

Exhibit No.: _____
Issue: Cash Working Capital
Witness: Timothy S. Lyons
Type of Exhibit: Direct Testimony
Sponsoring Party: Liberty Utilities
(Missouri Water) LLC d/b/a Liberty
Case Nos.: WR-2024-0104 and
SR-2024-0105
Date Testimony Prepared: March 2024

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

Timothy S. Lyons

on behalf of

Liberty Utilities (Missouri Water) LLC d/b/a Liberty

March 13, 2024



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LIBERTY UTILITIES (MISSOURI WATER) LLC D/B/A LIBERTY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
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DIRECT TESTIMONY OF TIMOTHY S. LYONS
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BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NOs. WR-2024-0104 & SR-2024-0105

1 **I. INTRODUCTION**

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

3 A. My name is Timothy S. Lyons. My business address is 3 Speen Street, Suite 150,
4 Framingham, Massachusetts, 01701.

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

6 A. I am a Partner at ScottMadden, Inc. (“ScottMadden”).

7 **Q. On whose behalf are you testifying in this proceeding?**

8 A. I am testifying on behalf of Liberty Utilities (Missouri Water) LLC d/b/a Liberty
9 (“Liberty” or the “Company”).

10 **Q. Please describe your professional and educational experience.**

11 A. I have more than 30 years of experience in the energy industry. I started my career in
12 1985 at Boston Gas Company, eventually becoming Director of Rates and Revenue
13 Analysis. In 1993, I moved to Providence Gas Company, eventually becoming Vice
14 President of Marketing and Regulatory Affairs. Starting in 2001, I held management
15 consulting positions in the energy industry first at KEMA and then at Quantec, LLC.
16 In 2005, I became Vice President of Sales and Marketing at Vermont Gas Systems, Inc.
17 before joining Sussex Economic Advisors, LLC (“Sussex”) in 2013. Sussex was
18 acquired by ScottMadden in 2016.

19 **Q. Please describe your educational background.**

1 A. I hold a bachelor’s degree from St. Anselm College, a master’s degree in economics
2 from The Pennsylvania State University, and a master’s degree in business
3 administration from Babson College.

4 **Q. Have you previously testified before the Missouri Public Service Commission**
5 **(“Commission”)?**

6 A. Yes. My testimony experience is included in Direct Schedule TSL-1.

7 **II. PURPOSE AND OVERVIEW OF TESTIMONY**

8 **Q. What is the purpose of your direct testimony?**

9 A. The purpose of my testimony is to sponsor the results of the lead-lag study. The lead-
10 lag study was used to determine the Company’s Cash Working Capital (“CWC”)
11 requirement, which is included in the Company’s rate base.

12 **Q. Have you prepared schedules to support your testimony?**

13 A. Yes. My testimony is supported by the below Direct Schedules. The schedules were
14 prepared by me or under my direction.

Schedule Name	Description
Direct Schedule TSL-1	Qualifications
Direct Schedule TSL-2	Summary of Lead-Lag Study
Direct Schedule TSL-3	Schedules for the Lead-Lag Study

15 **Q. Please define the term “Cash Working Capital” as a rate base component.**

16 A. The term “Cash Working Capital” or CWC refers to the net funds required by the
17 Company to finance goods and services used to provide service to customers from the
18 time those goods and services are paid for by the Company to the time that payment is
19 received from customers. Goods and services considered in the lead-lag study include

1 operations and maintenance (“O&M”) expenses, including labor and non-labor
2 expenses, federal, state, and local taxes, and employment taxes.

3 **Q. How was the Company’s CWC requirement determined?**

4 A. The Company’s CWC requirement is based on the results of the lead-lag study. The
5 lead-lag study compares differences between the Company’s revenue lag and expense
6 leads. The revenue lag represents the number of days from the time customers receive
7 their service to the time customers pay for service, *i.e.*, when the funds are available to
8 the Company. The longer the revenue lag, the more cash the Company needs to finance
9 its day-to-day operations. The expense lead represents the number of days from the
10 time the Company receives goods and services used to provide service to the time
11 payments are made for those goods and services, *i.e.*, when the funds are no longer
12 available to the Company. The longer the expense lead, the less cash the Company
13 needs to fund its day-to-day operations. Together, the revenue lag and expense leads
14 are used to measure the lead-lag days. The lead-lag days were then applied to the
15 Company’s adjusted test year expenses to derive the CWC requirement, which was
16 included in the Company’s rate base.

17 **III. LEAD-LAG STUDY APPROACH**

18 **Q. Please summarize the results of the lead-lag study.**

19 A. The results of the lead-lag study are summarized in **Direct Schedule TSL-2**. The
20 results of the lead-lag study were provided to Company witness Cindy Wilson and
21 applied to adjusted test year expenses to derive the Company’s proposed CWC
22 requirement.

1 **Q. Please describe the approach used to develop the lead-lag study.**

2 A. The lead-lag study consists of two elements: revenue lag and expense leads. The
3 revenue lag measures the number of days from the time service is provided to
4 customers until the time customer payments are received by the Company. Expense
5 leads measure the number of days from the time the Company receives goods and
6 services used to provide service, to the time the Company pays for those goods and
7 services. The lag-leads are measured in days, converted to dollar-days, and
8 summarized for each cost element in the lead-lag study. The difference between the
9 revenue lag and expense leads determines if there is a net revenue lag (revenue lag days
10 are more than the expense lead days) or a net expense lead (revenue lag days are less
11 than the expense lead days) for each cost element in the lead-lag study. The net lead-
12 lag days are applied to adjusted test year expenses since it reflects the Company's
13 ongoing expenses and thus is more representative of the Company's ongoing cash
14 working capital requirements.

15 **Q. Please describe the financial data used in the lead-lag study.**

16 A. The lead-lag study was based on the Company's financial data from January 1, 2022,
17 through December 31, 2022 (the "Study Period"). The financial data included
18 customer billing, O&M expenses, and federal, state, local, and employment taxes.

19 **A. Revenue Lag**

20 **Q. Please describe development of the revenue lag.**

21 A. The revenue lag measures the number of days from the time service is provided to
22 customers to the time payment is received from customers. The revenue lag consists
23 of three components: (1) the service lag; (2) the billing lag; and (3) the collection lag.

1 **Q. What is the service lag?**

2 A. The service lag represents the average number of days in the service period; i.e., the
3 number of days from the start of the billing month to the end of the billing month.
4 Meters are read at the end of the billing month. The service lag in this lead-lag study
5 was based on the midpoint of the service period, which reflects that water and sewer
6 service is provided evenly over the service period.

7 **Q. What is the billing lag?**

8 A. The billing lag represents the number of days from the time meters are read to the time
9 bills are recorded and sent to customers. The billing lag includes time for review and
10 validation of billed usage and dollars.

11 **Q. What is the collection lag?**

12 A. The collection lag represents the number of days from the time bills are recorded and
13 sent to customers to the time customer payments are received (i.e., funds are available
14 to the Company). The collection lag in this lead-lag study was based on monthly
15 accounts receivable balances and billed revenue data. This information was used to
16 calculate the average time to receive customer payments.

17 **Q. How were lag days determined for revenues?**

18 A. The revenue lag was based on the sum of the revenue lag components discussed above.
19 Derivation of the revenue lag is shown in **Direct Schedule TSL-3**.

20 **B. Expense Lag**

21 **1. Operations and Maintenance Expenses**

22 **Q. Please describe development of lead days for O&M expenses.**

23 A. Lead days for O&M expenses were measured separately for the following categories:
24 (1) payroll; (2) incentive compensation; (3) 401k payments; (4) pension; (5) Other

1 Post-Employment Benefits (“OPEB”); (6) employee benefits; (7) uncollectible
2 expenses; and (8) other non-labor O&M expenses.

3 **Q. How were lead days derived for payroll expenses?**

4 A. Lead days for payroll expenses were based on the Company’s salary and wages payroll
5 schedule, which pays employees on a bi-weekly basis. Lead days for payroll expenses
6 were based on the number of days from the midpoint of the pay period to the payment
7 date.

8 **Q. How were lead days derived for incentive compensation expenses?**

9 A. Lead days for the Company’s Incentive Compensation expenses were based on the
10 number of days from the midpoint of the performance period (*i.e.*, twelve-months
11 ending December 31, 2022) to the payment date.

12 **Q. How were lead days derived for 401k payments?**

13 A. Lead days for 401k payments were based on the number of days from the payroll
14 payment date to the deposit date for 401k payments.

15 **Q. How were lead days derived for pension expenses?**

16 A. Lead days for pension expenses were based on the Company’s pension payment
17 schedule. Pension payments were made quarterly in the month following the service
18 period. Lead days for pension expenses were based on the number of days from the
19 midpoint of the quarter to the payment date.

20 **Q. How were lead days derived for OPEB payments?**

21 A. Lead days for OPEB payments were based on the Company’s OPEB payment schedule.
22 OPEB payments were made annually in February for the prior calendar year. Lead
23 days for OPEB payments were based on the number of days from the midpoint of the
24 calendar year to the payment date.

1 **Q. How were lead days derived for employee benefits?**

2 A. Lead days for employee benefits were based on the Company's payment schedule for
3 medical and dental expenses. Medical payments are made monthly at the end of the
4 service period (*i.e.*, calendar month). Lead days for medical expenses were based on
5 the number of days from the midpoint of the service period to the payment date.

6 **Q. How were lead days derived for other non-labor O&M expenses?**

7 A. Lead days for Other O&M expenses were based on the sum of two components: (1)
8 lead days from the service period to the invoice date; and (2) lead days from the invoice
9 date to the payment date.

10 Lead days from the service period to the invoice date were based on a stratified
11 sample of invoices paid by the Company over the period January 1, 2022, through
12 December 31, 2022. Lead days were measured for each invoice in the sample as the
13 number of days from the midpoint of the service period to the invoice date. Invoices
14 were then converted to "dollar days" to reflect a weighting by expense amount and then
15 summed by invoice amounts to determine the lead days. The study relies on a sample
16 of invoices to measure the lead days because the service periods were not readily
17 available electronically and required detailed inspection of individual invoices.

18 Lead days from the invoice date to the payment date were based on the full
19 population of invoices paid by the Company over the period January 1, 2022, through
20 December 31, 2022. Lead days were measured for each invoice as the number of days
21 from the invoice date to the payment date. Invoices were then converted to "dollar
22 days" to reflect a weighting by expense amount and then summed by invoice amounts
23 to determine the lead days.

1 **2. Income Tax Expense**

2 **Q. How were lead days derived for federal income taxes?**

3 A. Lead days for federal income taxes were based on due dates for estimated tax payments:
4 April 15, June 15, September 15, and December 15. Lead days for federal income tax
5 payments were based on the number of days from the midpoint of the taxing period
6 (*i.e.*, the calendar year) to the due dates for estimated tax payments.

7 **Q. How were lead days derived for state income taxes?**

8 A. Lead days for state income taxes were based on due dates for estimated tax payments:
9 April 15, June 15, September 15, and December 15. Lead days for state income tax
10 payments were based on the number of days from the midpoint of the taxing period
11 (*i.e.*, the calendar year) to the due dates for estimated tax payments.

12 **3. Taxes Other than Income Taxes**

13 **Q. Please describe development of lead days for taxes other than income taxes.**

14 A. Taxes Other than Income Taxes include: (1) payroll-related taxes (FICA, Federal
15 Unemployment, and State Unemployment); (2) Property taxes; and (3) Missouri Public
16 Service Commission Assessment.

17 **Q. How were lead days derived for taxes other than income taxes?**

18 A. Lead days for payroll-related taxes were based on the number of days from the liability
19 date to the payment date. Lead days for non-payroll-related taxes were based on the
20 number of days from the midpoint of the taxing period to the payment date.

1 **4. Interest Expense**

2 **Q. How were lead days derived for interest expense?**

3 A. Lead days for interest expense were based on actual interest payments in the test year.
4 The lead days were calculated from the midpoint of the service period for which the
5 interest was paid to the payment date.

6 **IV. CONCLUSION**

7 **Q. Please summarize the results of the lead-lag study.**

8 A. The results of the lead-lag study are summarized in **Direct Schedule TSL-2**. The
9 results of the lead-lag study were provided to Company witness Cindy Wilson and
10 applied to adjusted test year expenses to derive the Company's proposed CWC
11 requirement.

12 **Q. Does this conclude your direct testimony?**

13 A. Yes, it does.

VERIFICATION

I, Timothy S Lyons, under penalty of perjury, on this 13th day of March 2024, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Timothy S. Lyons