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Issue(s): Cost of Service Study,
Residential Customer Charge
Witness: Caroline Palmer
Type Of Exhibit: Direct Testimony
(Cost of Service Study/Rate Design)
Sponsoring Party: Consumers Council
of Missouri

MISSOURI PUBLIC SERVICE COMMISSION

Case No.: WR-2024-0320

**Direct Testimony of Caroline Palmer
(Cost of Service Study/Rate Design)**

**On Behalf of
Consumers Council of Missouri**

December 20, 2024

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Attachment CP-1: Resume of Caroline Palmer

Attachment CP-2: MAWC’s Responses to Data Requests CCM-11, 82, 88

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q Please state your name, title, and employer.**

3 A My name is Caroline Palmer. I am a Principal Associate at Synapse Energy Economics,
4 Inc. (“Synapse”), located at 485 Massachusetts Avenue, Suite 3, Cambridge, MA 02139.

5 **Q Please describe Synapse Energy Economics, Inc.**

6 A Synapse is a research and consulting firm specializing in utility regulation, planning, and
7 analysis. Our work covers a range of issues, including economic and technical
8 assessments of demand-side and supply-side energy resources; energy efficiency policies
9 and programs; integrated resource planning; electricity market modeling and assessment;
10 renewable resource technologies and policies; and climate change strategies. Synapse
11 works for a wide range of clients, including state attorneys general, offices of consumer
12 advocates, public utility commissions, environmental advocates, the U.S. Environmental
13 Protection Agency, U.S. Department of Energy, U.S. Department of Justice, the Federal
14 Trade Commission, and the National Association of Regulatory Utility Commissioners.
15 Synapse has over 40 professional staff with extensive experience in the electricity
16 industry.

17 **Q Please summarize your professional and educational experience.**

18 A I am a Principal Associate at Synapse where I provide expert witness and consulting
19 services on behalf of public interest clients in regulatory proceedings. The issues I cover
20 in these cases include marginal and embedded cost-of-service studies, revenue
21 apportionment, advanced rate design, load management, decoupling, distributed energy
22 resource (DER) interconnection and compensation, electric vehicle (EV) infrastructure
23 investments, and pilot frameworks. Prior to joining Synapse I worked at Strategen

1 Consulting for five years performing similar work. I have submitted expert testimony in
2 eleven dockets across six jurisdictions.

3 I was awarded a Fulbright Research Fellowship in Greece in 2019 and supported clean
4 energy policy consulting at Meister Consultants Group (now Cadmus) before that. I hold
5 a Master of Public Policy from the Goldman School at UC Berkeley and a Bachelor of
6 Science from Georgetown University. I have 10 years of professional experience. My
7 resume is attached as Attachment CP-1.

8 **Q Have you previously provided testimony to the Missouri Public Service
9 Commission?**

10 A Yes, I sponsored testimonies in ER-2024-0319. I have also sponsored testimony before
11 several other commissions, including the New York Public Service Commission, the
12 Massachusetts Department of Public Utilities, the Maine Public Utilities Commission, the
13 Oklahoma Corporation Commission, the North Carolina Utilities Commission, and the
14 Nova Scotia Utility and Review Board. I have also assisted with testimonies and
15 regulatory analyses in numerous other jurisdictions.

16 **Q On whose behalf are you testifying in this case?**

17 A I am testifying on behalf of the Consumers Council of Missouri (Consumers Council).

18 **Q What is the purpose of your testimony?**

19 A I address certain aspects of Missouri-American Water Company's (MAWC or Company)
20 cost of service study (COSS) and 5/8- and 3/4-inch monthly fixed charge proposals. I
21 reserve the right to comment on other issues in response to proposals offered by other
22 parties, or information that becomes available after I prepared this testimony. The

1 absence of discussion of other topics in this testimony should not be construed as support
2 for, or opposition to, the Company's positions.

3 **II. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**

4 **Q Please summarize your conclusions.**

5 A My conclusions are:

- 6 • The Company's COSS may have allocated a lower proportion of distribution-
7 level costs to Rates B and J and a higher proportion of costs to the other customer
8 classes, including the residential class, due to both an error and a sampling
9 assumption in calculating the distribution multiplier.
- 10 • The Company's proposed 5/8-inch monthly fixed charge increase of 113 percent
11 and 3/4-inch monthly fixed charge increase of 57 percent violate widely accepted
12 rate design principles and will have a disproportionate burden and rate shock on
13 low-usage, low-income residential customers.
- 14 • The costs of lead service line replacements (LSLR) are extraordinary and public-
15 policy-related. Including the LSLR costs in the services revenue requirement and
16 collecting them through the monthly customer charge would exacerbate impacts
17 on low-usage customers and reduce transparency.

18 **Q What are your recommendations?**

19 A I recommend that the Commission direct the Company to:

- 20 • Develop distribution multipliers based on the usage characteristics of a larger and
21 more verifiably representative number of Rate J and B customers—ideally all
22 customers in each class, respectively.

- 1 • Increase the 5/8 and 3/4 inch monthly fixed charges by \$1.00 and correspondingly
2 increase the volumetric rate in order to achieve the necessary revenue requirement
3 increase.
- 4 • Track lead service line replacement costs separately from other service costs and
5 collect them volumetrically through a dedicated line item on customer bills, rather
6 than include them in the unit costs that inform the monthly customer charge.

7 **III. COST OF SERVICE STUDY: DISTRIBUTION MULTIPLIER**

8 **Q What is the purpose of a COSS?**

9 A A COSS is used to assign the utility's revenue requirement to each customer or rate class
10 in proportion to the costs imposed on the system by those customers. Thus, a cost of
11 service study seeks to determine what costs are incurred to serve each class of customers.

12 **Q Do you have concerns about the Company's COSS?**

13 A Yes. I am concerned about how the Company allocates the costs of distribution mains.

14 **Q How does the Company allocate the costs of distribution mains?**

15 A Because large customers under Rate J and Rate B (the rates for Manufacturers, Large
16 Quantity users of Water, and Sale of Water for Resale) may take service directly from the
17 transmission system¹ and therefore do not all use the distribution system, MAWC
18 attempts to allocate larger customer classes only the distribution costs that are
19 proportional their use of the system. To do so, the Company estimates the percentage of
20 Rate J and Rate B's water usage that is served at the distribution level, and only allocates

¹ Transmission mains have a diameter of 10 inches and larger, while distribution mains are smaller than 10 inches.
See McClellan Direct Testimony at 10.

1 distribution costs to those classes based on the distribution-level usage, rather than based
2 on total usage. The percentage of Rate J and B's total usage served at the distribution
3 level is called the distribution multiplier. The Company used a distribution multiplier of
4 0.11 for Rate J customers both in the St. Louis County service area and outside of St.
5 Louis County. It used a multiplier of 0.21 for Rate B customers in St. Louis County and
6 0.56 for Rate B customers outside of St. Louis County.²

7 **Q Has the Company made an error regarding its distribution multipliers?**

8 A Yes, the Company appears to use an erroneous distribution multiplier, 0.11, for Rate J
9 customers in St. Louis County, which is lower than the multiplier indicated in its
10 workpaper.³

11 **Q What is the impact of using an erroneous distribution multiplier for Rate J
12 customers in St. Louis County?**

13 A Using a Rate J distribution multiplier that is lower than the multiplier indicated in the
14 Company's workpaper means that a lower proportion of distribution-level costs are
15 allocated to Rate J and a higher proportion of costs allocated to the other customer
16 classes. Specifically, the results from the erroneous COSS would assign residential
17 customers a 47.1 percent increase,⁴ whereas the results from a corrected COSS would
18 assign residential customers a 45.8 percent increase.⁵

19 **Q Do you have other concerns with the Rate B and J distribution multipliers?**

20 A Yes. I am concerned that the Company has not used a representative sample of customers
21 with which to calculate its distribution multipliers. The Company estimates the

² "MO COSS All Other Water" tab "Usage Statistics" and "MO COSS St Louis Workpaper" tab "Usage Statistics."

³ "2024 GRC - MIEC 1-12_Attachment 1 CONFIDENTIAL."

⁴ "MO COSS St Louis Workpaper" tab "Summary."

⁵ "CCM_MO COSS St Louis Workpaper" tab "Summary."

1 distribution-level sales for Rates B and J by analyzing the usage of its top 50 largest
2 quantity users of water across all customer classes and districts⁶ rather than the top 50
3 users for Rate B in St. Louis County and top 50 users for Rate B outside of St. Louis
4 County, and so on. Thus, the sample size is far less than 50 for each of the four individual
5 distribution multipliers that the Company ultimately calculates.

6 **Q Are the largest quantity users of water representative of overall Rate J and B**
7 **customer class usage?**

8 A They likely are not. Based on the Company's statement that large customers take service
9 directly from the transmission system,⁷ it stands to reason that the largest users in the
10 large customer classes might have higher transmission-level usage than the average
11 customers in those classes. If those customers indeed have higher-than-average
12 transmission-level usage, and therefore have lower-than-average distribution-level usage,
13 then distribution multipliers based on their data would be lower than the overall classes'
14 actual distribution system usage. This would not accurately represent cost causation and
15 would result in the Company allocating a lower proportion of distribution-level costs to
16 Rates B and J and a higher proportion of costs to the other customer classes, including
17 residential.

18 **Q Did you attempt to assess whether the top 50 largest quantity users of water are**
19 **representative of the overall Rate J and B customer class usage?**

20 A Yes. I asked the Company how distribution-level sales for the top 50 customers differ
21 from the average distribution-level sales for Rates J and B. However, the Company "has

⁶ MAWC's response to data request CCM-82.

⁷ McClellan Direct Testimony at 11.

1 not prepared any analysis that includes customers smaller than the top 50 largest
2 customers at this time.”⁸ It is unclear why the Company does not calculate precise
3 allocators based on complete data from the relatively small number of customers in these
4 classes, given the magnitude of these customers’ water usage and the meaningful impact
5 of distribution multipliers on revenue allocations in the COSS. The Company’s subjective
6 assumption about their representativeness impacts the study results in unquantifiable
7 ways.

8 **Q What do you recommend?**

9 A I recommend that the Commission direct the Company to develop distribution multipliers
10 based on the usage characteristics of a larger number of Rate J and B customers—ideally
11 all customers in each class, respectively—and either select that larger group of customers
12 in a more representative manner or verify with data that the distribution usage of the 50
13 largest water users is representative of the overall customer class populations.

14 **IV. RATE DESIGN: RESIDENTIAL CUSTOMER CHARGE**

15 **Q Describe the Company’s residential customer charge proposal.**

16 A The Company proposes to increase the 5/8-inch meter charge, or monthly customer
17 charge, from \$10.00 per month to \$21.34 per month, which is a 113 percent increase.⁹
18 The 5/8-inch meter is the most common meter size for residential customers, with 90
19 percent of residential customers taking service under this meter size.¹⁰ The Company also
20 proposes to increase the 3/4-inch customer charge from \$13.61 per month to \$21.34 per

⁸ MAWC’s response to data request CCM-82.

⁹ McClellan Direct Testimony at 29.

¹⁰ 399,886 out of 444,422 residential customers use a 5/8 inch meter. See “2024 MO Rate Design Model” tab
“Combined Meter Rates.”

1 month, which is a 57 percent increase. A portion of residential customers takes service on
2 3/4-inch meters. The \$21.34 charge represents the sum of the weighted annual unit costs
3 per customer for the meter, service, and customer service revenue requirements.¹¹

4 **Q Do you have concerns about the Company’s residential customer charge proposal?**

5 A Yes. I have three concerns with the residential customer charge proposal:

- 6 • The proposed increases in the 5/8- and 3/4-inch customer charges would violate
7 the widely accepted rate design principles of gradualism and efficiency;
- 8 • Higher fixed charges will have a disproportionate burden and rate shock on low-
9 usage, low-income customers; and
- 10 • Including the unusual, public-policy-related costs of lead service line
11 replacements in the service revenue requirement and fixed monthly charge would
12 exacerbate impacts on low-usage customers and reduce transparency.

13 I discuss each concern below.

14 ***Rate Design Principles and Equity Considerations***

15 **Q Explain why MAWC’s residential customer charge proposal violates widely**
16 **accepted rate design principles.**

17 A In direct testimony, the Company detailed several guiding principles for sound rate
18 design, which are consistent with James Bonbright’s widely recognized rate design
19 principles.¹² However, the Company’s proposed residential customer charge increase
20 violates key principles, as I describe below:

¹¹ MAWC response to data request CCM-11.

¹² James Bonbright, *Principles of Public Utility Rates*, Columbia University Press, 1961, page 291.

- 1 • **Gradualism:** The Company notes that changes in rate design should avoid
2 “inappropriate levels of rate shock” and cautions that drastic rate changes can
3 cause customer confusion and dissatisfaction and adversely impact the utility’s
4 ability to provide quality customer service.¹³ A 113 percent increase in the
5 customer charge certainly seems drastic. Indeed, in the last rate case, MAWC
6 proposed a 33 percent increase in the customer charge, from \$9.00 to \$12.00,
7 despite the large differential between the \$9.00 customer charge and the unit costs
8 presented in that case.¹⁴ A 113 percent increase is a dramatic departure from past
9 proposed increases and should be considered an inappropriate level of rate shock.
- 10 • **Efficiency of Use:** The Company states that rates should be designed to
11 encourage the efficient customer use of water resources, including “providing
12 customers an appropriate incentive to conserve water and manage their bills.”¹⁵
13 However, raising the customer charge so drastically reduces customers’ ability to
14 control their own bills because it increases the fixed portion of the monthly bill
15 over which customers have no control, even if they can reduce their consumption.
16 A higher fixed charge also means a lower volumetric charge than there otherwise
17 would have been. Relatively lower volumetric charges paired with higher fixed
18 charges can discourage conservation by reducing the value to customers of
19 adjusting their usage. By proposing to raise the customer charge all the way to the
20 purported unit cost, the Company has not sought to balance cost with
21 consideration of bill management and conservation.

¹³ McClellan Direct Testimony at 24.

¹⁴ Per “2024 GRC – CCM 0087 Attachment”, unit costs were \$16.57 for the St Louis Area and \$20.04 for Other Missouri in WR-2024-0320.

¹⁵ McClellan Direct Testimony at 24.

1 **Q Why has the Company proposed a rate design that violates the principles of**
2 **gradualism and efficiency?**

3 A It appears that the Company is prioritizing the principles of revenue stability (i.e., greater
4 assurance that the Company will recover its revenue requirement)¹⁶ and cost over the
5 principles of gradualism and efficiency.

6 **Q Is the Company's prioritization of revenue stability warranted?**

7 A No. Rate design must strike an appropriate balance among these principles, as they are
8 often in conflict. Further, higher fixed charges are only one of many tools for ensuring
9 the Company's revenue stability. Indeed, MAWC has requested several other
10 mechanisms that serve to reduce its risk and increase revenue stability: a revenue
11 stabilization mechanism to align the Company's revenues with the authorized amount;
12 adoption of a production cost tracker allowing the Company to collect revenues
13 associated with volatile production expenses; and two proposals to reduce regulatory lag
14 on plant investments between general rate cases.¹⁷

15 **Q Is it reasonable to more than double the customer charge given that the Company**
16 **has proposed multiple other mechanisms to promote revenue stability?**

17 A No. More than doubling the customer charge is particularly unreasonable given that the
18 Company has proposed several other mechanisms that would reduce the risk of it under-
19 collecting its revenue requirement.

¹⁶ McClellan Direct Testimony at 23-24.

¹⁷ Svindland Direct Testimony at 17-18.

1 **Q Are there other policy considerations that should guide the evaluation of the**
2 **Company’s proposed residential customer charge increase?**

3 A Yes, it is important to consider the fairness and equity of the proposal. The detrimental
4 bill impact of the increased fixed charge that I described above, in which a higher fixed
5 charge limits customers’ ability to reduce their bills by moderating their consumption,
6 would be more acute for low-usage customers whose bills are relatively smaller and
7 therefore more influenced by the customer charge. Low-usage customers are also more
8 likely to be low-income and therefore have less ability to pay higher bills.¹⁸

9 **Q How should the Commission consider fairness and equity in evaluating the**
10 **Company’s rate design proposal?**

11 A The Commission should consider the disproportionate burden and rate shock of higher
12 fixed charges on low-usage, low-income customers when evaluating the Company’s
13 proposal to increase customer charges by 113 and 57 percent.

14 ***Lead Service Line Replacement Costs***

15 **Q Why shouldn’t the Company include the cost of LSLR in the fixed monthly charge?**

16 A Missouri American Water has voluntarily pledged to replace all lead/galvanized service
17 lines in the communities it serves by 2030.¹⁹ The costs of replacing lead service lines are
18 substantial and will continue to grow for the next six years, as discussed below. The

¹⁸ The Company has argued that there is a positive correlation between household income and the seasonal use of water, meaning that communities with higher household incomes generally have more discretionary seasonal use of water than communities with lower household incomes. Lower-income customers generally don't use water for discretionary purposes in the summertime—such as for filling swimming pools or lawn irrigation—to the extent that higher-income customers do and generally only use Basic Water Service for cooking, cleaning, sanitation, and general health requirements. *See* Rea Direct Testimony at 28.

¹⁹ "Lead And Drinking Water." Missouri American Water. <https://amwater.com/moaw/Water-Quality/Lead-And-Drinking-Water/>.

1 Commission has deemed these investments to be extraordinary,²⁰ public-policy-related
2 costs.²¹ Given that these unusual and extraordinary costs “are not the result of a normal
3 utility policy or practice,”²² these costs should not be included in the standard services
4 revenue requirement or collected through the customer charge.

5 **Q How would including the LSLR costs in the customer charge impact customers?**

6 A Inclusion of the LSLR costs in the standard services revenue requirement and collection
7 through the monthly customer charge would exacerbate the rate shock and equity
8 concerns I described above.

9 **Q How should MAWC recover the LSLR costs?**

10 A I recommend that MAWC track the LSLR costs separately from other service costs and
11 collect them volumetrically through a dedicated line item on customer bills. Not only will
12 this transparently signal to customers why costs are rising, but it should also be easier to
13 track and take off the bill when fully amortized.

14 **Q Describe the LSLR costs and their impact on the monthly fixed customer charge.**

15 A MAWC defers the costs of customer-owned LSLRs and amortizes them over ten years.²³
16 Of the \$50,381,462 services revenue requirement in this rate case, \$5,983,888 (11.9
17 percent) is the amortization of costs related to the replacement of customer-owned lead
18 service lines.²⁴ This does not even include the cost of replacing Company-owned lead
19 service lines, which MAWC has not analyzed. Removing customer-owned LSLR costs
20 from the services revenue requirement reduces the 5/8- and 3/4-inch unit costs to \$20.45

²⁰ Commission Report and Order in WU-2017-0296. November 30, 2017. At 7.

²¹ “The public policy related to lead in drinking water and its adverse health effects is particularly persuasive in this case.” *See* Id at 9.

²² Id at 7.

²³ Commission Report and Order in WR-2022-0303. May 3, 2023.

²⁴ MAWC’s response to data request CCM-88d.

1 from \$21.34.²⁵ This cost impact is certain to increase in the future if the Company fulfills
2 its pledge. Since 2017, the Company has replaced several hundred lead service lines each
3 year, rising to more than 4,000 for the past two years.²⁶ The Company estimates that it
4 will replace 4,777 lead service lines annually from 2025–2030.²⁷ Therefore, it is
5 important to address the rate treatment for these costs before they grow any greater.
6 Omitting them from the services revenue requirement for the purposes of collecting them
7 volumetrically acknowledges their extraordinary and public-policy nature.

8 *Customer Charge Conclusions*

9 **Q Please summarize your customer charge conclusions and recommendations.**

10 A I find that the Company’s proposed 5/8- and 3/4-inch monthly fixed charge increases of
11 113 percent and 57 percent, respectively, violate widely accepted rate design principles
12 and impose a disproportionate burden and rate shock on low-usage, low-income
13 customers. Further, the Company should not include the cost of lead service line
14 replacements in the fixed charge.

15 **Q What do you recommend?**

16 A I recommend that the Company increase the 5/8- and 3/4-inch monthly fixed charges by
17 \$1.00, as in the last case for 5/8-inch meters, and accordingly increase the residential
18 volumetric rate as necessary in order to achieve the required revenue requirement
19 increase. An increase in the fixed charge of \$1.00 per month strikes an appropriate
20 balance between equity, efficiency, gradualism, cost, and revenue stability.

²⁵ “CCM_2024 MO Rate Design Model” tab “Combined Meter Rates.”

²⁶ MAWC’s Bi-Annual Lead Service Line Report in WR-2022-0303. May 14, 2024.

²⁷ “2024 GRC - CCM 0088_Attachment 3.”

1 In addition, I recommend that MAWC track LSLR costs separately from other
2 service costs and collect them through a dedicated, volumetric line item on customer
3 bills. This will enhance both equity and transparency.

4 **V. CONCLUSION**

5 **Q Does this conclude your testimony?**

6 **A Yes, it does.**

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

In the Matter of Missouri-American Water)
Company's Request for Authority to Implement) **File Nos. WR-2024-0320, et al**
General Rate Increase for Water and Sewer)
Service Provided in Missouri Service Areas.)

AFFIDAVIT OF CAROLINE PALMER


I, the undersigned, being duly sworn, states that my name is Caroline Palmer, and that the foregoing Direct Testimony of Caroline Palmer, including attachments, was prepared by me on behalf of the Consumers Council of Missouri. This testimony was prepared in written form for the purpose of its introduction into evidence in the above utility case at the Missouri Public Service Commission.

I hereby swear and affirm that the attached testimony is true and correct to my best knowledge, information, and belief, and I adopt said testimony as if it were given under oath in a formal hearing.



Caroline Palmer

Subscribed before me on this 20 day of December, 2024:







Caroline Palmer, Principal Associate

Synapse Energy Economics | 485 Massachusetts Avenue, Suite 3 | Cambridge, MA 02139 | 617-973-1715
cpalmer@synapse-energy.com

PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Cambridge, MA. *Principal Associate*, June 2024 – present.

- Conduct analysis and provide expert witness and consulting services on behalf of public interest clients in regulatory proceedings, on topics including electric utility class cost of service, revenue allocation, advanced rate design, avoided cost methodology, and distributed generation interconnection and planning.

Strategen Consulting, Oakland, CA. *Senior Manager*, 2024; *Manager*, 2023 - 2024; *Senior Consultant*, 2021 - 2022; *Consultant*, 2019 - 2021.

- Conducted analysis and provided expert witness and consulting services to state regulatory commissions, state consumer advocates, and non-profits to advance the public interest in regulatory decision-making around electricity service, pricing, and decarbonization.

Metropolitan Area Planning Council Boston, MA. *Clean Energy Fellow*, 2017.

- Provided technical assistance to Massachusetts local government on renewable energy technology and energy planning.

Fulbright Foundation Athens, Greece. *Fulbright Research Fellow*, 2015 – 2016.

- Designed and conducted original, independent research on renewable energy policymaking and implementation in the context of Greece's severe economic crisis

Meister Consultants Group (now Cadmus), Boston, MA. *Analyst*, 2014 – 2015.

- Performed research and writing for renewable energy policy design, analysis, and implementation.

EDUCATION

University of California, Berkley, CA

Master of Public Policy – Energy Policy, 2019

Georgetown University, Washington, DC

Bachelor of Science in Foreign Service – Science, Technology, and International Affairs, 2013

PUBLICATIONS

Palmer, C. 2019. *Using Low Carbon Fuel Standard Proceeds from EV Adoption to Improve the Efficiency of Electricity Rates*. Berkeley Public Policy Journal.

TESTIMONY

Missouri Public Service Commission (ER-2024-0319). Direct Testimony of Caroline Palmer (Revenue Requirement) regarding Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Electric Service. On behalf of Consumers Council of Missouri. December 3, 2024.

Nova Scotia Utility and Review Board (M11874). Direct Testimony of Caroline Palmer regarding costs incurred to implement the Renewable to Retail market. On behalf of Counsel to Nova Scotia Utility and Review Board. November 1, 2024.

Maine Public Utilities Commission (Docket No. 2024-00137). Direct Testimony of Caroline Palmer and Eric Borden regarding Stranded Cost Rate Design. On behalf of the Maine Office of the Public Advocate. October 1, 2024.

New York Public Service Commission (Cases 24-E-0322 & 24-G-0323): Direct Testimony of Caroline Palmer, Melissa Whited, and Ben Havumaki regarding the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric and Gas Service. On behalf of the Utility Intervention Unit (UIU) of the New York Department of State's Division of Consumer Protection. September 26, 2024.

Massachusetts Department of Public Utilities (D.P.U. 23-150): Direct Testimony, Surrebuttal Testimony, and Cross-examination of Caroline Palmer and Ron Nelson regarding Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Electric Service and a Performance-Based Ratemaking Plan. On behalf of the Massachusetts Office of the Attorney General. March 29, 2024, May 3, 2024, and May 20, 2024.

North Carolina Utilities Commission (Docket No. E-7, Sub 1276): Direct Testimony of Caroline Palmer regarding the Application of Duke Energy Carolinas, LLC, for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina and Performance-Based Regulation. On behalf of the North Carolina Attorney General's Office. July 19, 2023.

Oklahoma Corporation Commission (Case No. PUD 2022-000093.): Adoption of Direct Testimony and Cross-examination regarding the Application of Public Service Company of Oklahoma, for an adjustment in its rates and charges and the electric service rules, regulations, and conditions of service for electric service in the state of Oklahoma and to approve a formula-based rate proposal. On behalf of AARP. May 22, 2023.

Maine Public Utilities Commission (Case No. 2022-00152): Direct Testimony and Surrebuttal Testimony of Caroline Palmer, Nikhil Balakumar, and Ron Nelson regarding the Central Maine Power Company's

request for Approval of a Rate Change - 307 (7/30/23). On behalf of the Maine Governor's Energy Office. December 2, 2022 and April 6, 2023.

Massachusetts Department of Public Utilities (D.P.U. 21-91): Direct Testimony and Cross-examination of Caroline Palmer and Ron Nelson regarding the Petition of NSTAR Electric Company d/b/a Eversource Energy for approval of its Phase II Electric Vehicle Infrastructure Program and EV Demand Charge Alternative Proposal. On behalf of the Massachusetts Office of the Attorney General. January 5, 2022, and March 22, 2022.

Massachusetts Department of Public Utilities (D.P.U. 21-90): Direct Testimony and Cross-examination of Caroline Palmer and Ron Nelson regarding the Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, for approval of its Phase III EV Market Development Program and EV Demand Charge Alternative Proposal. On behalf of the Massachusetts Office of the Attorney General. January 5, 2022, and March 22, 2022.

Massachusetts Department of Public Utilities (D.P.U. 21-92): Direct Testimony and Cross-examination of Caroline Palmer and Ron Nelson regarding the Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for approval of its EV Infrastructure Program, EV Demand Charge Alternative Proposal, and Residential EV Time-of-Use Rate Proposal. On behalf of the Massachusetts Office of the Attorney General. January 5, 2022, and March 22, 2022.

PRESENTATIONS

Palmer, C. 2022. Utility Transportation Electrification from a Consumer Advocate Perspective. NASUCA Mid-Year Meeting. Indianapolis, IN.

Palmer, C. 2017. Integration of renewable energy in Greek energy markets: A case study. 2nd HAEE International Conference. Athens, Greece.

Resume last updated December 2024

CCM 0011

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2024-0320
General Rate Case

Requested From: Ashley M. Randell

Date Requested: 10/08/2024

Information Requested:

Refer to McClellan – DT p.29.

- a. Explain how the Company calculated the proposed 5/8" monthly meter charge of \$21.34 per month. Describe the specific costs that the proposed charge collects and why. Provide workpapers demonstrating which costs from the cost of service study are collected in the \$21.34 charge in live, unlocked Excel file format with all links and formula intact.
- b. Provide the same information as in part a) for each of the meter charges larger than 5/8".
- c. Describe all analysis the Company has conducted on the bill impacts due to its proposals to increase the meter charge for Rate A. Provide the described analysis in live, unlocked Excel file format with all links and formula intact.

Requested By: John B. Coffman (john@johncoffman.net)

Information Provided:

- a. The Company calculated the proposed 5/8" monthly meter charge by determining a weighted annual unit cost for the Meter revenue requirement, a weighted annual unit cost for the Service revenue requirement and a weighted annual unit cost for the Customer Service revenue requirement. Those weighted annual unit costs were then multiplied by their respective meter size then divided by twelve to determine a monthly price for each. As the 5/8" and 3/4" monthly meter charges are being combined in the proposed rate design, their monthly prices were combined using a weighted average. The monthly Meter, Service and Customer Service prices are then added together to find each monthly meter charge by size.

Please refer to tab "Combined Meter Rates" in the "2024 MO Rate Design Model.xlsx" Excel file provided with Witness McClellan's direct testimony.

- b. For the proposed 3/4" monthly meter charge, please see the answer to a) as in our proposed rate design the 5/8" and 3/4" monthly meter charges are combined.

For all meter charges larger than 3/4", the Company calculated the proposed meter charges by determining a weighted annual unit cost for the meter revenue requirement, a weighted annual unit cost for the Service revenue requirement and a weighted annual unit cost for the Customer Service revenue requirement. Those weighted annual unit costs were then multiplied by their respective

meter size then divided by twelve to determine a monthly price for each. The monthly Meter, Service and Customer Service prices are then added together to find each monthly meter charge by size.

Please refer to tab "Combined Meter Rates" in the "2024 MO Rate Design Model.xlsx" Excel file provided with Witness McClellan's direct testimony.

c. The Company has not conducted any analysis on the bill impacts due to its proposals to increase the meter charge for Rate A.

Responsible Witness: Max W. McClellan

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2024-0320
General Rate Case

Requested From: Ashley M. Randell

Date Requested: 11/11/2024

Information Requested:

Refer to the response to CCM 0004.

- a. Define “historically largest consumers”. Does this refer to the largest quantity users of water, or to the customers with the highest level of distribution system usage?
- b. If the answer in part a is the largest quantity users of water, explain how their distribution-level sales differ from the average distribution-level sales for both Rates J and B. In live, unlocked Excel file format with all links and formula intact and with clear labelling, provide the data the Company has on Rates J and B’s historically largest consumers’ usage on distribution-sized mains, as well as the data on Rates J and B’s average customer usage on distribution-sized mains.
- c. CCM 0004 part a requested the data the Company used to estimate the percentage of water sales served to each class directly from the transmission system, while part b requested direction to the calculation that yielded that percentage. In its responses, the Company did not provide the requested data nor the calculation. The Distribution Multiplier values the Company identifies in response to parts a and b are hard-coded in the spreadsheet. Please provide the data and calculation underlying the Distribution Multiplier, as originally requested in CCM-004, in live, unlocked Excel file format with all links and formula intact.
- d. Explain how the Company calculates the Distribution Multiplier (step-by-step) and where it obtains the necessary data. How does MAWC measure Rates J and B’s consumers’ usage on distribution-sized mains? If different, also explain how the Company obtains estimates of the percentage of water sales served to Rates J and B directly from the transmission system.
- e. Confirm that the Distribution Multiplier of .11 for Rate J in Schedule MWM-2 means that only 11% of that class’s sales are considered distribution-level sales to be allocated distribution-related costs. Confirm also that the remaining 89% of sales are considered served to that class directly from the transmission system.

Requested By: John B. Coffman (john@johncoffman.net)

Information Provided:

- a. Within the context of the response to CCM 0004, “historically largest consumers” refers to the largest quantity users of water on Rates J and B.
- b. Please see the Company’s response for 2024 GRC – MIEC 1-12 which was submitted on November 7, 2024, for the distribution multiplier calculations which includes usage data for the top 50 largest customers on Rates J and B as well as their assumed main sizes. The top 50 largest

customers are used to calculate the distribution multipliers which are then used to estimate the average distribution-level sales. The Company has not prepared any analysis that includes customers smaller than the top 50 largest customers at this time.

- c. Please see the Company's response for 2024 GRC – MIEC 1-12.
- d.
 - 1. The top 50 largest customers by annual usage are determined and their usage identified.
 - 2. The Company uses its GIS resources to evaluate what size main each of those customers is served from.
 - 3. For the Rates J and B customers of the St. Louis and All Other water districts, the total usage is summed for the mains with diameters below ten inches as well as for the mains ten inches or larger. For each Rate and water district, the amount of usage on mains with diameters of less than ten inches is divided by the total usage to determine the Distribution Multiplier for that rate and water district.
- e. The value of the Distribution Multiplier for Rate J reflects an estimate of that class's sales that are considered distribution-level sales to be allocated distribution-related costs. The value of 1 minus the Distribution Multiplier for Rate J reflects an estimate of that class's sales that are served to customers directly from transmission-sized mains.

Responsible Witness: Max W. McClellan

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2024-0320
General Rate Case

Requested From: Ashley M. Randell

Date Requested: 11/11/2024

Information Requested:

Refer to <https://amwater.com/moaw/Water-Quality/Lead-And-Drinking-Water/> regarding the Company's pledge to replace all lead/galvanized service lines by 2030.

- a. In what year did the Company make the referenced pledge?
- b. Has the Commission issued any rulings, orders, or decisions regarding the costs of replacing all lead/galvanized service lines or the associated cost recovery? Please provide those filings.
- c. In live, unlocked Excel file format with all links and formula intact, provide the number and cost of lead/galvanized service line replacements by meter size for each year since the Company's pledge.
- d. Has the Company included the costs of lead/galvanized service line replacements in its Service Revenue Requirement of \$50,381,462 and in the resulting, proposed monthly meter charges? If yes, what portion of the of \$50,381,462 Service Revenue Requirement consists of lead/galvanized service line replacements?
- e. In live, unlocked Excel file format with all links and formula intact, provide the expected number and cost of lead/galvanized service line replacements by meter size between now and 2030.
- f. What is the typical replacement rate for service lines in the Company's territory? On what time period is this replacement rate based? Describe the source(s) relied upon for deriving this number and provide all sources and/or workpaper calculations in live, unlocked Excel file format with all links and formula intact.
- g. What is the expected replacement rate for lead/galvanized service lines between the Company's pledge and 2030? Describe the source(s) relied upon for deriving this number and provide all sources and/or workpaper calculations in live, unlocked Excel file format with all links and formula intact.

Requested By: John B. Coffman (john@johncoffman.net)

Information Provided:

On November 18, 2024, the Company objected to this data request as the responsive information is not relevant to the subject proceeding, not proportional to the needs of the case considering the totality of the circumstances, nor reasonably calculated to lead to the discovery of admissible evidence in that it requests information well beyond the scope of this general rate case. Subject to and without waiving the objection, please see below.

- a. The Company first began replacing lead service lines in 2017, and made this pledge in 2022.
- b. Yes. The Commission granted the Company authority to defer the costs of replacing customer owned lead service lines in Case No. WU-2017-0296. The order in that case is provided as 2024 GRC – CCM 0088_Attachment 1. The Commission also granted MAWC recovery of the deferred cost of replacing customer owned lead service lines in Case No. WR-2017-0285. The Report and Order in that case is provided as 2024 GRC – CCM 0088_Attachment 2.
- c. Please see 2024 GRC – CCM 0088_Attachment 3.
- d. Yes, the costs of lead service line replacements are included in the “Services” revenue requirement. Of the \$50,381,462 revenue requirement, \$5,983,888 (11.9%) is the amortization of costs related to the replacement of customer owned lead service lines. The Company has not done an analysis of the proportion of the “Services” revenue requirement that is related to the replacement of Company owned lead service lines.
- e. Please see 2024 GRC – CCM 0088_Attachment 3.
- f. Per the Company’s depreciation rates approved in Case No. WR-2022-0303, the average service life for Customer Services is 65 years.
- g. Please see 2024 GRC – CCM 0088_Attachment 3.

Responsible Witness: Brian W. LaGrand