



## Memphis Light, Gas and Water Division

### Water Cost of Service Study and Financial Projection Report

May 18, 2026



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May 15, 2026

Rodney Cleek P.E, CEM, CMFO  
Manager of Budget, Plant, Rates  
Memphis Light, Gas and Water Division  
200 S. Main Street  
Memphis, TN 38103

Dear Mr. Cleek:

We are pleased to present the report for the water cost of service study and financial projection for Memphis Light, Gas and Water Division (MLGW). This report is a revision to the original draft report dated September 16, 2025. The following changes were made:

1. The 2026 budget revenues, expenses and current cash balances were incorporated into the study.
2. The rate class W10 - 10" and 12" meter data was updated. The most recent 3-year average data for the W10 - 12" and 10" meter was used.
3. No other data was updated.

The specific purposes of this rate study are:

- Determine water utility's revenue requirements for fiscal year 2026
- Determine rate adjustments needed to meet targeted revenue requirements

This report includes results of the water cost of service study and financial projection and considerations on future rate designs.

This report is intended for information and use by the utility and management for the purposes stated above and is not intended to be used by anyone except the specified parties.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dawn Lund", is written over a light blue circular stamp.

Dawn Lund

Vice-President, Utility Financial Solutions, LLC

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## 1. Introduction

This report was prepared to provide Memphis Light, Gas and Water Division (MLGW) with a water cost of service study and financial projection and a comprehensive examination of its existing rate structure by an outside party.

The specific purposes of the study are identified below:

1. ***Determine water utility's revenue requirements for fiscal year 2026.*** MLGW's revenue requirements were projected for the period from 2026 – 2030 and included adjustments for the following:
  - a. 2026 budgeted and projected costs
  - b. The cash balance was updated to match MLGW's internal reported cash balance
  - c. The rate track was updated to reflect MLGW's internal budget
  - d. The capital improvement plan projected over next five years as provided by MLGW
2. ***Identify rate adjustments needed to meet targeted revenue requirements.*** The primary purpose of this study is to identify appropriate revenue requirements, and rate adjustments needed to meet targeted revenue requirements. The report includes a long-term rate track for MLGW to help ensure the financial stability of the utility in future years.
3. ***Identify financial metrics required to meet bond covenant requirements.***
4. ***Identify the appropriate monthly customer charge for each customer class.*** The monthly customer charge consists of fixed costs to service customers.

## 2. Financial Projection Summary

### Utility Rate Process

MLGW retained Utility Financial Solutions, LLC to review utility rates and cost of service. This study follows the process set forth for best practice through the American Water Works Association. This report includes results of the water cost of service and unbundling study and considerations on future rate changes.

Water consumption can vary significantly due to factors like weather (e.g., a hot, dry summer leading to more irrigation). This variability is a significant challenge for water utility planning since revenues can fluctuate with water usage while many of the utility's costs are fixed. The study assumes little to no growth in water consumption during the projection period. This is a conservative assumption and helps to ensure financial stability.

The assumptions used to develop the expense projection are described in greater detail in the "Significant Assumptions" section of this report and were developed collaboratively with staff.

### Utility Revenue Requirements

To determine revenue requirements, the revenues and expenses for fiscal years 2022, 2023, 2024 and budget 2025 and 2026 were analyzed, with adjustments made to reflect projected operating characteristics. ***The projected financial summary are for cost of service purposes only.***

Table 1 is the projected financial summary for the Water Department from 2026–2030. The 2026 rate of return calculation established an operating income target of \$22.3M (See Table 6).

Adjusted operating income for 2026 is projected at a loss of \$-4.0M and losses increase to \$-26.5M by 2030 without rate adjustments. Adjusted operating income is one target that helps to determine if rate adjustments are needed. The following pages review cash flow and debt coverage ratio which are also important indicators.

**Table 1 – Projected Financial Summary**

| Fiscal Year | Projected Rate Adjustments | Capital Improvements Plan | Projected Revenues | Projected Expenses | Adjusted Operating Income | Targeted Operating Income | Projected Cash Balances | Targeted Minimum Cash Reserve | Debt Coverage Ratio | Bond Issues Including Fees |
|-------------|----------------------------|---------------------------|--------------------|--------------------|---------------------------|---------------------------|-------------------------|-------------------------------|---------------------|----------------------------|
| 2026        | 0.0%                       | \$ 50,000,000             | \$ 131,454,661     | \$ 130,658,597     | \$ (4,003,936)            | \$ 22,307,937             | \$ 28,080,369           | \$ 45,401,283                 | 1.66                | -                          |
| 2027        | 0.0%                       | 66,951,417                | 129,397,653        | 137,446,135        | (12,848,482)              | 17,550,777                | 151,520,086             | 51,438,231                    | 0.28                | \$ 200,000,000             |
| 2028        | 0.0%                       | 75,295,942                | 129,397,653        | 141,863,120        | (17,265,467)              | 26,925,903                | 56,529,245              | 58,271,869                    | 0.02                | -                          |
| 2029        | 0.0%                       | 64,336,276                | 129,397,653        | 146,427,294        | (21,829,641)              | 29,090,132                | (30,656,602)            | 59,408,816                    | (0.14)              | -                          |
| 2030        | 0.0%                       | 27,000,000                | 129,397,653        | 151,143,808        | (26,546,155)              | 29,848,770                | (84,689,849)            | 60,186,597                    | (0.34)              | -                          |

### Projected Cash Flow

The utility's basic financial statements are kept on an accrual accounting basis. This means they recognize expenses when they are incurred and revenues when they are earned, rather than when cash changes hands. In the accrual basis of accounting, depreciation is recognized as an expense, even though it doesn't involve an actual cash outflow.

Table 2 is the projected cash flow for 2026 – 2030, including projections of capital improvements and beginning cash balance as provided by MLGW. To project actual cash flow, several adjustments are made to the accrual basis financial statements:

- Depreciation expense (a non-cash item) is added back since it reduces net income on the income statement but doesn't involve an actual cash outflow.
- Debt principal payments are subtracted. These are actual cash outflows, but they are not treated as expenses on the income statement under accrual accounting.
- Capital Expenditures are subtracted. Like principal repayments, these are actual cash outflows that are not treated as expenses on the income statement.

It's important to note that changes in the capital improvement plan can have a significant impact on projected cash balances, as they involve large expenditures.

- If new projects are added, or if existing projects become more expensive than anticipated, this can significantly reduce projected future cash balances.
- Conversely, delaying or scaling back capital projects can preserve cash.

Based on these assumptions and projections, the utility expects to have a cash balance of \$28M in 2026 and falling to \$-84.7M in 2030 under the current rates. The suggested minimum cash reserve level for 2026 is \$45.4M and 60.2M by 2030.

**Table 2 – Projected Cash Flows (without rate adjustments)**

| Description                        | Projected 2026       | Projected 2027       | Projected 2028       | Projected 2029       | Projected 2030       |
|------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Projected Cash Flows</b>        |                      |                      |                      |                      |                      |
| Net Income                         | \$ (4,057,296)       | \$ (16,040,608)      | \$ (26,488,119)      | \$ (30,034,331)      | \$ (34,631,145)      |
| Depreciation Expense/Amortization  | 13,981,000           | 14,680,050           | 15,414,053           | 16,184,755           | 16,993,993           |
| Subtract Debt Principal            | (4,785,000)          | (8,248,309)          | (8,620,832)          | (8,999,995)          | (9,396,095)          |
| Add Bond Sale Proceeds             | -                    | 200,000,000          | -                    | -                    | -                    |
| Cash Available from Operations     | \$ 5,138,704         | \$ 190,391,134       | \$ (19,694,899)      | \$ (22,849,571)      | \$ (27,033,247)      |
| Estimated Annual Capital Additions | \$ 50,000,000        | \$ 66,951,417        | \$ 75,295,942        | \$ 64,336,276        | \$ 27,000,000        |
| Net Cash From Operations           | \$ (44,861,296)      | \$ 123,439,717       | \$ (94,990,841)      | \$ (87,185,847)      | \$ (54,033,247)      |
| Beginning Cash Balance             | \$ 72,941,665        | \$ 28,080,369        | \$ 151,520,086       | \$ 56,529,245        | \$ (30,656,602)      |
| Ending Cash Balance                | \$ 28,080,369        | \$ 151,520,086       | \$ 56,529,245        | \$ (30,656,602)      | \$ (84,689,849)      |
| <b>Targeted Minimum</b>            | <b>\$ 45,401,283</b> | <b>\$ 51,438,231</b> | <b>\$ 58,271,869</b> | <b>\$ 59,408,816</b> | <b>\$ 60,186,597</b> |

MLGW intends to bond for capital projects. Bonds should be considered in FY 2027 for related capital. The timing of the debt and the related projects are shown in Table 3 below.

**Table 3 – Anticipated Bonding and Related Capital**

| Fiscal Year | Capital Improvements Plan | Bond Issues Including Fees | Period | Rate  |
|-------------|---------------------------|----------------------------|--------|-------|
| 2026        | \$ 50,000,000             | -                          | 30     | 4.50% |
| 2027        | 66,951,417                | \$ 200,000,000             | 30     | 4.50% |
| 2028        | 75,295,942                | -                          | 30     | 4.50% |
| 2029        | 64,336,276                | -                          | 30     | 4.50% |
| 2030        | 27,000,000                | -                          | 30     | 4.50% |

## Minimum Cash Reserve

Table 4 details the minimum level of cash reserves required to help ensure timely replacement of assets and to provide financial stability of the water utility. The methodology used to establish this target is based on the following assumptions.

| Allocator                                             | Risk Factor Assigned                       |
|-------------------------------------------------------|--------------------------------------------|
| Operation & Maintenance Less Depreciation Expense     | 45 day working capital lag = 12.3% factor  |
| Historical Rate Base                                  | Less than 50% depreciated = 1.0% factor    |
| Current Portion of Debt Service Payment               | MLGW water's highest annual debt payment   |
| Five Year Capital Improvements – Net of Bond Proceeds | 20% of MLGW water's five year capital plan |

Based on these assumptions, MLGW should maintain a minimum of \$45 - 60M in cash reserves over the projection period.

**Table 4 – Minimum Cash Reserves (without rate adjustments)**

| Description                                       | Projected 2026       | Projected 2027        | Projected 2028       | Projected 2029         | Projected 2030         |
|---------------------------------------------------|----------------------|-----------------------|----------------------|------------------------|------------------------|
| <b>Minimum Cash Reserve Levels Determinants</b>   |                      |                       |                      |                        |                        |
| Operation & Maintenance Less Depreciation Expense | \$ 116,677,597       | \$ 122,766,085        | \$ 126,449,067       | \$ 130,242,539         | \$ 134,149,815         |
| Historical Rate Base                              | 786,214,472          | 853,165,889           | 928,461,831          | 992,798,107            | 1,019,798,107          |
| Current Portion of Debt Service Payment           | 7,756,026            | 13,318,435            | 20,097,485           | 20,128,685             | 20,160,085             |
| Next Years Capital Improvements - Net of bond p   | 16,716,727           | 16,716,727            | 16,716,727           | 16,716,727             | 16,716,727             |
| Five Year Capital Improvements - Net of bond p    | 83,583,635           | 83,583,635            | 83,583,635           | 83,583,635             | 83,583,635             |
| <b>Minimum Cash Reserve Allocation</b>            |                      |                       |                      |                        |                        |
| Operation & Maintenance Less Depreciation Expense | 12.3%                | 12.3%                 | 12.3%                | 12.3%                  | 12.3%                  |
| Historical Rate Base                              | 1%                   | 1%                    | 1%                   | 1%                     | 1%                     |
| Current Portion of Debt Service Payment           | 83%                  | 83%                   | 83%                  | 83%                    | 83%                    |
| Five Year Capital Improvements - Net of bond p    | 20%                  | 20%                   | 20%                  | 20%                    | 20%                    |
| % Plant Depreciated                               | 35%                  | 34%                   | 33%                  | 32%                    | 33%                    |
| <b>Calculated Minimum Cash Level</b>              |                      |                       |                      |                        |                        |
| Operation & Maintenance Less Depreciation Expense | \$ 14,384,909        | \$ 15,135,545         | \$ 15,589,611        | \$ 16,057,299          | \$ 16,539,018          |
| Historical Rate Base                              | 7,862,145            | 8,531,659             | 9,284,618            | 9,927,981              | 10,197,981             |
| Current Portion of Debt Service Reserve           | 6,437,502            | 11,054,301            | 16,680,912           | 16,706,808             | 16,732,870             |
| Five Year Capital Improvements - Net of bond p    | 16,716,727           | 16,716,727            | 16,716,727           | 16,716,727             | 16,716,727             |
| <b>Minimum Cash Reserve Levels</b>                | <b>\$ 45,401,283</b> | <b>\$ 51,438,231</b>  | <b>\$ 58,271,869</b> | <b>\$ 59,408,816</b>   | <b>\$ 60,186,597</b>   |
| <b>Projected Cash Reserves</b>                    | <b>\$ 28,080,369</b> | <b>\$ 151,520,086</b> | <b>\$ 56,529,245</b> | <b>\$ (30,656,602)</b> | <b>\$ (84,689,849)</b> |

Projected cash reserves are below minimum cash reserve levels with current rates, assumptions, and projected capital plans.

## Debt Coverage Ratio

Table 5 is the projected debt coverage ratios with capital additions as provided by MLGW. Debt coverage ratio is a measurement of debt affordability and measures the cash flow from operations in that fiscal year. A ratio of 1, indicates there was enough cash flow from operations to pay the debt payment one time. The minimum debt coverage ratio for prudent financial planning purposes is 1.45.

Maintaining a 1.45 debt coverage ratio is good business practice and helps to achieve the following:

- Helps to ensure debt coverage ratios are met in years when sales are low due to cold or wet summers or loss of a major customer(s).
- When debt coverage ratios are consistently met, it may help obtain a higher bond rating if revenue bonds are sold in the future, to lower interest cost.

**Table 5 – Projected Debt Coverage Ratios (without rate adjustments)**

| Description                                      | Projected 2026 | Projected 2027  | Projected 2028  | Projected 2029  | Projected 2030  |
|--------------------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|
| Debt Coverage Ratio                              |                |                 |                 |                 |                 |
| Net Income                                       | \$ (4,057,296) | \$ (16,040,608) | \$ (26,488,119) | \$ (30,034,331) | \$ (34,631,145) |
| Add Depreciation/Amortization Expense            | 13,981,000     | 14,680,050      | 15,414,053      | 16,184,755      | 16,993,993      |
| Add Interest Expense                             | 2,971,026      | 5,070,126       | 11,476,652      | 11,128,690      | 10,763,990      |
| Cash Generated from Operations                   | \$ 12,894,730  | \$ 3,709,568    | \$ 402,586      | \$ (2,720,886)  | \$ (6,873,162)  |
| Debt Principal and Interest                      | \$ 7,756,026   | \$ 13,318,435   | \$ 20,097,485   | \$ 20,128,685   | \$ 20,160,085   |
| <b>Projected Debt Coverage Ratio (Covenants)</b> | <b>1.66</b>    | <b>0.28</b>     | <b>0.02</b>     | <b>(0.14)</b>   | <b>(0.34)</b>   |
| <b>Minimum Debt Coverage Ratio</b>               | <b>1.45</b>    | <b>1.45</b>     | <b>1.45</b>     | <b>1.45</b>     | <b>1.45</b>     |

Debt coverage falls below the UFS target ratio in 2027 - 2030 at the current rates.

## Target Operating Income

The target operating income, is an essential concept in utility finance. It ensures the utility can meet its current financial obligations, plan for future capital needs, and operate in a financially sustainable and responsible manner. This concept is central to rate setting and is designed to balance the need for financial sustainability with the goal of fair and equitable rates for customers.

The operating income target aims to address several key financial needs for the utility.

- A. Funding of interest expense on outstanding debt principal – Utilities often take on debt to fund major capital projects. The interest on this debt is a recurring expense that must be paid to keep the utility in good financial standing. By setting rates to achieve a target operating income, the utility ensures it has enough revenue to cover these interest payments.
- B. Funding of the inflationary increase on assets invested in the system – as time passes and inflation occurs, the cost to replace or upgrade the utility's assets increases. Target operating income should be sufficient to cover these increased costs, ensuring that the utility can continue to maintain and replace its infrastructure as needed without placing a financial burden on future generations.

Maintaining an ideal operating income helps ensure that current customers are paying for the full cost of the services they are receiving, rather than deferring these costs to future generations. This is a key principle of intergenerational equity and ensures the utility remains financially viable. Table 6 establishes a utility basis target for operating income, starting at \$22.3M in 2026 and ending with \$29.85M in 2030.

**Table 6 – Target Operating Income Calculation (without rate adjustments)**

| Description                          | Projected 2026        | Projected 2027         | Projected 2028         | Projected 2029         | Projected 2030         |
|--------------------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| Target Operating Income Determinants |                       |                        |                        |                        |                        |
| Net Book Value/Working Capital       | \$ 510,080,868        | \$ 562,652,619         | \$ 622,834,892         | \$ 671,286,797         | \$ 681,593,187         |
| Outstanding Principal on Debt        | 105,390,000           | 297,141,691            | 288,520,859            | 279,520,864            | 270,124,769            |
| System Equity                        | \$ 404,690,868        | \$ 265,510,927         | \$ 334,314,033         | \$ 391,765,933         | \$ 411,468,418         |
| Debt:Equity Ratio                    | 21%                   | 53%                    | 46%                    | 42%                    | 40%                    |
| Target Operating Income Allocation   |                       |                        |                        |                        |                        |
| Interest on Debt                     | 2.82%                 | 1.71%                  | 3.98%                  | 3.98%                  | 3.98%                  |
| System Equity                        | 4.78%                 | 4.70%                  | 4.62%                  | 4.58%                  | 4.64%                  |
| Target Operating Income              |                       |                        |                        |                        |                        |
| Interest on Debt                     | \$ 2,971,026          | \$ 5,070,126           | \$ 11,476,652          | \$ 11,128,690          | \$ 10,763,990          |
| System Equity                        | \$ 19,336,911         | \$ 19,336,911          | \$ 15,449,251          | \$ 17,961,442          | \$ 19,084,780          |
| <b>Target Operating Income</b>       | <b>\$ 22,307,937</b>  | <b>\$ 24,407,037</b>   | <b>\$ 26,925,903</b>   | <b>\$ 29,090,132</b>   | <b>\$ 29,848,770</b>   |
| <b>Projected Operating Income</b>    | <b>\$ (4,003,936)</b> | <b>\$ (12,848,482)</b> | <b>\$ (17,265,467)</b> | <b>\$ (21,829,641)</b> | <b>\$ (26,546,155)</b> |
| <b>Rate of Return in %</b>           | <b>4.4%</b>           | <b>4.3%</b>            | <b>4.3%</b>            | <b>4.3%</b>            | <b>4.4%</b>            |

Projected operating income is below this target throughout the projection period, suggesting that revenue requirements (and thus rates) will likely need to increase over time to ensure the utility's financial health.

## Projected Rate Track

Increasing rates requires balancing the financial health of the utility with the financial impact on customers and cost of service results. Table 7 is the summary financial projection without any rate changes. Cash balances, operating income, and the debt coverage ratio fall below suggested minimums.

**Table 7 – Summary of Financials without Rate Adjustments**

| Fiscal Year | Projected Rate Adjustments | Capital Improvements Plan | Projected Revenues | Projected Expenses | Adjusted Operating Income | Targeted Operating Income | Projected Cash Balances | Targeted Minimum Cash Reserve | Debt Coverage Ratio | Bond Issues Including Fees |
|-------------|----------------------------|---------------------------|--------------------|--------------------|---------------------------|---------------------------|-------------------------|-------------------------------|---------------------|----------------------------|
| 2026        | 0.0%                       | \$ 50,000,000             | \$ 131,454,661     | \$130,658,597      | \$ (4,003,936)            | \$ 22,307,937             | \$ 28,080,369           | \$ 45,401,283                 | 1.66                | -                          |
| 2027        | 0.0%                       | 66,951,417                | 129,397,653        | 137,446,135        | (12,848,482)              | 17,550,777                | 151,520,086             | 51,438,231                    | 0.28                | \$ 200,000,000             |
| 2028        | 0.0%                       | 75,295,942                | 129,397,653        | 141,863,120        | (17,265,467)              | 26,925,903                | 56,529,245              | 58,271,869                    | 0.02                | -                          |
| 2029        | 0.0%                       | 64,336,276                | 129,397,653        | 146,427,294        | (21,829,641)              | 29,090,132                | (30,656,602)            | 59,408,816                    | (0.14)              | -                          |
| 2030        | 0.0%                       | 27,000,000                | 129,397,653        | 151,143,808        | (26,546,155)              | 29,848,770                | (84,689,849)            | 60,186,597                    | (0.34)              | -                          |

The study identifies increasing current revenues beginning in 2026 to work towards the financial targets. The forecasted revenue change in percentage from MLGW's 2026 budget was used in table 8 as projected rate adjustments. Table 8 is a summary of the financial results detailing the projected revenue adjustments.

**Table 8 – Summary of Financials with Projected Rate Adjustments**

| Fiscal Year | Projected Rate Adjustments | Capital Improvements Plan | Projected Revenues | Projected Expenses | Adjusted Operating Income | Targeted Operating Income | Projected Cash Balances | Targeted Minimum Cash Reserve | Debt Coverage Ratio | Bond Issues Including Fees |
|-------------|----------------------------|---------------------------|--------------------|--------------------|---------------------------|---------------------------|-------------------------|-------------------------------|---------------------|----------------------------|
| 2026        | 0.00%                      | \$ 50,000,000             | \$ 131,454,661     | \$130,658,597      | \$ (4,003,936)            | \$ 22,307,937             | \$ 28,080,369           | \$ 45,401,283                 | 1.66                | -                          |
| 2027        | 12.0%                      | 66,951,417                | 144,624,651        | 137,446,135        | 2,378,517                 | 17,543,316                | 166,747,084             | 51,438,231                    | 1.42                | \$ 200,000,000             |
| 2028        | 12.0%                      | 75,295,942                | 161,678,889        | 141,863,120        | 15,015,770                | 26,913,030                | 104,037,480             | 58,271,869                    | 1.63                | -                          |
| 2029        | 12.0%                      | 64,336,276                | 180,779,636        | 146,427,294        | 29,552,342                | 29,072,905                | 68,233,616              | 59,408,816                    | 2.42                | -                          |
| 2030        | 0.00%                      | 27,000,000                | 180,779,636        | 151,143,808        | 24,835,828                | 29,826,645                | 65,582,352              | 60,186,597                    | 2.21                | -                          |

This rate track should improve operating income, projected cash balances and debt coverage ratio. Depending on the system improvement timetable, additional changes may be needed throughout the projection period. Due to cost changes, inflationary factors, and growth, financial projections should be reviewed on an annual basis.

### 3. Cost of Service Summary

A cost of service study was completed for FY2025 to determine the cost of providing service to each class of customers and to assist in design of water rates for customers. A cost of service study consists of the following general steps but may vary by utility:

1. Determine utility revenue requirement for test year 2025.
2. Classify utility expenses into common cost pools.

| Source of Supply | Distribution    | Customer       |
|------------------|-----------------|----------------|
| Treatment        | Transmission    | Administrative |
| Reservoirs       | Fire Protection | Hydrants       |

3. Functionalize within cost pools.

| Variable           | Fixed           |
|--------------------|-----------------|
| Base Commodity     | Capacity        |
| Max Day Commodity  | Customer        |
| Max Hour Commodity | Fire Protection |

4. Allocate costs to customer classes based on the class's contribution to utility expenses – Class usage patterns were analyzed and compared to system use to develop peaking factors used in allocating the variable components of the rate (Base, Max Day, Max Hour). Number of meters, meter costs, meter size, and meter equivalent ratios were used to allocate the fixed components of the rate (Capacity Fixed, Customer, Fire Protection).
5. Compare revenues received from each class to the cost of service. The cost of service provides guidance for the direction of the rate design.

The cost of service summary is included as Table 9 which compares the projected cost to serve each class (fixed and variable) with the revenue received from each class. The “% change” column is the revenue adjustment necessary to meet projected cost of service requirements.

**Table 9 – Cost of Service Summary**

| Customer Class               | Cost of Service<br>(\$) | Projected<br>Revenues<br>(\$) | % Change     |
|------------------------------|-------------------------|-------------------------------|--------------|
| Residential Inside City      | \$ 64,549,477           | \$ 45,945,437                 | 40.5%        |
| Residential Outside City     | 21,927,899              | 18,375,828                    | 19.3%        |
| General Service Inside City  | 47,159,221              | 44,441,507                    | 6.1%         |
| General Service Outside City | 5,864,394               | 5,615,694                     | 4.4%         |
| Large General Service        | 7,568,863               | 5,412,718                     | 39.8%        |
| Fire Protection              | 9,167,970               | 7,100,468                     | 29.1%        |
| <b>Total</b>                 | <b>\$ 156,237,825</b>   | <b>\$ 126,891,653</b>         | <b>23.1%</b> |

## Cost of Service Components

### Summary of Rate Components

The cost of service study is a critical tool in utility finance and management. It ensures that rates are set based on actual costs, and it helps to distribute those costs fairly among customers, based on how they use the service. It provides guidance for setting rates that support the utility's financial health and its capacity to provide reliable service in the long-term. The purpose of the study is to allocate costs between flow (commodity costs, variable) and customer service costs (customer costs, fixed). The cost of service study was based on recognized procedures from the American Water Works Association.

**Customer Costs (Fixed)** – These are fixed costs, associated with serving customers regardless of how much water they use. They include the costs of operation and maintenance related to meters, services, meter reading, billing, customer service, and a base amount of distribution. Because these costs are largely fixed, they are typically recovered through a fixed ‘customer charge’ that customers pay regardless of their water use. This portion of the rate ensures that the utility can cover its basic operating costs, even if water use fluctuates significantly. Allocating these costs based on the relative cost of meters, services, and the number of customers ensures that each customer is paying their fair share of these basic operating costs.

**Commodity Costs (Variable)** – These are the variable costs associated with the actual production and delivery of water. They can include costs related to water supply, water treatment, pumping (energy costs), and distribution infrastructure. Because these costs tend to vary with the amount of water used, they are typically recovered through a variable ‘commodity charge’ that is based on the volume of water consumed.

Table 10 details the current minimum bill and provides a comparison with the monthly cost of service customer charge. The rates below are not the suggested rates; they are used as a guide to move toward cost of service slowly over time. Classes that charge at or above cost of service may still see an increase due to meeting revenue requirements, but that increase may be lower than the average.

**Table 10 – Comparison of Current Minimum Charge with Monthly Cost of Service Customer Charge**

| Rate Class - Unit Costs              | COS Customer Charge | Minimum Bill (Memphis) |
|--------------------------------------|---------------------|------------------------|
| Residential (Inside City) W-1 (5, \$ | 15.51               | \$ 10.12               |
| Residential (Inside City) W-1 (1'    | 37.28               | 25.90                  |
| Residential (Inside City) W-1 (1.    | 76.61               | 58.28                  |
| Residential (Inside City) W-1 (2'    | 121.06              | 103.61                 |
| Residential (Outside City) W-2 (     | 19.28               | 14.09                  |
| Residential (Outside City) W-2 (     | 46.41               | 36.06                  |
| Residential (Outside City) W-2 (     | 95.13               | 81.09                  |
| Residential (Outside City) W-2 (     | 129.29              | 144.13                 |
| General Service (Inside City) W-     | 15.51               | 19.38                  |
| General Service (Inside City) W-     | 37.28               | 38.73                  |
| General Service (Inside City) W-     | 76.61               | 77.51                  |
| General Service (Inside City) W-     | 121.06              | 161.55                 |
| General Service (Inside City) W-     | 230.40              | 322.99                 |
| General Service (Inside City) W-     | 378.47              | 483.01                 |
| General Service (Inside City) W-     | 745.50              | 611.01                 |
| General Service (Inside City) W-     | 1,181.67            | 739.06                 |
| General Service (Inside City) W-     | 1,702.93            | 1,530.94               |
| General Service (Outside City) V     | 19.28               | 29.64                  |
| General Service (Outside City) V     | 46.41               | 59.27                  |
| General Service (Outside City) V     | 95.13               | 118.50                 |
| General Service (Outside City) V     | 150.78              | 246.92                 |
| General Service (Outside City) V     | 286.60              | 493.87                 |
| General Service (Outside City) V     | 471.25              | 738.05                 |
| General Service (Outside City) V     | 929.24              | 933.70                 |
| General Service (Outside City) V     | 1,473.90            | 1,129.32               |
| General Service (Outside City) V     | 2,123.64            | 2,339.41               |
| Large General Service (Outside       | 19.28               | 29.64                  |
| Large General Service (Inside Ci     | 15.51               | 19.38                  |
| Large General Service (Inside Ci     | 76.61               | 77.51                  |
| Large General Service (Inside Ci     | 121.06              | 161.55                 |
| Large General Service (Inside Ci     | 230.40              | 322.99                 |
| Large General Service (Inside Ci     | 378.47              | 483.01                 |
| Large General Service (Inside Ci     | 745.50              | 611.01                 |
| Large General Service (Inside Ci     | 1,181.67            | 739.06                 |
| Large General Service (Inside Ci     | 1,702.93            | 1,530.94               |
| Large General Service (Inside Ci     | 3,127.48            | 2,136.16               |

Table 11 outlines the average COS commodity rates compared to the current average commodity charge. The rates below are not the suggested rates. They are used as a guide to move toward cost of service slowly over time.

**Table 11 – Comparison of Current Commodity Costs with Cost of Service**

| <b>Commodity Summary</b> | <b>Cost</b>   | <b>Units</b> | <b>COS Avg Rate</b> | <b>Average<br/>Current Rate</b> |
|--------------------------|---------------|--------------|---------------------|---------------------------------|
| Residential Inside       | \$ 28,435,252 | 14,843,540   | \$ 1.92             | \$ 2.39                         |
| Residential Outside      | 9,689,083     | 4,029,243    | 2.40                | 3.73                            |
| General Service Inside   | 33,318,797    | 19,564,633   | 1.70                | 1.82                            |
| General Service Outside  | 3,955,026     | 1,388,596    | 2.85                | 2.81                            |
| Large General Service    | 7,364,132     | 4,116,903    | 1.79                | 1.31                            |

The utility currently has a declining rate structure. The large users tend to fall in the last block which will lower the average current rate.

## Combined Cost Summary

Table 12 compares the average all-in cost of service rate for each customer class with the current all-in average rates.

**Table 12 – Total Costs by Customer Class**

| <b>Combined Charges Summary</b> | <b>Cost</b>   | <b>Units</b> | <b>COS Avg Rate</b> | <b>Average<br/>Current Rate</b> |
|---------------------------------|---------------|--------------|---------------------|---------------------------------|
| Residential Inside              | \$ 64,549,477 | 14,843,540   | \$ 4.35             | \$ 3.10                         |
| Residential Outside             | 21,927,899    | 4,029,243    | 5.44                | 4.56                            |
| General Service Inside          | 47,159,221    | 19,564,633   | 2.41                | 2.27                            |
| General Service Outside         | 5,864,394     | 1,388,596    | 4.22                | 4.04                            |
| Large General Service           | 7,568,863     | 4,116,903    | 1.84                | 1.31                            |
| Fire Protection                 | 9,167,970     | 16,508,555   | 0.56                | 0.43                            |

## 4. Significant Assumptions

### General Assumptions

This section outlines the procedures used to develop the cost of service for MLGW and the related significant assumptions.

MLGW should consider bonding for capital projects.

**Table 13 – Bonding Assumptions for Capital Projects**

| Fiscal Year | Capital Improvements Plan | Bond Issues Including Fees | Period | Rate  |
|-------------|---------------------------|----------------------------|--------|-------|
| 2026        | \$ 50,000,000             | -                          | 30     | 4.50% |
| 2027        | 66,951,417                | \$ 200,000,000             | 30     | 4.50% |
| 2028        | 75,295,942                | -                          | 30     | 4.50% |
| 2029        | 64,336,276                | -                          | 30     | 4.50% |
| 2030        | 27,000,000                | -                          | 30     | 4.50% |

### Forecasted Operating Expenses

Forecasted expenses were based on 2022, 2023, 2024 and budget 2025 and 2026 adjusted for inflation. Table 14 is a summary of the expenses used in the analysis.

**Table 14 – Projected Operating Expenses**

| Description                         | Projected 2026        | Projected 2027        | Projected 2028        | Projected 2029        | Projected 2030        |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Operating Expenses:</b>          |                       |                       |                       |                       |                       |
| Treatment Expense                   | \$ 22,817,746         | \$ 24,545,996         | \$ 25,282,376         | \$ 26,040,847         | \$ 26,822,072         |
| Total Treatment O&M                 | 3,317,727             | 4,451,550             | 4,585,097             | 4,722,649             | 4,864,329             |
| Total Production Expense            | \$ 26,135,473         | \$ 28,997,546         | \$ 29,867,472         | \$ 30,763,496         | \$ 31,686,401         |
| <b>Total Water Supply Expense</b>   | <b>\$ 26,135,473</b>  | <b>\$ 28,997,546</b>  | <b>\$ 29,867,472</b>  | <b>\$ 30,763,496</b>  | <b>\$ 31,686,401</b>  |
| Distribution                        |                       |                       |                       |                       |                       |
| Distribution Operations             | \$ 73,308,819         | \$ 78,433,777         | \$ 80,786,790         | \$ 83,210,393         | \$ 85,706,705         |
| Distribution Maintenance            | 17,233,305            | 15,334,762            | 15,794,805            | 16,268,649            | 16,756,709            |
| Total Distribution Expense          | \$ 90,542,124         | \$ 93,768,539         | \$ 96,581,595         | \$ 99,479,043         | \$ 102,463,414        |
| Other Operating Expenses (Revenues) |                       |                       |                       |                       |                       |
| Depreciation Expense                | 13,981,000            | \$ 14,680,050         | \$ 15,414,053         | \$ 16,184,755         | \$ 16,993,993         |
| Total Other Operating Expenses      | \$ 13,981,000         | \$ 14,680,050         | \$ 15,414,053         | \$ 16,184,755         | \$ 16,993,993         |
| <b>Total Operating Expenses</b>     | <b>\$ 130,658,597</b> | <b>\$ 137,446,135</b> | <b>\$ 141,863,120</b> | <b>\$ 146,427,294</b> | <b>\$ 151,143,808</b> |

### Growth

Growth projections of 0.5% were used for 2026 – 2030.

### Inflation

Inflation was assumed at 3.0% in 2026 – 2030.

**Depreciation Expense**

Depreciation expense was projected based on historical capital additions and discussions with management on future capital additions.

**Capital Improvements**

The capital improvement projections were provided by MLGW. Projections for 2026 – 2030 are outlined in Table 15.

**Table 15 – Capital Improvements Projection**

| Fiscal Year | Capital Improvements Plan |
|-------------|---------------------------|
| 2026        | \$ 50,000,000             |
| 2027        | 66,951,417                |
| 2028        | 75,295,942                |
| 2029        | 64,336,276                |
| 2030        | 27,000,000                |

## 5. Considerations and Additional Information

1. The projected rate track and bonding is provided in the table below.

| Fiscal Year | Projected Rate Adjustments | Capital Improvements Plan | Projected Revenues | Projected Expenses | Adjusted Operating Income | Targeted Operating Income | Projected Cash Balances | Targeted Minimum Cash Reserve | Debt Coverage Ratio | Bond Issues Including Fees |
|-------------|----------------------------|---------------------------|--------------------|--------------------|---------------------------|---------------------------|-------------------------|-------------------------------|---------------------|----------------------------|
| 2026        | 0.00%                      | \$ 50,000,000             | \$ 131,454,661     | \$130,658,597      | \$ (4,003,936)            | \$ 22,307,937             | \$ 28,080,369           | \$ 45,401,283                 | 1.66                | -                          |
| 2027        | 12.0%                      | 66,951,417                | 144,624,651        | 137,446,135        | 2,378,517                 | 17,543,316                | 166,747,084             | 51,438,231                    | 1.42                | \$ 200,000,000             |
| 2028        | 12.0%                      | 75,295,942                | 161,678,889        | 141,863,120        | 15,015,770                | 26,913,030                | 104,037,480             | 58,271,869                    | 1.63                | -                          |
| 2029        | 12.0%                      | 64,336,276                | 180,779,636        | 146,427,294        | 29,552,342                | 29,072,905                | 68,233,616              | 59,408,816                    | 2.42                | -                          |
| 2030        | 0.00%                      | 27,000,000                | 180,779,636        | 151,143,808        | 24,835,828                | 29,826,645                | 65,582,352              | 60,186,597                    | 2.21                | -                          |

2. Unknown events can occur that affect a utility's financial plan. It is recommended that MLGW have the financial projection study updated annually to ensure the utility can meet revenue requirements with the current rate plan. Cost of service studies are separate from the financial projection and can be refreshed every 3-5 years.
3. Cash balances are decreasing without changes in rates. Projected cash balances are below the suggested minimums during the projection period.
4. Debt Coverage Ratio falls below suggested minimum levels in 2027-2030 without changes in rates.
5. Current rate-related revenues are projected to result in operating income below the target operating income for each year. Meeting the operating income target indicates current rates are fully funding system revenue requirements and future replacement cost of current infrastructure.
6. MLGW may consider movements toward cost of service. The cost of service study indicates a variance exists between revenues and costs for certain rate classes.

| Customer Class               | Cost of Service (\$) | Projected Revenues (\$) | % Change |
|------------------------------|----------------------|-------------------------|----------|
| Residential Inside City      | \$ 64,549,477        | \$ 45,945,437           | 40.5%    |
| Residential Outside City     | 21,927,899           | 18,375,828              | 19.3%    |
| General Service Inside City  | 47,159,221           | 44,441,507              | 6.1%     |
| General Service Outside City | 5,864,394            | 5,615,694               | 4.4%     |
| Large General Service        | 7,568,863            | 5,412,718               | 39.8%    |
| Fire Protection              | 9,167,970            | 7,100,468               | 29.1%    |
| Total                        | \$ 156,237,825       | \$ 126,891,653          | 23.1%    |