

Exhibit No.:
Issues: Lead Service Line Replacement
Witness: Martin Hyman
Sponsoring Party: Missouri Department of Economic
Development
Type of Exhibit: Rebuttal Testimony
Case No.: WU-2017-0296

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WU-2017-0296

REBUTTAL TESTIMONY

OF

MARTIN R. HYMAN

ON

BEHALF OF

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

Jefferson City, Missouri

August 23, 2017

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

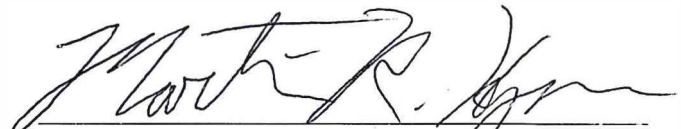
In the Matter of the Application of Missouri-)
American Water Company for an Accounting) **File No. WU-2017-0296**
Order Concerning MAWC's Lead Service)
Line Replacement Program)

AFFIDAVIT OF MARTIN HYMAN

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

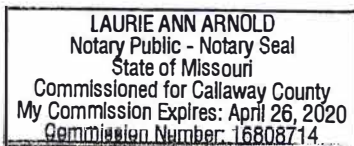
Martin R. Hyman, of lawful age, being duly sworn on his oath, deposes and states:


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



Martin R. Hyman

Subscribed and sworn to before me 23rd day of August, 2017.





Notary Public

My commission expires: 4/26/20

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1 **I. INTRODUCTION**

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

3 A. My name is Martin R. Hyman. My business address is 301 West High Street, Suite 720,
4 PO Box 1766, Jefferson City, Missouri 65102.

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

6 A. I am employed by the Missouri Department of Economic Development (“DED”) –
7 Division of Energy (“DE”) as a Planner III.

8 **Q. Please describe your educational background and employment experience.**

9 A. In 2011, I graduated from the School of Public and Environmental Affairs at Indiana
10 University in Bloomington with a Master of Public Affairs and a Master of Science in
11 Environmental Science. There, I worked as a graduate assistant, primarily investigating
12 issues surrounding energy-related funding under the American Recovery and
13 Reinvestment Act of 2009. I also worked as a teaching assistant in graduate school and
14 interned at the White House Council on Environmental Quality in the summer of 2011. I
15 began employment with DE in September of 2014. Prior to that, I worked as a contractor
16 for the U.S. Environmental Protection Agency to coordinate intra-agency modeling
17 discussions.

18 **Q. Have you previously filed testimony before the Missouri Public Service Commission**
19 **(“PSC” or “Commission”) on behalf of DED or any other party?**

20 A. I have filed testimony on behalf of DE in the cases listed in Schedule MRH-1.

1 **II. PURPOSE AND SUMMARY OF TESTIMONY**

2 **Q. What is the purpose of your Rebuttal Testimony in this proceeding?**

3 A. The purpose of my Rebuttal Testimony is to respond to Missouri-American Water
4 Company's ("MAWC" or "Company") proposal for a Lead Service Line Replacement
5 Program ("LSLR Program"), with proposed cost recovery through an Accounting
6 Authority Order ("AAO"). I also respond to the Office of the Public Counsel's ("OPC")
7 objections to MAWC's proposal. Without speaking as to the Company's proposal to use
8 an AAO, DED supports MAWC's LSLR Program as a means to reduce risks to public
9 health.

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

11 A. I reviewed the Direct Testimony filed by both the Company's and OPC's witnesses in
12 this case, as well as MAWC's original application for an AAO.

13 **III. PUBLIC HEALTH NEED AND DEPARTMENT INTEREST**

14 **Q. What is the danger of lead in drinking water?**

15 A. The U.S. Environmental Protection Agency ("EPA") lists numerous risks from lead
16 exposure. In children, these include behavioral and learning problems, lower IQ, slowed
17 growth, and anemia. Pregnant women are also at risk of premature birth, and fetuses are
18 at risk of reduced growth. More generally, exposure to lead in adults can have
19 cardiovascular, kidney, and reproductive health effects.¹

¹ U.S. Environmental Protection Agency, 2017, "Learn About Lead – What are the Health Effects of Lead?"
<https://www.epa.gov/lead/learn-about-lead>.

1 **Q. Is there a “safe” level of lead for children?**

2 A. No. The Centers for Disease Control and Prevention (“CDC”) state that, “No safe blood
3 lead level in children has been identified.”²

4 **Q. What are potential sources of exposure to lead in residences?**

5 A. Lead exposure at home can occur due to lead-based paint, lead dust from deteriorating
6 lead-based paint or soil, disturbed lead-based paint, various household surfaces, and lead-
7 containing pipes and solder.³ According to the Missouri Department of Natural
8 Resources, drinking water is not the primary source of potential lead exposure;⁴ however,
9 drinking water contamination should still be considered a risk if lead pipes or solder are
10 present.

11 **Q. Are low-income customers more likely to be affected by the need for lead service
12 line replacements?**

13 A. Yes. CDC data used by the EPA show that, between 2009 and 2012, young children from
14 families with incomes below the poverty level were more likely to have higher blood lead
15 levels than young children from families with incomes above the poverty level.⁵ In St.
16 Louis County, recent data showed that almost 17 percent of individuals for whom poverty
17 status was determined were estimated to have incomes below 150 percent of the poverty

² Centers for Disease Control and Prevention, 2017, “Lead,” <https://www.cdc.gov/nceh/lead/>.

³ U.S. Environmental Protection Agency, 2017, “Protect Your Family from Exposures to Lead,” <https://www.epa.gov/lead/protect-your-family-exposures-lead>.

⁴ Missouri Department of Natural Resources, Water Protection Program, 2016, “Lead in Drinking Water: Important Information on How to Protect Your Health,” <https://dnr.mo.gov/env/wpp/pdwb/docs/lead-custom-f.pdf>.

⁵ U.S. Environmental Protection Agency, 2015, *America’s Children and the Environment (ACE)*, “ACE: Biomonitoring – Lead,” <https://www.epa.gov/ace/ace-biomonitoring-lead>.

1 level.⁶ Lead service lines are one of several potential sources of lead exposure, but the
2 replacement of these service lines reduces the overall risk faced by these customers.

3 **Q. Are customers in older housing more likely to be affected by the need for lead**
4 **service line replacements?**

5 A. Yes. Again, while there are multiple potential sources of lead exposure in homes, the
6 EPA states that, “Homes built before 1986 are more likely to have lead pipes, fixtures
7 and solder.”⁷ In St. Louis County, 69.3 percent of occupied housing units were built
8 before 1980.⁸

9 **Q. Are children’s blood lead levels of concern in some of the communities served by**
10 **MAWC?**

11 A. Yes. For instance, county-level blood lead testing data reported to the CDC show that 414
12 of 16,120 children tested in St. Louis County in 2015 had blood lead levels above 5
13 micrograms per deciliter (“µg/dL”),⁹ the action level set by the CDC.¹⁰ While lead piping
14 may not be the primary factor associated with lead exposure in the St. Louis area, it can
15 be a contributing factor that heightens exposure.

⁶ U.S. Census Bureau, “Table S1701 – Poverty Status in the Past 12 Months,” 2015 American Community Survey 1-Year Estimates, https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_1YR/S1701/0500000US29189.

⁷ U.S. Environmental Protection Agency, “Protect Your Family from Exposures to Lead.”

⁸ U.S. Census Bureau, “Table S2504 – Physical Housing Characteristics for Occupied Housing Units,” 2015 American Community Survey 1-Year Estimates, https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_1YR/S2504/0500000US29189.

⁹ Centers for Disease Control and Prevention, 2016, “Lead – State and Local Programs – Missouri Data, Statistics and Surveillance,” <https://www.cdc.gov/nceh/lead/data/state/modata.htm>.

¹⁰ Centers for Disease Control and Prevention, “Lead.”

1 **Q. Is the LSLR Program consistent with reducing potential lead exposure?**

2 A. Yes. While there are numerous options to reduce lead exposure,¹¹ replacing lead pipes in
3 their entirety is the surest way to eliminate that particular source of potential exposure.
4 Company witness Mr. Gary A. Naumick states that the partial replacement of a lead
5 service line, "... may in some cases result in a temporary increase in the amount of lead
6 in the drinking water;"¹² he also states physical disturbances from underground utility
7 work can also disturb the protective "scale" that forms inside a service line, creating a
8 lead contamination risk.¹³ According to MAWC's application in this case, the Company
9 already finds lead service lines in the process of its work on water mains.¹⁴ One of the
10 sources cited by OPC witness Dr. Geoff Marke states that replacing lead service lines in
11 full reduces the chance of lead exposure when corrosion or leaching are of concern;¹⁵
12 based on Mr. Naumick's testimony, lead contamination is also a risk with partial service
13 line replacements or service line disturbance. Therefore, coupling the LSLR Program
14 with a main replacement initiative is a reasonable, cost-effective way to reduce possible
15 lead exposure.

¹¹ Missouri Department of Natural Resources, Water Protection Program, "Lead in Drinking Water: Important Information on How to Protect Your Health."

¹² Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program*, Direct Testimony of Gary A. Naumick on Behalf of Missouri-American Water Company, August 1, 2017, page 8, lines 9-13.

¹³ *Ibid*, page 10, lines 4-10 and 18-21 and page 11, lines 18-21 and 1-3.

¹⁴ Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program*, Application and Motion for Waiver, May 12, 2017, page 4.

¹⁵ County Health Rankings, 2017, "Lead pipe & plumbing material replacement," <http://www.countyhealthrankings.org/policies/lead-pipe-plumbing-material-replacement>. Cited in Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program*, Direct Testimony of Geoff Marke Submitted on Behalf of the Office of the Public Counsel, August 1, 2017, page 5, footnote 6.

1 **Q. Is the LSLR Program consistent with the Commission’s governing statutes?**

2 A. Yes. Section 393.130.1, RSMo., states that, “Every gas corporation, every electrical
3 corporation, **every water corporation**, and every sewer corporation **shall furnish and**
4 **provide such service instrumentalities and facilities as shall be safe and adequate**
5 and in all respects just and reasonable” (emphases added). The Company is furthering
6 this objective through its proposal.

7 **Q. What is DED’s interest in this case?**

8 A. DED works to create an environment that encourages economic growth by supporting
9 Missouri’s businesses and diverse industries, strengthening the state’s communities,
10 developing a talented and skilled workforce, and maintaining a high quality of life.
11 Among DED’s interests in this proceeding is ensuring that Missouri communities have
12 access to water supplies that maintain a high quality of life and support the growth of
13 businesses and diverse industries. Without access to safe drinking water, Missourians
14 may face increased health risks and associated medical costs, with particularly
15 problematic impacts on those least able to afford higher medical costs. Dr. Marke noted
16 the conundrum associated with the disproportionate impacts on low-income customers of
17 both lead and higher utility rates in a recent presentation.¹⁶ The ability of low-income
18 customers to afford a \$3,000 to \$5,500 lead service line replacement¹⁷ is doubtful, so an
19 alternative to customer-financed replacements is needed to affordably and equitably

¹⁶ Marke, Geoff, 2017, “Lead Line Replacement: Missouri,” presented at the 2017 NASUCA Mid Year Meeting, June 5, <http://nasuca.org/event/2017-nasuca-mid-year-meeting/>, slides 33-35.

¹⁷ Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC’s Lead Service Line Replacement Program*, Direct Testimony of Brian W. LaGrand on Behalf of Missouri-American Water Company, August 1, 2017, pages 4-5, lines 22-23 and 1.

1 ensure the replacement of lead service lines when they pose a threat to Missouri's
2 citizens.

3 **Q. Does DED support MAWC's lead service line replacement initiative?**

4 A. Yes. MAWC's proposal will support safe and adequate service and address the needs of
5 the communities that it serves by cost-effectively replacing lead service lines upon
6 discovery.

7 **Q. Does DED have a position as to the use of an AAO in this case?**

8 A. DED does not take a position as to whether or not an AAO is appropriate in this case.
9 However, DED supports this program based on its public health benefits and encourages
10 its continuing, timely implementation.

11 **Q. If the Commission rejects the use of an AAO in this case, what is DED's
12 recommendation?**

13 A. If the Commission rejects the use of an AAO in this case, DED recommends that the
14 Commission and parties to this case expeditiously identify an alternative mechanism by
15 which the Company can continue to offer this service to customers with a reasonable
16 opportunity to recover program costs. In choosing such a mechanism, DED urges the
17 Commission and parties to the case to consider financing arrangements that do not
18 preclude or unduly burden low-income customers. Ultimately, the goal should be the
19 uninterrupted continuation of this program.

1 **IV. RESPONSE TO OFFICE OF THE PUBLIC COUNSEL**

2 **Q. Does OPC support MAWC's proposal?**

3 A. No. OPC witness Mr. Charles R. Hyneman submitted testimony opposing the use of an
4 AAO,¹⁸ while Dr. Marke's testimony opposes the LSLR Program more generally and
5 proposes an alternative program.

6 **Q. Does Dr. Marke propose an alternative?**

7 A. Yes. He suggests a two-year pilot program limited to total funding of \$8 million, with \$4
8 million spending caps annually.¹⁹

9 **Q. Does DED believe that Dr. Marke's proposed alternative is reasonable?**

10 A. No. The proposal does not address the issue in a timely manner, which could jeopardize
11 the provision of safe and adequate service to Missouri customers, including vulnerable
12 populations such as children and pregnant women. DED is supportive of an immediate
13 response at the time of lead service line discovery during main replacement, which
14 presents a more timely and cost-effective solution.

15 **Q. Are the limitations proposed by Dr. Marke reasonable?**

16 A. No. MAWC witness Mr. Brian W. LaGrand states that the estimated costs that would be
17 deferred under the AAO could be as high as \$8.9 million,²⁰ and Dr. Marke states that the
18 Company's estimated costs per service line are too low.²¹ These facts indicate that some
19 customers would not receive lead service line replacements under Dr. Marke's proposal,

¹⁸ Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program*, Direct Testimony of Charles R. Hyneman Submitted on Behalf of the Office of the Public Counsel, August 1, 2017.

¹⁹ WU-2017-0296, Marke Direct, page 5, lines 11-15.

²⁰ WU-2017-0296, LaGrand Direct, page 5, lines 9-10.

²¹ WU-2017-0296, Marke Direct, page 4, lines 5-8.

1 thus jeopardizing some consumers' access to service line replacements concurrent with
2 MAWC's main replacements.

3 **Q. Dr. Marke also recommends that the pilot program look at various options for**
4 **allocating and collecting program-related costs.²² Please respond.**

5 A. Dr. Marke's suggestion to look at, "... pricing that is ... customer-specific compared to
6 various subsidized rates ..." ²³ is problematic given the fact that his aforementioned
7 presentation indicates that there are socio-economic disparities associated with the
8 presence of lead service lines. If those least able to afford lead service line replacements
9 are also most likely to need such replacements, it is inequitable to suggest that those
10 customers be denied access to a needed improvement that they cannot afford.
11 Consideration needs to be given to customers that cannot afford service line replacements
12 without additional support.

13 **Q. Dr. Marke further suggests that the pilot program explore alternative funding**
14 **options, such as possible, "... federal funds related to future infrastructure**
15 **investment."²⁴ Please respond.**

16 A. In principle, Dr. Marke's suggestion to pursue additional funding sources and reduce
17 customer costs is reasonable; in fact, Company witness Mr. Bruce W. Aiton states that
18 MAWC plans to find low-cost public funding.²⁵ However, mains replacement is an
19 ongoing process. Lead service lines not replaced as they are discovered will remain a

²² *Ibid*, page 7, lines 10-15.

²³ *Ibid*, lines 10-13.

²⁴ *Ibid*, page 10, lines 25-27.

²⁵ Missouri Public Service Commission Case No. WU-2017-0296, *In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program*, Direct Testimony of Bruce W. Aiton, PE on Behalf of Missouri-American Water Company, August 1, 2017, page 11, lines 2-4.

1 potential hazard and will result in duplicative costs upon later replacement. Reliance on
2 nebulous additional federal infrastructure investments is unlikely to address the
3 immediate need to replace lead service lines.

4 **Q. Does Dr. Marke raise points worth considering?**

5 A. Yes. For example, Dr. Marke's question as to real estate and legal ramifications²⁶ is
6 worth exploring. However, there is no need to delay finding the answers to such
7 questions for two years past the conclusion of a general rate case, or to subject
8 homeowners to potential health hazards for that length of time in order to answer such
9 concerns.

10 **V. CONCLUSIONS**

11 **Q. Please summarize your conclusions and the positions of DED.**

12 A. DED supports continuing MAWC's LSLR Program as a means to present customers with
13 an option to reduce the health risk associated with lead service lines.

14 **Q. Does this conclude your Rebuttal Testimony in this case?**

15 A. Yes.

²⁶ WU-2017-0296, Marke Direct, page 10, lines 1-2.