there?

A Oh, I think you're right. I need to defer that one to -- to others.

Q So now every time I tell a witness that you may not be the right guy to answer, that -- that's the response I get, but --

A I've heard that one anyway.

Q I guess that's my own fault. Okay. Well, I'll be interested in getting an answer to that question from another company witness if -- if possible. And with that, I have no further questions. Thank you.

A Could I -- could I --

JUDGE PRIDGIN: Thank you. Any questions? Commissioner Stoll?

A Only if you'd like, but I didn't feel like I answered your question on prioritization as well as I could. Would you like to hear me talk a little more?

Q (By Chairman Hall) Sure. Sure.

A And, again, I think -- I think that is an area. To give -- to give you an example, when we say our main replacement program, we -- and, again, Mr. Aiton could talk for hours on this.

But we're replacing the main because of problems with it. It's broken four times or six

times. That's how our list goes -- goes forward.

And to date, you know, lead service lines have not been one of those -- one of those factors. Could be added in and that's an area we're open to have -- have collaboration on.

Again, we don't want to stop what we're doing. But to give you -- give you maybe the two ends of that, if a pipe is 80 years old, but it wasn't at the top of our list, and there are 50 homes with lead service lines, yeah, I would consider it appropriate and maybe that moves up above the 80-year-old pipe that had a couple breaks.

On the other hand, if it's four years and there's one home with lead, no, it would not. So -- so it's not an all or nothing. But -- but -- but I think the way to keep the good value of the mains that we're doing and add this additional benefit into prioritization would be a reasonable -- would be a reasonable thought process.

CHAIRMAN HALL: Okay. Thank you.

JUDGE PRIDGIN: Commissioner Stoll?

COMMISSIONER STOLL: Okay. Yeah. I just have a couple questions.

CROSS-EXAMINATION

BY COMMISSIONER STOLL:

Q One of the issues here relates to the customer-owned service line. So I wanted to ask, are there other states where there are customer-owned service lines in American Water's service territory? Or is this --

A Yes. Yes.

Q Could you kind of expand on that? Do you know -- like in Illinois and New Jersey and Pennsylvania?

A Yeah.

Q There are?

A Yes, there are. In most places, there are some. Our estimate is about 30,000 company-wide. Our estimate is about a 150,000 of -- of company-owned lead service lines.

We don't always have as much record about what is on the customer side, but, generally speaking, in many cases, if it was lead on this side, it's lead on the other side.

Q Yeah. So and this -- and this may be in your testimony. But would -- how are those states treating replacement of customer-owned service lines? Are they -- are they socializing or, as they like to say in some states, using uplift to

replace those lines?

A Basically, we are in process in other states and seeking to move forward very similar to here --

Q Okay.

A -- and in other states.

COMMISSIONER STOLL: Okay. I think that's all now. Thank you.

JUDGE PRIDGIN: Commissioner Stoll, thank you. Any further Bench questions? All right. Thank you.

This looks to be a pretty natural place to break. I've got about 20 till 12, and the Commission has agenda at noon. So when we resume, Mr. Naumick will be back on the stand for re-cross based on Bench questions and redirect. And then the next witness will be Mr. LaGrand where.

Anything further from Counsel before we go off the record? Hearing nothing, let me verify with the Bench. I plan on breaking for agenda and for lunch. Will 1:30 work for everyone on the Bench? 1:30?

COMMISSIONER STOLL: Sure.

JUDGE PRIDGIN: All right. That being the case, we will stand in recess until 1:30. Thank

you. We are off the record.

(Lunch recess.)

JUDGE PRIDGIN: All right. Good afternoon. We are back on the record. As we adjourned for agenda and lunch, I believe we were in the middle of Mr. Naumick's testimony.

I think we got through cross-examination, and we're now ready for re-cross based on Bench questions. Is there anything from Counsel before we begin that? All right. Hearing nothing, I guess we can move on to re-cross. I think we'll start with DED. Any questions?

MR. BEAR: No questions, your Honor.

JUDGE PRIDGIN: Staff?

MS. MERS: No questions. Thank you.

JUDGE PRIDGIN: MECG?

MR. WOODSMALL: No questions.

JUDGE PRIDGIN: I don't believe Mr. Coffman is here. OPC?

MR. OPITZ: Briefly, Judge.

RECROSS EXAMINATION

BY MR. OPITZ:

Q Mr. Naumick, prior to break, the Chairman had discussion with you regarding a utility in Pennsylvania named York. Do you recall that?

A Yes.

Q And the discussion was related to there was some kind of settlement reached in that case that you were aware of?

A There was some sort of a proceeding and agreement. I don't know if it was a case or what it was, but yes.

Q Okay. Are you -- are you aware that York was in violation of the lead and copper rule prior to the agreement being reached?

A I wasn't aware of the details. I -- I wouldn't disagree with what you're saying.

Q And Missouri-American is presently compliant with the lead and copper rule?

A Correct.

Q Commissioner Stoll had inquired of you about some of the utility -- your -- American Water's activities in other territories. Do you recall that?

A I do.

Q And the company is proposing similar activities in all of those other states; is that correct?

A Proposing similar programs in the regulatory environment.

Q And you would agree that, at this point, no other state has given a Missouri-American, I guess, affiliate or a subsidiary of American approval to do that -- one of those programs; is that correct?

A I think the status is that -- let regulatory -- they're in process in a number of states. There was Legislation in Indiana that, you know, has a proceeding forward, but they're in the regulatory process. They're in process in a number of states.

Q So right now, there has no approval in any other state to this?

A I don't believe so.

MR. OPITZ: Thank you. That's all I have. Thank you.

JUDGE PRIDGIN: Mr. Opitz, thank you. Redirect?

MR. COOPER: Yes, your Honor. Just a moment. Judge, I would like to mark an exhibit.

JUDGE PRIDGIN: This is Exhibit 23.

MR. COOPER: This will be Missouri-American's response to OPC DR 0043. I get give one to the witness, too. That may be important.

MR. NAUMICK: Thanks.

REDIRECT EXAMINATION

BY MR. COOPER:

Q Mr. Naumick, earlier today, OPC asked you some questions about some Missouri-American DRs. Do you remember that?

A Yes.

Q And I believe two of those were OPC DR-0044, which is Exhibit 21-C, and OPC DR-0045, which was Exhibit 22. Do you remember that?

A Yes.

Q And I believe that both those -- both those responses references the company's response to OPC 0043?

A Yes.

Q Before you, you have what's been marked as Exhibit 23 for identification. Do you recognize that?

A Yes.

Q What is it?

A It's the response -- the supplemental response to OPC 43.

Q And when you say supplemental response, does it include the base response as well? If you'll turn to --

A Yes.
Q Okay. And I believe -- well, were you responsible for that response?
A Yes.
Q Does it appear to be a true and accurate copy of your response to OPC DR-43?
A Yes.
MR. COOPER: Your Honor, I'd offer Exhibit 23 into evidence.
JUDGE PRIDGIN: Any objections? Hearing none, Exhibit 23 is admitted.
(Exhibit 23 was offered and admitted.)
Q (By Mr. Cooper) Mr. Naumick, you also, during the questions earlier, talked about filters and the consideration of filters in the home. Do you remember that?
A Yes.
Q And I believe that you talked about a pitcher filter was one of them, and you also mentioned a whole house filter. Is there also a tap specific filter as well?
A Yes.
Q And are there issues with those tap specific filters?
A It would be similar to what I mentioned.

That would be a -- something that fits on -- retrofits or screws onto -- to the faucet tap.

So it would have some of the same shortcomings as the picture filter, for instance, that it only helps mitigate the issue in one location.

Secondarily, just found a lot of just operational problems with that. Folks have designer faucets and -- type of things. And some -- sometimes they're not put on right or they don't fit or if -- if you try to do it, it breaks the -- you know, it breaks the faucet. So there have been -- there have been some issues with -- with those as well.

But -- but, again, functionally, they would function similar to the pitcher filter. It would be one -- one tap that treated water coming through for that.

Q And I think in regard to the pitcher filter, you described the need to periodically change the filter; is that true of the tap filters?

A Yeah. It would be. It would be similar in that way.

Q I think you also mentioned a -- sort of a whole house filter that was at a higher cost; is

that right?

A Yes.

Q And -- and do they have the -- the changing of filter issue?

A They would have a -- whether it be changing a filter or regeneration. But yes, it would require -- it would require periodic remediation by the -- by the homeowner to keep them working properly.

MR. COOPER: That's all the questions I have, your Honor.

JUDGE PRIDGIN: All right. Thank you. Mr. Naumick, thank you very much. You may step down.

MR. NAUMICK: Thank you.

JUDGE PRIDGIN: I believe Mr. LaGrand is the next witness.

MR. COOPER: Yes, your Honor.

JUDGE PRIDGIN: Okay. Come forward to be sworn, please, sir.

BRIAN LAGRAND,

being first duly sworn to testify the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. COOPER: