

**MEMPHIS LIGHT, GAS AND WATER DIVISION
RETIREMENT AND PENSION SYSTEM**

Financial Statements

For the Years Ended December 31, 2018 and 2017

Prepared by: MLGW Retirement and Pension System Staff
220 S. Main Street
Memphis, TN 38103
P. O. Box 430
(901) 528-4408 Phone
(901) 528-7635 Fax

MEMPHIS LIGHT, GAS AND WATER DIVISION
RETIREMENT AND PENSION SYSTEM
Memphis, Tennessee

For the Years Ended December 31, 2018 and 2017

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Letter of Transmittal

MEMPHIS LIGHT, GAS AND WATER DIVISION RETIREMENT AND PENSION SYSTEM

To The MLGW Pension Board and Board of Commissioners:

We are pleased to submit the Annual Report of Memphis Light, Gas and Water Division (MLGW) Retirement and Pension System (the "Plan") for the fiscal year ended December 31, 2018. This report has been prepared in conformity with accounting Principles Generally Accepted in the United States of America (GAAP).

Management is responsible for the preparation and fair presentation of the information. Notes have been included to assist the reader in understanding the financial statements.

The MLGW Plan has been audited by Banks, Finley, White & CO., licensed certified public accountants. The goal of the independent audit was to obtain reasonable assurance that the financial statements of the "Plan" for fiscal year December 31, 2018 were free from material misstatements. The independent audit involved performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements as well as evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management.

The independent auditors concluded, based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that the Plan's financial statements for the fiscal year ended December 31, 2018, are fairly presented in conformity with GAAP. The independent auditor's report is presented as the first component of the report.

GASB Statement No. 34, Basic Financial Statements-and Management Discussion and Analysis-for State and Local Governments (GASB 34) requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of a Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The Plan's MD&A can be found immediately following the report of the independent auditors.

Profile of the Plan – The Memphis Light, Gas and Water Division (the "Division"), a division of the City of Memphis, under a resolution by the Board of Commissioners, established the Memphis Light, Gas and Water Division Retirement and Pension System (the "Plan") to recognize and reward employee contributions to the operations of the Division. The MLGW Pension Plan, which was amended and restated effective January 1, 2015, is part of the Division's overall plan to provide for the future security of its employees and their family members. The MLGW Pension Plan is a single employer defined benefit plan.

The MLGW Pension Plan is funded by contributions made by the employees and by the Division. Benefits under the MLGW Pension Plan normally are paid upon retirement, death, disability, or separation of service. The MLGW Pension Plan is administered by the MLGW Pension Board under the direction of the Board of Commissioners.

The MLGW Pension Board establishes the policies of the MLGW Pension Plan. The Board is comprised of one member of the Board of Commissioners of the Division (who serves as Chairman of the Pension Board), the President of the Division (who serves as Vice-Chairman), the Sr. Vice President, CFO, CAO, and Secretary-Treasurer of Division, two active Participants who have vested rights under the MLGW Pension Plan and who are elected by Participants, one retired Participant who is elected by retired Participants, and one citizen of Shelby County who is appointed by the Board of Commissioners of the Division. The members of the Pension Board serve without compensation.

The MLGW Pension Board shall fulfill the duties of the fiduciary responsible for MLGW Pension Plan administration and shall have overall control of the administration of the Plan, with all powers and discretion necessary to enable it to properly carry out its duties; provided the responsibility and authority to administer to the Plan on a day-to-day basis shall be delegated to the Pension Department.

Funded Status – As of January 1, 2019, the actuarial accrued liability was \$1,542.1 million and the actuarial value of assets was \$1,456.1 million; resulting in an unfunded actuarial accrued liability of \$86.0 million which is a funded ratio of 94.4%. The covered payroll was \$171.8 million.

Acknowledgements – The preparation of this report was made possible by the overall dedication of the MLGW's Pension Department. We would like to express our appreciation of the Pension Department who contributed to the preparation of this report. Special thanks must also be given to Banks, Finley, White & Co., CPAs for their efficient and timely completion of this year's audit.

Respectfully submitted,



Jarl "J.T." Young
President & CEO



Dana Jeanes
SVP, CFO & CAO (Secretary-Treasurer)

MEMPHIS LIGHT, GAS AND WATER DIVISION
RETIREMENT AND PENSION SYSTEM
Memphis, Tennessee

Pension Board Members



Steven Wishnia
Chairman



Jarl "J.T." Young
Vice Chairman



Dana Jeanes
Secretary-Treasurer



Nicholas Newman
Employee Member
Term Expired: 12/31/2018



Nedra Bailey
Employee Member
Term Expires: 12/31/2019



Patricia Howard
Retired Member
Term Expires: 12/31/2020



Pamela Z. Clary
Citizen Member
Term Expires: 6/30/2020

The Memphis Light, Gas and Water Pension Plan provides that the Pension Board shall fulfill duties of the fiduciary responsible for Plan administration and shall have overall control of the administration of the Plan, with all powers and discretion necessary to enable it to properly carry out its duties set forth in the Plan. The responsibility and authority to administer the Plan on a day-to-day basis is delegated to the Pension Department.

PROFESSIONAL CONSULTANTS

The MLGW Pension Plan contracts with several independent consultants to provide services that are vital to the professional and successful operation of the Plan.

INVESTMENT CONSULTANT

Gavion Investment Consulting

Robert A. Longfield, Jr., CFA
Chief Executive Officer

Curtis Williams
Senior Consultant

CUSTODIAN

Northern Trust Corporation

Araceli Estrada
2nd Vice President | Client Service Manager

Kristi Kamykowski
Vice President, Specialist
Client Business Solutions Consulting

DEATH AUDIT CONSULTANT

The Berwyn Group

Jane Potts
Sales Representative

CONSULTING ACTUARY

Segal Consulting

Leon F. (Rocky) Joyner, Jr., FCA, ASA, EA, MAAA
Vice President and National Public Sector
Retirement Practice Leader

Deborah K. Brigham, FCA, ASA, EA, MAAA
Senior Vice President and Consulting Actuary

LEGAL CONSULTANT

Evans & Petree, PC

Frank N. Stockdale Carney
Shareholder

Katharine A. Jungkind
Shareholder

E. Gene Thornton, III
Shareholder

FISCAL YEAR UPDATES

The following Amendments to the Memphis Light, Gas and Water Division, Retirement and Pension System were approved in 2018.

A language change related to The Heroes Earnings Assistance and Relief Tax Act of 2008 (the “HEART” Act”) was approved by the Pension Board and Board of Commissioners in November 2017 and by the City Council in March 2018:

- a) Death During Qualified Military Service: For participant deaths occurring on or after January 1, 2007, while performing qualified military service, the Participant’s Beneficiary is entitled to any additional benefits (other than benefit accruals relating to the period of qualified military service) provided under the Plan as if the Participant had resumed employment and terminated due to death.
- b) Differential wage payments: For years beginning after December 31, 2008, if MLGW pays a differential wage payment, as defined by Code Section 3401(h)(2), that differential is treated as compensation for purposes of the Pension System.
- c) Non-Spouse Beneficiary Rollover Right: For distributions after December 31, 2009, a non-spouse Beneficiary may elect a direct trustee-to-trustee transfer (“direct rollover”) of all or any portion of his or her distribution to an Individual Retirement Account (IRA) the Beneficiary establishes for purposes of receiving the distribution.

A language change related to Spouse or Surviving Spouse was approved by the Pension Board in May 2018, by the Board of Commissioners in June 2018, and by the City Council in July 2018:

Spouse or Surviving Spouse shall mean a person who:

- a. has been the lawful Spouse of an active Participant for an unbroken period of at least two (2) years immediately preceding the retirement or death.
- b. has been the lawful Spouse of a retired Participant for an unbroken period of at least three (3) years immediately preceding the death.

FINANCIAL SECTION

Independent Auditor's Report
Banks, Finley, White & Co. CPA

INDEPENDENT AUDITOR'S REPORT

Board of Commissioners and Management
Memphis Light, Gas and Water Division
Retirement and Pension System
Memphis, Tennessee

Report on the Financial Statements

We have audited the accompanying statements of plan's fiduciary net position of the Memphis Light, Gas and Water Division Retirement and Pension System (the "Plan"), a fiduciary fund of the City of Memphis, Tennessee, as of December 31, 2018 and 2017, and the related statements of changes in plan's fiduciary net position for the years then ended, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.



Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net position of the fiduciary net position of the Plan as of December 31, 2018 and 2017, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Emphasis of Matter

As discussed in Note 1, the accompanying statements are those of Memphis Light, Gas and Water Division Retirement and Pension System. The statements do not purport to present the financial position of the Light, Gas and Water Division of the City of Memphis or the City of Memphis as of December 31, 2018 and 2017, and the respective changes in their financial position or, where applicable, its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis; schedule of changes in retirement and pension system's net pension liability, schedule of Division's contributions to the retirement and pension system, and schedule of investment return on pages 4 through 13 and pages 40 through 42 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.



Other Information

The introductory section has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated May 31, 2019, on our consideration of the Plan's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Memphis Light, Gas and Water Division Retirement and Pension System's internal control over financial reporting and compliance.



Memphis, Tennessee
May 31, 2019



RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017

This discussion and analysis of the Memphis Light, Gas and Water Division (“MLGW”) Retirement and Pension System (the “Pension Plan”) financial performance provides a narrative overview and analysis of the MLGW Pension Plan’s financial activities and funding conditions for the fiscal years ended December 31, 2018 and December 31, 2017. Please read it in conjunction with the MLGW Pension Plan’s financial statements, notes, and required supplementary information, which follow this section. Information for fiscal years 2017 and 2016 is presented for comparative purposes.

FINANCIAL HIGHLIGHTS

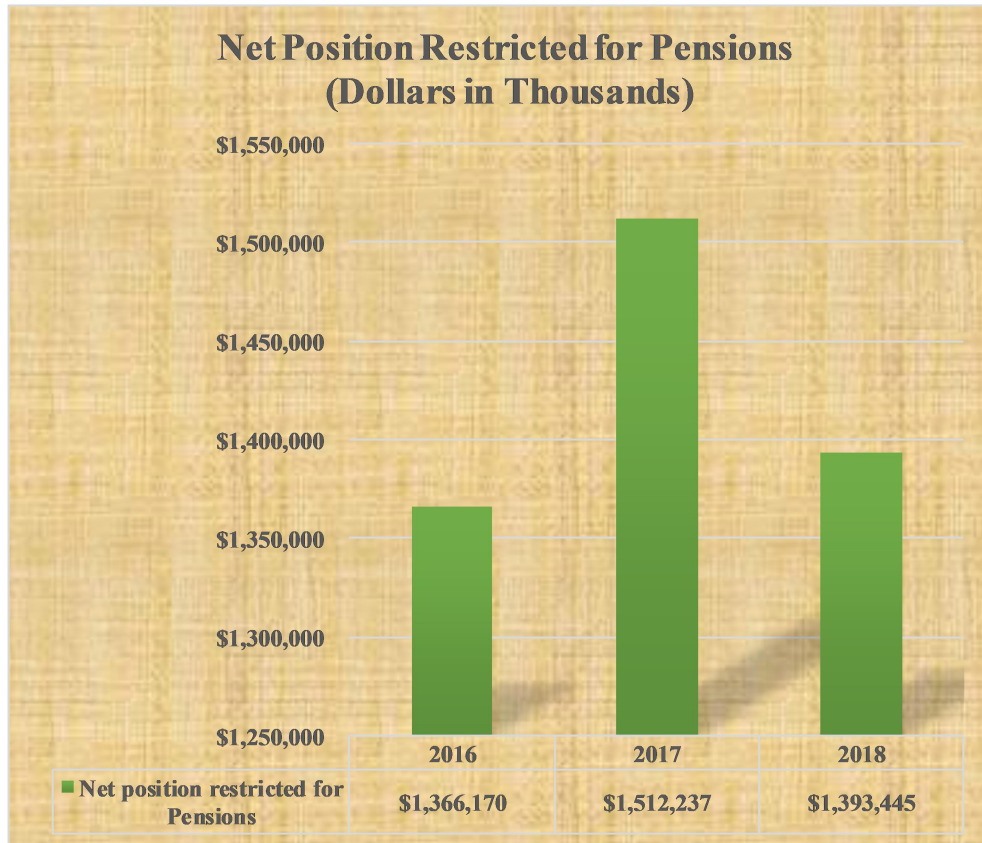
- Total fiduciary net position restricted for pension (total assets and deferred outflows of resources less total liabilities and deferred inflows of resources) at December 31, 2018 was \$1,393.4 million, a decrease of \$118.8 million, or 7.9% compared to the total net position at December 31, 2017 of \$1,512.2 million. 2017 reflected an increase of \$146.1 million, or 10.7% from \$1,366.2 million total net position at December 31, 2016. *See Graph 1 on next page.*
- Cash and cash equivalents decreased \$14.3 million, or 42.2% to \$19.5 million at December 31, 2018 from \$33.8 million at December 31, 2017. 2017 reflected an increase of \$13.9 million or 69.7% from \$19.9 million reported in 2016.
- Investments were \$1,373.8 million at December 31, 2018, a decrease of \$103.8 million, or 7.0% from \$1,477.6 million at December 31, 2017. 2017 reflected an increase of \$119.1 million, or 8.8% from \$1,358.5 million reported in 2016.
- Net investment activities reflected a loss of \$40.7 million, or 118.9%, primarily due to a \$259.7 million decline in net depreciation of investments. For 2018, net depreciation of investments totaled \$68.1 million compared with net appreciation of investments of \$191.6 million for 2017. The decrease was partially offset by increases in interest and dividend income from investments of \$5.1 million.
- Total pension benefit payments increased by \$5.8 million, or 5.7% at December 31, 2018 to \$108.0 million from \$102.2 million at December 31, 2017. 2017 reflected an increase of \$3.3 million, or 3.4% from \$98.9 million reported in 2016.

See next page



Financial Highlights

Graph 1:



See next page



OVERVIEW OF THE FINANCIAL STATEMENTS

This report contains the following information:

- 1. Basic Financial Statements** including:
 - a. Statements of Fiduciary Net Position
 - b. Statements of Changes in Fiduciary Net Position
 - c. Notes to the Financial Statements
- 2. Required Supplementary Information** including:
 - a. Schedule of Changes in Retirement and Pension System's Net Pension Liability
 - b. Schedule of Division's Contributions to the Retirement and Pension System
 - c. Schedule of Investment Return

The basic financial statements are described as follows:

- The Statements of Fiduciary Net Position show the account balances at year-end and include the net position available for future benefit payments. The liabilities for future benefit payments are not included in the Statements; however, they are shown in the Schedule of Changes in Retirement and Pension System's Net Position Liability that is included in the Required Supplementary Information.
- The Statements of Changes in Fiduciary Net Position show the sources and use of funds during the year and illustrates the change in net position from the previous year.
- The Notes to the Financial Statements are an integral part of the financial statements and include additional detailed information and schedules to provide a better understanding of the financial statements.

The required supplementary information is based upon the MLGW Pension Plan's adoption of GASB Statement 67 and provides historical trends that help to reflect the ongoing plan perspective and the long-term nature of the defined benefit plan.

- The Schedule of Changes in Net Pension Liability contains actuarial information about the status of the plan.
- The Schedule of Division's Contributions contains historical trend information regarding the value of the total annual contributions the employer must pay and the actual contributions paid by the employer to meet this requirement. In addition, significant methods and assumptions used in calculating the actuarially determined contributions are included in the schedule.
- The Schedule of Investment Return contains the actuarial value and market value investment returns realized on the total portfolio for the last ten years.



RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017

ANALYSIS OF FIDUCIARY NET POSITION

Condensed financial information comparing the Fiduciary Net Position for the past three fiscal years is presented below:

Table 1 Condensed Statements of Fiduciary Net Position Years Ended December 31, 2018, 2017, and 2016 <i>(Dollars in Thousands)</i>					
	<u>2018</u>	<u>2017</u>	<u>FY18 - FY17</u> <u>Percentage</u> <u>Change</u>	<u>Restated</u> <u>2016</u>	<u>FY17 - FY16</u> <u>Percentage</u> <u>Change</u>
Assets					
Cash and cash equivalents	\$ 19,532	\$ 33,803	-42.2%	\$ 19,923	69.7%
Investments *	1,373,793	1,477,595	-7.0%	1,358,465	8.8%
Receivables	13,178	3,881	239.6%	3,592	8.1%
Collateral held for securities on loan	64,052	123,741	-48.2%	140,307	-11.8%
Total assets	1,470,555	1,639,020	-10.3%	1,522,287	7.7%
Liabilities					
Liability for securities purchased and accrued liabilities	13,058	3,042	329.3%	15,810	-80.8%
Collateral subject to return to borrowers	64,052	123,741	-48.2%	140,307	-11.8%
Total liabilities	77,110	126,783	-39.2%	156,117	-18.8%
Net position restricted for Pensions	\$ 1,393,445	\$ 1,512,237	-7.9%	\$ 1,366,170	10.7%
* Investments include a private equity firm, GPB Holdings II, LP, valued at \$25.0 million, the initial capital contribution invested in the fund in 2017. As of the date of this report, the Pension Plan has not received the fair market value statements from GPB Holdings II, LP for the years ended December 31, 2018 and 2017.					

Assets

2018 Compared to 2017:

At December 31, 2018, total assets were \$1,470.6 million, a decrease of \$168.5 million, or 10.3% from 2017. The decrease in total assets was primarily due to the decline in cash and cash equivalents, receivables, and investments.

The MLGW Pension Plan decline in cash and cash equivalents was due to increased investment in existing funds as well as funding of new money managers at year end.



RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017

The total receivables in 2018 significantly dropped primarily due to the collateral held for securities on loan under the MLGW Pension Plan's securities lending program. This resulted from a decrease in borrower demand compared to cash collateral in the fourth quarter of 2018.

The MLGW Pension Plan's investments are comprised of domestic and international equities, domestic and international fixed income, domestic and international special strategies, real estate, and short-term investments. For 2018, investments totaled \$1,373.8 million, a decrease of \$103.8 million, or 7.0% from 2017. The decrease in total investments was primarily due to the declining market value of investments in equity funds, domestic corporate and government bonds, and the liquidation of the Plan's emerging market bonds ETF.

2017 Compared to 2016:

At December 31, 2017, total assets were \$1,639.0 million, an increase of \$116.7 million, or 7.7% over 2016. The increase in total assets was primarily due to the increase in the fair value of investments in common stock, real estate, and domestic private equity funds.

The MLGW Pension Plan's assets consist mainly of investments in domestic and international equities, domestic and international fixed income, domestic and international special strategies, real estate, and short-term investments. For 2017, investments totaled \$1,477.6 million, an increase of \$119.1 million, or 8.8% over 2016. Total cash and cash equivalents increased by \$13.9 million, or 69.7% over 2016.

The increase in total assets was partially offset by \$16.6 million, or 11.8% decrease in collateral held for securities on loan under the MLGW Pension Plan's securities lending program.

Liabilities

2018 Compared to 2017:

At December 31, 2018, total liabilities were \$77.1 million, a decrease of \$49.7 million, or 39.2% from \$126.8 million at 2017. The decrease was primarily derived from a decrease in the collateral subject to return to borrowers under the MLGW Pension Plan's securities lending program. The decline was partially offset by an increase in the liability for securities purchased.

2017 Compared to 2016:

At December 31, 2017, total liabilities were \$126.8 million, a decrease of \$29.3 million, or 18.8% from \$156.1 million at 2016. The decrease was primarily derived from the liability for securities purchased as well as a decrease in collateral subject to return to borrowers under the MLGW Pension Plan's securities lending program.



RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017

Net position

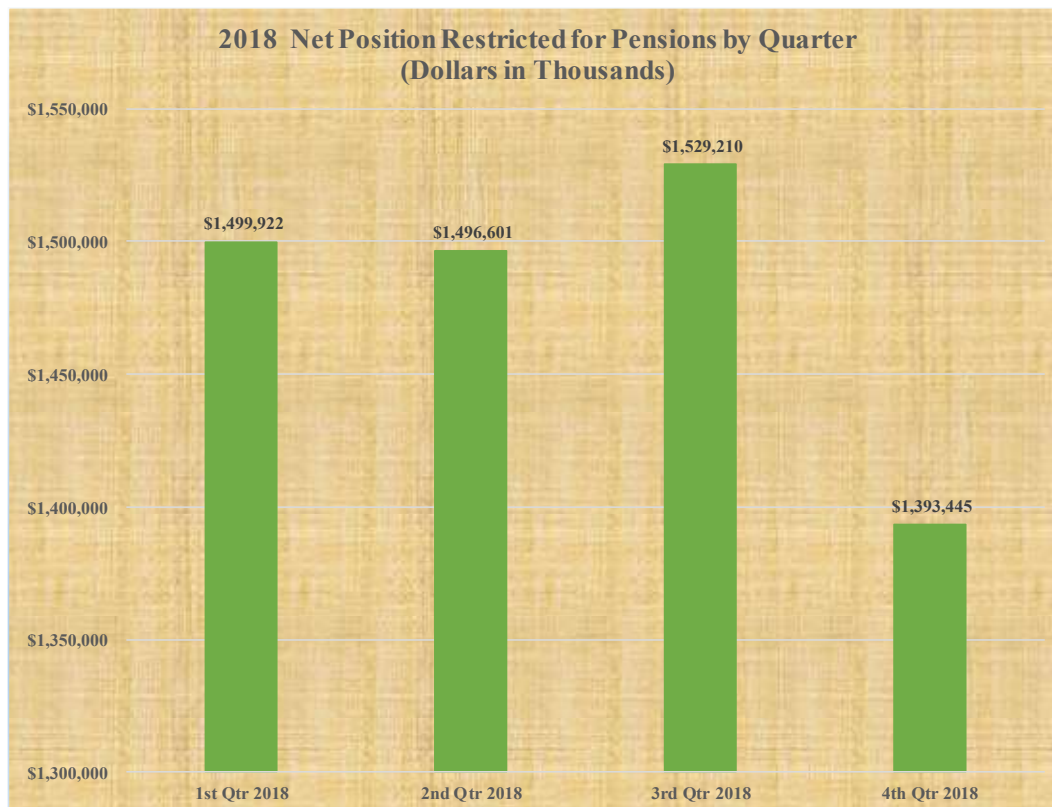
2018 Compared to 2017:

At December 31, 2018, the MLGW Pension Plan's fiduciary net position (total assets and deferred outflows of resources less total liabilities and deferred inflows of resources) was \$1,393.4 million, a decrease of \$118.8 million, or 7.9% from December 31, 2017 net position. The decrease in net position restricted for pension was largely due to the declining market value of investments held in the fourth quarter of 2018, as well as the reduction in total receivables and cash and cash equivalents. The decrease in total assets was partially offset by a decrease in total liabilities. *See Graph 2 below*

2017 Compared to 2016:

At December 31, 2017, the MLGW Pension Plan's fiduciary net position (total assets and deferred outflows of resources less total liabilities and deferred inflows of resources) was \$1,512.2 million, an increase of \$146.1 million, or 10.7% over December 31, 2016 net position. The growth in net position is primarily related to the appreciation of investments and decrease in total liabilities.

Graph 2





RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017

ANALYSIS OF CHANGES IN FIDUCIARY NET POSITION

Condensed financial information comparing the Changes in Fiduciary Net Position for the past three fiscal years is presented below:

Table 2 Condensed Statements of Changes in Fiduciary Net Position Years Ended December 31, 2018, 2017, and 2016 <i>(Dollars in Thousands)</i>					
	<u>2018</u>	<u>2017</u>	<u>FY18 - FY17</u> <u>Percentage</u> <u>Change</u>	<u>Restated</u> <u>2016</u>	<u>FY17 - FY16</u> <u>Percentage</u> <u>Change</u>
Additions					
Contributions	\$ 35,391	\$ 35,348	0.1%	\$ 33,903	4.3%
Net investment activities income (loss)	(40,722)	215,659	-118.9%	107,298	101.0%
Securities lending activities income	727	839	-13.3%	710	18.2%
Total additions (loss)	(4,604)	251,846	-101.8%	141,911	77.5%
Deductions					
Benefits payments	107,965	102,179	5.7%	98,856	3.4%
Refunds	5,351	2,740	95.3%	3,771	-27.3%
Administrative expense	872	860	1.4%	730	17.8%
Total deductions	114,188	105,779	7.9%	103,357	2.3%
Net increase (decrease)	(118,792)	146,067	-181.3%	38,554	-278.9%
Net position restricted for Pensions					
Beginning of year	1,512,237	1,366,170	10.7%	1,327,616	2.9%
End of year	<u>\$ 1,393,445</u>	<u>\$ 1,512,237</u>	<u>-7.9%</u>	<u>\$ 1,366,170</u>	<u>10.7%</u>

Change in Net Position

2018 Compared to 2017:

The change in net position at December 31, 2018 reflected a loss of \$118.8 million, down \$264.9 million, or 181.3% from a gain of \$146.1 million at December 31, 2017 as a result of a loss in total investment activities. Total investment activities decreased by \$256.5 million, or 118.5%, due to net depreciation of investments across the MLGW Pension plan's portfolio asset classes. The depreciation was largely from the investments in equity funds as well as domestic corporate and government bonds.



**RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017**

2017 Compared to 2016:

The change in net position at December 31, 2017 was \$146.1 million, up \$107.5 million, or 278.9% higher than the prior year's increase of \$38.6 million as a result of an increase in total investment activities income. Total investment activities income increased by \$108.5 million, or 100.5%, due to net appreciation of investments across the MLGW Pension plan's portfolio asset classes. The higher investment appreciation was primarily affiliated with the investments in equity funds.

Additions

2018 Compared to 2017:

Total additions to net position reflected a loss of \$4.6 million, or 101.8% at December 31, 2018, compared to total additions of \$251.8 at December 31, 2017, primarily as a result of the decrease in net investment activities.

Net investment activities reflected a loss of \$40.7 million, a decrease of \$256.4 million, or 118.9% from \$215.7 million in 2017. The component of net investment activities that had the largest impact was net depreciation of investments.

2017 Compared to 2016:

Total additions to net position increased by \$109.9 million, or 77.5%, versus 2016, primarily as a result of the increase in net investment activities income.

Net investment activities income was \$215.7 million, an increase of \$108.4 million, or 101.0% from \$107.3 million in 2016. The component of net investment activities income that had the largest impact was net appreciation of investments.

Deductions

2018 Compared to 2017:

Total deductions from net position in 2018 amounted to \$114.2 million, an increase of \$8.4 million or 8.0%, up from \$105.8 million in 2017. The increase was primarily derived from the benefit payments to retired participants for 2018 which totaled \$91.1 million, up \$5.6 million, or 6.6% compared to 2017. Additionally, refunds to terminated members were \$5.4 million, up \$2.6 million, or 95.3% compared to 2017. The rise in benefit payments was due to an increase in the number of new retirees processed and refunds issued to terminated members in 2018.



**RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017**

2017 Compared to 2016:

Total deductions from net position in 2017 amounted to \$105.8 million, an increase of \$2.4 million or 2.3%, up from \$103.4 million in 2016. The increase was primarily derived from the benefit payments to retired participants and beneficiaries for 2017 which totaled \$102.2 million, up \$3.3 million, or 3.4% compared to 2016. The benefit payments were higher in 2017 due to higher level employees retiring.

FUNDING STATUS

Retirement benefits are financed by employer and participant contributions and income earned on the MLGW Pension Plan's investments. Over the long term, the investment portfolio returns have been a major component of additions to the MLGW Pension Plan's net position. In 2018, the MLGW Pension Plan was impacted by the volatility of the market, especially in December, which was driven by concerns of an economic slowdown, trade negotiations between China and the U.S., and the Federal Reserve's monetary policy. The MLGW Pension Plan's portfolio depreciated in fair value mainly due to investments in equity funds. *See graph 3 on next page.*

The funding policy adopted in 2015 and made effective on January 1, 2016 requires the Division to contribute 100% of the actuarially determined contribution. Employees are still required to contribute 8.0% of pensionable earnings to the MLGW Pension Plan. The Division's contribution is determined by an actuarial valuation study, but shall be no less than 8.0% of pensionable earnings for all active participants. This, in addition to the contributions from plan participants, reinforces its current and continued financial stability. For the year ended December 31, 2018, the Division's actual annual contribution was \$22.2 million as recommended and determined by an independent actuarial valuation study.

REQUESTS FOR INFORMATION

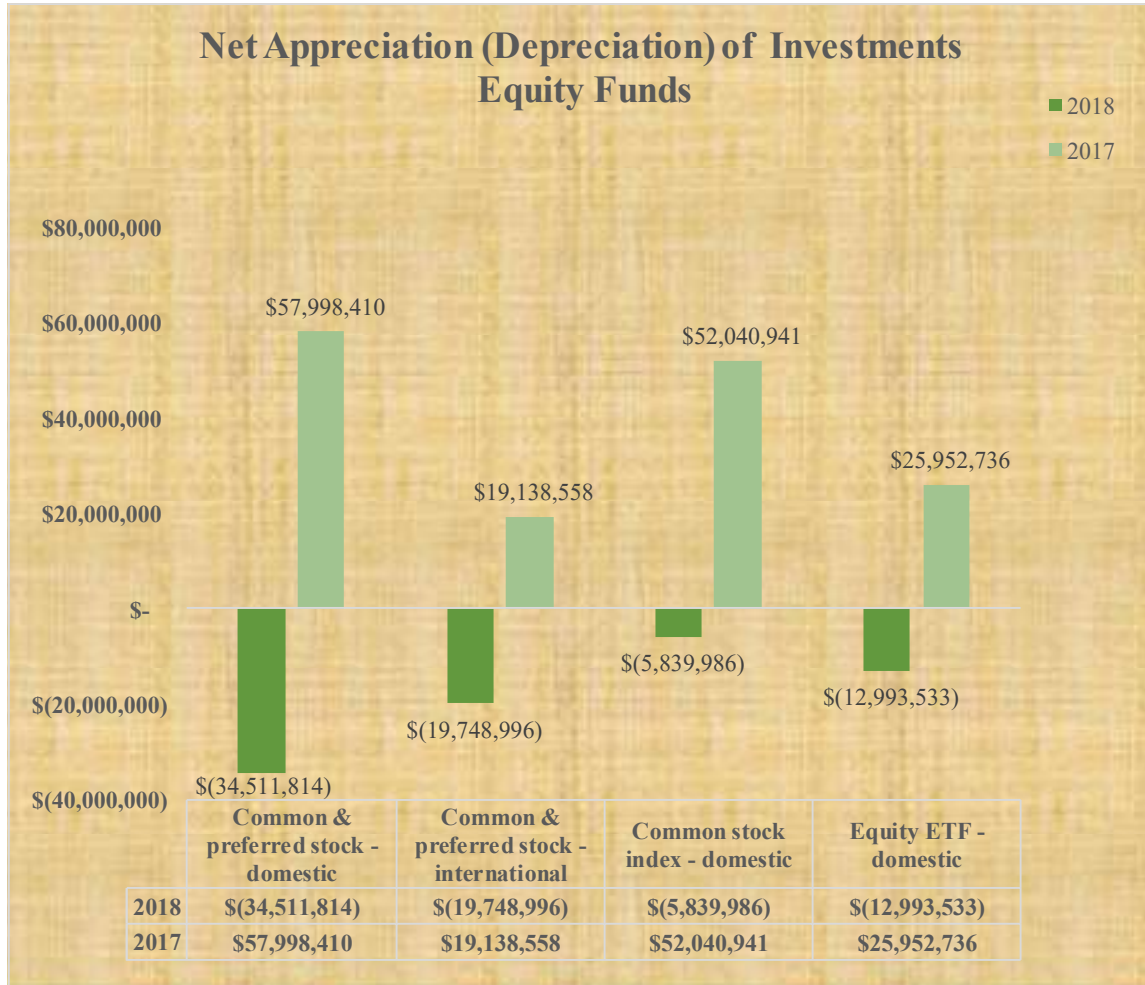
Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

Memphis Light, Gas and Water Division
Manager of Risk Management & Employee Benefits
P.O. Box 430
Memphis, TN 38101



**RETIREMENT AND PENSION SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
Years Ended December 31, 2018 and 2017**

Graph 3



See next page



RETIREMENT AND PENSION SYSTEM
STATEMENTS OF FIDUCIARY NET POSITION
December 31, 2018 and 2017

	December 31	
	2018	2017
Assets		
Cash and cash equivalents	\$ 19,531,955	\$ 33,802,835
Receivables:		
Interest, dividends and real estate receivable	4,020,327	2,547,288
Receivable for securities sold	8,551,296	370,886
Miscellaneous receivable	86,198	-
Employer and employee contributions receivable	519,665	962,964
Collateral held in trust for securities on loan	64,052,059	123,741,200
Total receivables	77,229,545	127,622,338
Investments:		
Equity Funds:		
Common stock - domestic	254,708,475	310,178,184
Common stock - international	79,220,960	96,634,464
Common stock index - domestic	196,160,560	220,590,953
Preferred stock - international	3,481,572	4,753,384
Equity ETF - domestic	126,824,877	166,437,899
Fixed Income Funds:		
Corporate bonds - domestic	44,463,128	59,775,138
Corporate bonds - international	41,597,453	11,564,017
Corporate convertible bond - international	125,775	-
Government bonds - domestic	1,494,582	25,325,923
Government bonds - international	43,925,885	-
Global bond - international	69,591,109	73,391,615
Emerging market bonds ETF	-	77,214,627
U.S. government agencies	8,838,804	7,350,303
Global government agencies	7,711,648	249,550
Asset backed securities - domestic	12,283,501	10,250,837
Asset backed securities - international	1,471,312	2,908,250
Mortgage backed securities - domestic	19,163,361	26,455,415
Securitized asset fund	2,523,372	491,814
Special Strategies Funds:		
Private equity - domestic *	63,957,809	63,148,988
Private equity - international	1,012,374	1,858,278
Distressed debt - domestic	52,695,663	43,590,921
Distressed debt - international	39,979,040	26,122,595
Multi-asset - domestic	12,587,841	12,520,759
Life settlement funds - domestic	64,882,987	36,924,823
Real Estate Funds:		
Real estate	208,346,632	191,882,113
Short-Term Investment	16,744,657	7,973,840
Total investments	1,373,793,377	1,477,594,690
Total assets	1,470,554,877	1,639,019,863
Liabilities		
Collateral subject to return to borrowers	64,052,059	123,741,200
Liability for securities purchased	11,283,557	1,531,955
Accrued liabilities	1,774,548	1,509,432
Total liabilities	77,110,164	126,782,587
Net position restricted for Pensions	\$ 1,393,444,713	\$ 1,512,237,276

* Private equity-domestic includes GPB Holdings II, LP, which is valued at \$25.0 million, the initial capital contribution invested in the fund in 2017. As of the date of this report, the Pension Plan has not received the fair market value statements from GPB Holdings II, LP for the years ended December 31, 2018 and 2017.

The accompanying notes are an integral part of the financial statements



RETIREMENT AND PENSION SYSTEM
STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
Years Ended December 31, 2018 and 2017

	Years Ended December 31	
	2018	2017
Additions		
Contributions		
Employer	\$ 22,174,419	\$ 22,389,805
Member	13,216,689	12,958,804
Total contributions	35,391,108	35,348,609
Investment Activities Income		
Net appreciation (depreciation) of investments	(68,066,950)	191,594,755
Interest income	12,816,336	9,908,252
Dividend income	12,544,756	10,311,756
Real estate income	6,270,273	6,677,693
Other income	15,860	11,630
Recovery of losses - class action suit	84,705	1,596,516
Total investment activities income (loss)	(36,335,020)	220,100,602
Less investment activities expenses	4,387,466	4,441,988
Net investment activities income (loss)	(40,722,486)	215,658,614
Securities Lending Activities:		
Securities lending income	2,883,446	2,151,530
Securities lending expenses:		
Borrower rebates	(1,975,262)	(1,102,237)
Management fees	(181,572)	(209,781)
Total securities lending expenses	(2,156,834)	(1,312,018)
Net securities lending activities income	726,612	839,512
Total investment activities income (loss)	(39,995,874)	216,498,126
Total additions (loss)	(4,604,766)	251,846,735
Deductions		
Benefit payments:		
Retired members	91,110,167	85,484,029
Survivors (spouse, minors, and dependents)	16,121,632	15,891,901
Disabled members	490,474	592,481
Deferred vested members	210,907	194,168
Alternate payees	31,381	16,662
Total benefit payments	107,964,561	102,179,241
Contributions refund	5,351,288	2,740,226
Administrative expenses	871,948	859,736
Total deductions	114,187,797	105,779,203
Change in net position	(118,792,563)	146,067,532
Net position restricted for Pensions		
Beginning of year	1,512,237,276	1,366,169,744
End of year	\$ 1,393,444,713	\$ 1,512,237,276

The accompanying notes are an integral part of the financial statements



1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

The Memphis Light, Gas and Water Division (the “Division”), a division of the City of Memphis, under a resolution by the Board of Commissioners, established the Memphis Light, Gas and Water Division Retirement and Pension System (the “MLGW Pension Plan”) to recognize and reward employee contributions to the operations of the Division. The MLGW Pension Plan, which was amended and restated effective January 1, 2015, is part of the Division’s overall plan to provide for the future security of its employees and their family members. The MLGW Pension Plan is a single employer defined benefit plan.

The MLGW Pension Plan is funded by contributions made by the employees and by the Division. Benefits under the MLGW Pension Plan normally are paid upon retirement, death, disability, or separation of service. The MLGW Pension Plan is administered by the MLGW Pension Board under the direction of the Board of Commissioners.

The MLGW Pension Board establishes the policies of the MLGW Pension Plan. The Board is comprised of one member of the Board of Commissioners of the Division (who serves as Chairman of the Pension Board), the President of the Division (who serves as Vice-Chairman), the SVP, CFO & CAO (Secretary-Treasurer) of the Division, two active Participants who have vested rights under the MLGW Pension Plan and who are elected by Participants, one retired Participant who is elected by retired Participants, and one citizen of Shelby County who is appointed by the Board of Commissioners of the Division. The members of the Pension Board serve without compensation.

The MLGW Pension Board shall fulfill the duties of the fiduciary responsible for the MLGW Pension Plan administration and shall have overall control of the administration of the Plan, with all powers and discretion necessary to enable it to properly carry out its duties; provided the responsibility and authority to administer the Plan on a day-to-day basis shall be delegated to the Pension Department.

Basis of Presentation

The financial statements present only the Memphis Light, Gas and Water Division Retirement and Pension System (the “MLGW Pension Plan”) in conformity with accounting principles generally accepted in the United States of America that are applicable to a fiduciary fund of a governmental trust unit. The accompanying financial statements present the separate financial position, results of operation, and cash flows for the MLGW Pension Plan, but do not present the financial position, results of operations, or cash flows of MLGW, a division of the City of Memphis (the “City”). Accordingly, the accompanying disclosures related separately to the MLGW Pension Plan, as applicable, and not collectively to MLGW. These statements are not intended to present the financial position of the City, the results of the City’s operations, or the cash flows of the City’s funds.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

Basis of Accounting

The MLGW Pension Plan's financial statements are prepared using the accrual basis of accounting in accordance with the Governmental Accounting Standards Board ("GASB"). MLGW and member contributions are recognized in the period in which member services are performed. Investment income is recognized when earned. Gains and losses on sales and exchanges of investments are recognized on the transaction date. Benefits and refunds are recognized when paid in accordance with the MLGW Pension Plan's provisions.

Recent Accounting Standards

GASB Statement No. 84, *Fiduciary Activities*, was issued in January of 2017. The Statement establishes criteria for identifying fiduciary activities of all state and local governments. The basis of the criteria centers on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. The Statement describes four fiduciary funds that should be reported, if applicable: (1) pension (and other employee benefit) trust funds, (2) investment trust funds, (3), private-purpose trust funds, (4) custodial funds. The requirements of this Statement are effective for reporting periods beginning after December 15, 2018. The adoption of this Statement will not affect the MLGW Pension Plan's financial statements.

Administrative Expenses

Expenses for the administration of the MLGW Pension Plan are paid from net investment earnings.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires management to make estimates and assumptions that affect the reported amounts in the financial statements and accompanying notes. Actual results could differ from those estimates and assumptions.

Cash and Cash Equivalents

The MLGW Pension Plan considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Investments

The MLGW Pension Plan's securities are stated at fair value based on quoted market prices. Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the fiscal year. Investments traded in the over-the-counter market and listed securities for which no sale was reported on that date are valued at the average of the last reported bid and ask prices.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The equity funds are comprised of both domestic and international securities. The MLGW Pension Plan's investments in the equity funds are measured at fair value, as determined by MLGW's Trustee and Custodian (Northern Trust).

For certain investments consisting of corporate bonds and notes that do not have an established fair value, MLGW's Trustee and Northern Trust, determine the value using basic assumptive information received from Bloomberg or Reuter's Analytics after the prices for the majority of corporate deals are obtained.

The TCW Residential Capital Structure is classified as a securitized asset fund. The fair value of investment in TCW Residential Capital Structure Fund is determined by the Investment Manager who uses independent pricing providers, if available. As an alternative, the Investment Manager may utilize independent pricing sources such as broker quotes and apply a price in line with the market or use valuation models to determine an appropriate price. Due to this valuation technique, this fund is categorized in the net asset value section of the fair value hierarchy table per GASB 72.

The MLGW Pension Plan investments in the private equity limited partnerships are reported at fair value. The fair value of investments is based on information obtained from the partnerships' Quarterly Statements. The private equity limited partnerships are Brookfield Infrastructure Fund II-B, SSM Partners Growth I, LP, SSM Partners Growth II, LP, Glouston Capital Partners, LLC, Headlands Capital Secondary Fund, LP, and GPB Holdings II, LP.

The fair value of investment in Brookfield Infrastructure Fund II-B is measured based on the type of investment/asset being valued and its characteristics. Commonly used methodologies may include, but are not limited to, comparable market transactions, performance multiples/direct capitalization, discounted cash flows, net asset valuations, or industry specific benchmarks. The General Partner may use, as required, the services of an independent valuation firm to determine the fair value of investments or engage third-party expertise to confirm the reasonableness of internally prepared valuations.

The fair value of investments in SSM Partners Growth Equity I, LP and SSM Partners Growth II, LP is determined by the General Partner in accordance with the Partnership's investment valuation policy. SSM carries its investments at fair value according with the Accounting Standard Codification (ASC) Topic 820. It provides a consistent definition of fair value which focuses on exit price and prioritizes, within a measurement of fair value, the use of market-based inputs over entity-specific inputs.

The fair value of investment in Glouston Capital Partners, LLC is measured based on a variety of inputs which a buyer would consider including: original transaction price, recent transactions in the same or similar instruments, completed or pending third-party transactions in the underlying investment or comparable issuers, subsequent rounds of financing, recapitalizations and other transactions across the capital structure, offerings in the equity or debt capital market, changes in financial ratios or cash flows, and illiquidity and or non-transferability.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The fair value of investment in Headlands Capital Secondary Fund, LP is measured based on the close of trading on the date as of which the value is being determined by taking the last reported sale price of such Marketable Securities on such date on the exchange where it is primarily traded. All other assets of the Partnership shall be valued at fair value by the General Partner based upon all relevant factors.

The fair value of investments in GPB Holdings II, LP is determined by the General Partner, who makes a good faith effort to value the assets at their current market value.

The MLGW Pension Plan investments in the distressed debt limited partnerships are reported at fair value. The fair value of investments is based on information obtained from the partnerships' Quarterly Investor Shareholder Statements. The distressed debt limited partnerships are Courage Credit Opportunities Offshore Fund III, LP, GoldenTree Distressed Debt 2014 (Cayman), Medley Opportunity Fund III, LP, Courage Credit Opportunities Fund IV, L.P., and GoldenTree Distressed Fund III, LP.

The fair value of investment in Courage Credit Opportunities Offshore Fund III, LP is determined by General Partner or such Persons designated by the General Partner, in its sole discretion, in a reasonable manner.

The fair value of investment in GoldenTree Distressed Debt 2014 (Cayman) shall be valued (i) by using securities exchange quotations/listed market prices, or (ii) by using pricing services, or (iii) by obtaining broker-dealer quotations, or (iv) at a good-faith estimate of fair value, as determined by a pricing method approved by the Pricing Committee.

The fair value of investment in Medley Opportunity Fund III, LP is measured based on the Accounting Standard Codification (ASC) Topic 820. Fair value is the price that would be received in the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value of investment in Courage Credit Opportunities Fund IV, LP is determined by the General Partner or a person designated (including the Investment Manager) in a reasonable manner. Valuations determined in accordance with the preceding sentence are final and binding on the Partners.

The fair value of investment in GoldenTree Distressed Debt Fund III, LP is determined by the Investment Manager in accordance with its written valuation policy and shall be binding on all of the Partners.

The MLGW Pension Plan investments in the life settlement funds are reported at fair value. The fair value of investments is based on information obtained from the partnerships' Monthly Investor Shareholder Statements. The life settlement funds are CCA Black, LP, Vida Longevity Fund, LP and CCA Longevity Fund VI, LP.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The fair value of investment in CCA Black, LP is determined on a discounted cash flow basis, incorporating current life expectancy and other key assumptions. The Partnership defines fair value as the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date.

The fair value of investment in Vida Longevity Fund, LP is measured by calculating the value for a portfolio of life settlement policies. This calculation includes: (i) analysis of the prior mortality experience of the portfolio; (ii) development of future mortality assumptions for risks included in the portfolio; (iii) projection of future maturities and premiums to determine monthly cash flows, and (iv) calculation of the present value of cash flows.

The fair value of investment in CCA Longevity Fund VI, LP is determined by an independent actuarial firm on a quarterly basis. Recent medical and life expectancy information concerning the insured (to the extent available) and current market conditions will be considered in the valuation.

The MLGW Pension Plan investment in the multi-asset fund is reported at fair value. The fair value of investments is based on information obtained from the partnerships' Monthly Investor Shareholder Statements. The multi-asset fund is Preserver, LP. The fair market value of assets in this fund is valued using one of the following: (i) the last traded price, (ii) an independent pricing service, (iii) capital balances prepared by the underlying managers and their Administrators, (iv) current market quotations, and (v) cost or market depending on the type of investment.

The MLGW Pension Plan investments in the real estate funds are reported at fair value. The fair value of investments is based on information obtained from the partnerships' Quarterly Investor Shareholder Statements. The real estate funds are Sentinel Real Estate Fund, LP, Heitman Value Partners III, LP, American Strategic Value Realty Fund, LP, U.S. Real Estate Investment Fund, LLC, TerraCap Partners IV (Institutional), LP.

The fair value of investment in Sentinel Real Estate Fund, LP as determined by the General Partner, involves numerous estimates and subjective judgments that are subject to change. The General Partner engaged independent firms to appraise 100% percent of the real estate.

The fair value of investment in Heitman Value Partners III, LP is prepared by Asset Managers using the following: (i) the income approach to value using cash flow projections prepared by the Investor Accounting group, (ii) supporting valuation assumptions, and (iii) independent property market and capital market assessments made by the Research Group.

The fair value of investment in American Strategic Value Realty Fund, LP is based on an external valuation and appraisal process. Properties are appraised by an independent appraiser at least quarterly. Each investment in the Value Fund is marked to market quarterly and written up, written down, or held constant as appropriate reflecting the determined value of the asset.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The fair value of investment in U.S. Real Estate Investment Fund, LLC is measured based on Accounting Standard Codification (ASC) Topic 820. The real estate investments of the Fund are stated at estimated fair value and are reviewed and adjusted quarterly. In the quarters in which an investment is not independently appraised, the fair value is updated as appropriate by management for changes in prior cash flow estimates and market assumptions.

The fair value of investment in TerraCap Partners IV (Institutional), LP is determined by the General Partner who may rely on valuations submitted by a third party. For assets that are not readily marketable, the General Partner may unilaterally determine the value of the assets or hire a third party to appraise the assets. The General Partner has the authority to use other methods that are deemed to be fair and reasonable.

Short-term investments are reported at cost, which approximates fair value. All other investments are valued based on quoted market values except for certain limited partnership investments.

Collective Investment Trusts (CITs) were incorporated into the Plan in 2015 and are designed to enhance investment management by combining assets from different accounts into a single fund with a specific investment strategy. They provide for pooling of assets of employee benefits trusts, that meet all of the conditions as permitted under Revenue Rulings 81-100 and 2011-1, or subsequent guidance, and that are operated or maintained exclusively for the commingling and collective investment of funds from other trusts.

2. RETIREMENT AND PENSION SYSTEM

Plan Description

The Memphis Light, Gas and Water Division Pension Board is the administrator of a single-employer retirement system established by the Division to provide retirement benefits for its employees. Prior to 1988, the retirement system included two contributory defined benefit plans (the “1948 Plan” and the “1978 Plan”). The 1948 Plan and the 1978 Plan were amended and superseded as of July 1, 1988. All employees who were members of the 1948 Plan and the 1978 Plan automatically became members of the amended, restated, and consolidated Memphis Light, Gas and Water Division Retirement and Pension System (the MLGW Pension Plan), a division of the City of Memphis, Tennessee. The MLGW Pension Plan was amended and restated effective January 1, 2015. Participants in the 1948 Plan (which includes those employees hired before July 1, 1978) are entitled to the greater of their retirement benefit determined under the 1948 Plan or their retirement benefit under the MLGW Pension Plan.

The MLGW Pension Plan covers permanent full-time employees and appointed commissioners who opt to participate.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

Membership at December 31, 2018 and 2017 consisted of:

	<u>2018</u>	<u>2017</u>
Retired members or beneficiaries currently receiving benefits	2,677	2,655
Vested terminated members entitled to but not yet receiving benefits *	38	42
Active members	2,621	2,639
Total	<u>5,336</u>	<u>5,336</u>

* Includes participants on long-term disability

The MLGW Pension Plan provides death and disability benefits as well as retirement benefits. MLGW Pension Plan members hired prior to January 1, 2014 who attain the age of fifty-five (55) and retire on or after ten (10) years of creditable service, or attain the age of seventy (70) and retire on or after five (5) years of creditable service, or attain twenty-five (25) years of creditable service regardless of age are entitled to an annual retirement allowance. The allowance is computed by multiplying the applicable percentage for the age of retirement times the number of years of creditable service, which equals the benefit percentage times the final average compensation.

MLGW Pension Plan members hired on or after January 1, 2014 who attain the age of sixty (60) and retire on or after ten (10) years of creditable service, or attain the age of seventy (70) and retire on or after five (5) years of creditable service, or attain the age of fifty-five (55) with twenty-five (25) years of creditable service are entitled to an annual retirement allowance. The allowance is computed by multiplying the applicable percentage for the age of retirement times the number of years of creditable service, which equals the benefit percentage times the final average compensation.

Effective January 1, 2001, the following table is the applicable benefit percentage for each year of creditable service at the applicable retirement age under the MLGW Pension Plan:

Retirement Age	Benefit Percentage for Each Year of Creditable Service
59 1/2 and less	2.25%
60	2.30%
61	2.40%
62 and above	2.50%



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The annual retirement allowance of a 1948 Plan or the 1978 Plan member who was a member at the time of the adoption of the MLGW Pension Plan shall not be less than the annual retirement allowance the member would have had under the 1948 Plan or the 1978 Plan in effect on June 30, 1988. A member of the 1948 Plan at the time of adoption of the MLGW Pension Plan may retire at less than age fifty-five with twenty-five or more years of creditable service with benefits computed only under the 1948 Plan. For the purpose of determining whether the benefit under the 1948 Plan or the 1978 Plan is more or less than the benefit under the MLGW Pension Plan, the benefit shall be measured by the retirement allowance for the retiring member.

Final average compensation is the member's basic earnings (which includes member contributions pursuant to Section 414(h) and Section 457 of the Internal Revenue Code (the "Code") for the three (3) consecutive years of creditable service if less than thirty (30) years, two (2) consecutive years if more than thirty (30) years and one (1) year if 35 or more years of creditable service during which the compensation was the highest) plus work out of classification pay, shift differential pay, and automobile allowance for such employees designated by Resolution of the Board of Commissioners.

The annual retirement allowance shall not exceed 85.0% of the member's final average compensation. The 2018 minimum monthly retirement benefit for all members is the greater of \$50 per month per year of service or \$500.

Additionally, as of July 1 of each plan year, each retired participant who (1) has attained age fifty-six (56) on such date and (2) has been terminated from the employment of the Division for at least twelve (12) months, shall be entitled to an increase in the amount of his/her monthly benefit under The MLGW Pension Plan equal to the cost of living adjustment.

A surviving spouse or a handicapped child receiving death benefits shall be entitled to a cost of living adjustment if the surviving spouse or handicapped child has attained age fifty-six (56) and the deceased participant has separated from service at least twelve (12) months prior to the beginning of the plan year.

The cost of living adjustment shall be equal to the product of the monthly benefit payable to the participant, the surviving spouse, or handicapped child under the MLGW Pension Plan for the immediately preceding plan year multiplied by the applicable percentage increase in the Consumer Price Index for the immediately preceding calendar year. The applicable percentage increase shall be determined based on the age of the participant, surviving spouse, or handicapped child as of the first day of July of the plan year.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The cost of living adjustment is made as follows:

Age	Percentage of CPI Increase
56-58	30%
59-61	60%
62 and older	75%

The cost of living adjustment for any retired participant, surviving spouse, or handicapped child in any plan year shall not exceed five percent (5%) of the retired participant's, surviving spouse's, or handicapped child's benefit under the MLGW Pension Plan for the immediately preceding plan year. Under no circumstances shall the cost of living adjustment result in a decrease in the benefit of a retired participant, surviving spouse, or handicapped child.

Contributions

Members covered under the MLGW Pension Plan are required to contribute eight percent (8.0%) of pensionable earnings each payroll period to the MLGW Pension Plan. Members with thirty-five (35) or more years of creditable service or an annual retirement allowance of 85.0% shall contribute the applicable percentage only on that portion of their compensation which is in excess of their annual compensation at the time they attained their thirty-five (35) years of creditable service or an annual retirement allowance of 85.0%. Benefit and contribution provisions may be amended only by the Pension Board, MLGW Board of Commissioners, and the Memphis City Council.

The Actuarially Determined Contribution (ADC) for the current year was determined based on the actuarial valuation using the entry age normal cost method. The 2018 contribution represented 100% of the ADC. An explanation of the contributions can be found on the footnote of the Schedule of Division's Contributions to the Retirement and Pension System.

As of January 1, 2019, the actuarial accrued liability was \$1,542.1 million and the actuarial value of assets was \$1,456.1 million; resulting in an unfunded actuarial accrued liability of \$86.0 million which is a funded ratio of 94.4%. The covered payroll projected was \$171.8 million.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

3. NET PENSION LIABILITY

The components of the net pension liability of the Pension System at December 31, 2018 are as follows:

Total pension liability	\$ 1,501,257,024
Plan fiduciary net position	1,393,444,713
Net pension liability	<u>\$ 107,812,311</u>
Plan fiduciary net position as a percentage of the total pension liability	92.82%

Actuarial Assumptions:

The total pension liability was determined by an actuarial valuation as December 31, 2018, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation Rate	2.75%
Salary Increases	Inflation plus merit increases that vary by age and service, ranging from 0.00% to 6.75%
Investment Rate of Return	7.50%, including inflation, net of pension plan investment expense
Cost-of-living adjustments	0.83% for ages 56-58 1.65% for ages 59-61 2.06% for ages 62 and older, and all disabled participants

Pre-retirement mortality rates are based on the RP-2014 Employee Mortality Table with sex-distinct rates. Healthy annuitant mortality rates are based on the RP-2014 Healthy Annuitant Mortality Table with sex-distinct rates, adjusted by a factor of 138%. Disabled annuitant mortality rates are based on the RP-2014 Disabled Retiree Mortality Table with sex-distinct rates, also adjusted by a factor of 138%. All mortality tables above are projected generationally with a modified RPEC2014 projection table using a 15-year convergence period for cohort effects and a 10-year convergence period for age/period effects.

The actuarial assumptions used in the valuation as of December 31, 2018 are based on the results of an experience study for the period January 1, 2009 to December 31, 2013.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate to Return *
Domestic Equity	39%	6.41%
International Equity	12%	7.69%
Fixed Income	29%	2.38%
Alternatives	8%	3.83%
Real Estate	10%	4.76%
Short Term Investments	2%	1.16%
Total	100%	

* The expected real rate of return is net of inflation.

Discount Rate

The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability, calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is one percentage-point lower (6.50%) or one percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount (7.50%)	1% Increase (8.50%)
Net pension liability	\$ 274,082,972	\$ 107,812,311	\$ (31,167,199)



4. DEPOSITS AND INVESTMENTS

Deposits

As of December 31, 2018, MLGW Pension Plan's deposits were fully insured or collateralized in accordance with state law.

Investments

The overall investment objective is to provide for the funding needs of the MLGW Pension Plan. The Pension Board ("Investment Committee") has formulated specific performance standards for the overall fund as well as its components. Underlying these standards is the belief that management of the fund should be directed toward achieving long-term growth of the assets by focusing on achieving an above average rate of return without the assumption of undue risk. In addition, the fund must keep pace with inflation and meet actuarial assumptions. The Investment Committee is charged with the responsibility to manage the assets of the MLGW Pension Plan.

The Investment Committee is authorized and permitted to engage the services of registered investment managers who possess the necessary specialized research facilities and skilled professionals to meet the investment objectives and guidelines of The MLGW Pension Plan. The Investment Committee requires the investment managers to adhere to the "prudent person rule" under such federal and state laws that now apply, or that may in the future apply in regard to investing of the MLGW Pension Plan's assets. The Investment Committee is responsible for selecting investment managers and reviewing and evaluating investment results in the context of predetermined performance standards.

The Investment Committee engages with an Investment Consultant, an independent investment consulting firm. The Investment consultant is charged with keeping the Investment Committee, SVP, CFO & CAO (Secretary-Treasurer), and Manager of Treasury Management and/or their respective designees, informed of the investment results being achieved by the Fund. The consultant will also provide data pertaining to the MLGW Pension Plan's asset allocation structure and the risk (volatility) associated with the Plan's investment allocation.

The Investment Committee has the responsibility of determining the asset allocation that offers the highest probability of achieving the investment goals and objectives. The target asset allocation of the MLGW Pension Plan is designed to give balance to the overall structure of the plan's investment program over a long period of time. Therefore, the Investment Committee must update and revise the asset mix as the financial needs of the MLGW Pension Plan are analyzed and reviewed, as capital markets change, and as they receive the advice and guidance of the Investment Consultant regarding both the financial needs of the Plan and the changes in the capital markets. The Investment Committee establishes the maximum exposures on some of the asset classes being employed by the Plan.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

In compliance with the MLGW Retirement and Pension Fund investment policy, the MLGW Pension Plan may invest in the following major asset classes: domestic and international equities, global fixed income, special strategies, real estate, and short-term investments.

As of December 31, 2018, the MLGW Pension Plan's investments consisted of the following:

Investment Type	Investments	Actual Exposure	Maximum Exposure	Minimum Exposure
Domestic Equity Funds:				
Common stock - domestic	\$ 254,708,475	18.54%		
Common stock index - domestic	196,160,560	14.28%		
Equity ETF - domestic	126,824,877	9.23%		
Subtotal Domestic Equity Funds:	577,693,912	42.05%	65%	20%
International Equity Funds:				
Common stock - international	79,220,960	5.77%		
Preferred stock - international	3,481,572	0.25%		
Subtotal international Equity Funds:	82,702,532	6.02%	25%	0%
Global Fixed Income Funds:				
Corporate bond - domestic	44,463,128	3.24%		
Corporate bond - international	41,597,453	3.03%		
Convertible corporate bond - international	125,775	0.01%		
Government bonds - domestic	1,494,582	0.11%		
Government bonds - international	43,925,885	3.20%		
Global bond - international	69,591,109	5.07%		
U.S. government agencies - domestic	8,838,804	0.64%		
Global government agencies	7,711,648	0.56%		
Asset backed securities-domestic	12,283,501	0.89%		
Asset backed securities-international	1,471,312	0.11%		
Mortgage backed securities	19,163,361	1.39%		
Securitized asset fund	2,523,372	0.18%		
Subtotal Global Fixed Income Funds:	253,189,930	18.43%	65%	15%
Special Strategies Funds:				
Private equity - domestic *	63,957,809	4.65%		
Private equity - international	1,012,374	0.07%		
Distressed debt - domestic	52,695,663	3.84%		
Distressed debt - international	39,979,040	2.91%		
Multi-asset - domestic	12,587,841	0.92%		
Life settlement funds - domestic	64,882,987	4.72%		
Subtotal Special Strategies Funds:	235,115,714	17.11%	25%	0%
Real Estate Funds				
Real estate	208,346,632	15.17%		
Subtotal Real Estate Funds:	208,346,632	15.17%	20%	0%
Short-Term Investments	16,744,657	1.22%	40%	0%
Total Investments	\$ 1,373,793,377	100.00%		

* Private equity-domestic includes GPB Holdings II, LP, which is valued at \$25.0 million, the initial capital contribution invested in the fund in 2017. As of the date of this report, the Pension Plan has not received the fair market value statement from GPB Holdings II, LP for the year ended December 31, 2018.



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

The MLGW Pension Plan's investments (including items bought, sold, as well as, held during the year) appreciated and depreciated in value, as follows during the years ended December 31:

	Net Appreciation (Depreciation) of Investments	
	2018	2017
Investments:		
Equity Funds:		
Common and preferred stock - domestic	\$ (34,511,814)	\$ 57,998,410
Common and preferred stock - international	(19,748,996)	19,138,558
Common stock index - domestic	(5,839,986)	52,040,941
Equity ETF - domestic	(12,993,533)	25,952,736
Subtotal Equity Funds:	(73,094,329)	155,130,645
Fixed Income Funds:		
Corp. Bonds; Gov't Bonds; Global Bond; Gov't Agencies; Asset backed Securities; Mortgage Backed Securities; Short-Term Investments - domestic	(6,690,230)	978,446
Corp. Bonds; Convertible Corp. Bond; Gov't Bonds; Global Bond; Gov't Agencies; Asset backed Securities; Mortgage Backed Securities; Short-Term Investments - international	(4,791,087)	8,715,347
Emerging market bonds ETF - domestic	(5,829,523)	3,770,909
Securitized asset fund - domestic	50,137	(47,058.00)
Subtotal Fixed Income Funds:	(17,260,703)	13,417,644
Special Strategies Funds:		
Private equity funds - domestic *	1,486,607	2,793,071
Private equity fund - international	(276,019)	296,468
Distressed debt funds - domestic	(1,480,790)	1,975,631
Distressed debt fund - international	5,100,871	4,504,650
Hedge funds - domestic	-	1,226,755
Multi-asset fund - domestic	67,082	1,268,849
Life settlement funds - domestic	3,536,673	2,748,340
Subtotal Special Strategies Funds:	8,434,424	14,813,764
Real Estate Funds	13,853,658	8,232,702
Total Net Appreciation (Depreciation) of Investments	\$ (68,066,950)	\$ 191,594,755

* Private equity-domestic includes GPB Holdings II, LP, which is valued at \$25.0 million, the initial capital contribution invested in the fund in 2017. As of the date of this report, the Pension Plan has not received the fair market value statements from GPB Holdings II, LP for the years ended December 31, 2018 and 2017.



Foreign Investments-Derivatives

Derivative instruments are often complex financial arrangements used by governments to manage specific risks or to make investments. The value of a derivative or the cash it provides to a government is based on changes in the market of the item that is being hedged. At year end, the MLGW Pension Plan held foreign currency contracts that were used for investment purposes and not for hedging. They are designed to settle in three days after the trade date in order to correspond with the matching equity trade(s) which also settle in three days after the trade date. They are considered spot contracts and are not regarded as derivative instruments within the meaning of GASB 53.

Credit Risk

Credit risk for investments is the risk that an issuer or other counterparty to an investment will default and not meet its obligations. This risk is measured by the credit quality ratings issued by nationally recognized statistical rating organizations. Investments in obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk.

The MLGW Pension Plan's investment managers are co-fiduciaries of the fund. All Investment Managers are expected to invest the assets entrusted to them according to the goals and objectives of the Fund and within the constraints placed on them by the Investment Committee. While each manager will have his/her own individual set of guidelines, there are certain responsibilities specific to all managers.

The global fixed income manager's goal is to exceed the return (net of fees) above appropriate bond indices, have a minimum quality rating of investment grade "BBB-, Baa3, etc." for all fixed income and have no holdings of any one security of more than five (5.0%) in the Investment Manager's portfolio. The average duration of the portfolio should not exceed the appropriate index by more than twenty percent (20%). No more than ten percent (10%) of an Investment Manager portfolio may be invested with a single corporate issuer.

An Investment Manager may invest no more than twenty-five percent (25%) of the portfolio in the securities of a single non-US government guaranteed agency or supranational authority. Additionally, an Investment Manager may invest no more than twenty-five percent (25%) of the portfolio in emerging markets debt securities.

Approximately 32.3% of the MLGW Pension Plan's investment portfolio is held in partnerships. Partnerships establish their own market value and set their own pricing. Partnerships include special strategies and real estate funds.



RETIREMENT AND PENSION SYSTEM

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Years Ended December 31, 2018 and 2017

The following tables represent the MLGW Pension Plan's investment exposure to credit risk based on Standard & Poor's and Moody's Investor Service ratings:

As of December 31, 2018 the Plan's investments were rated as follows by Standard & Poor's:

Investment Type	AAA	AA	A	BBB	BB	B	CCC	CC	D	Not Rated/ Categorized or Quality Rating not Available	US Government Guaranteed	Total
Asset Backed Securities				\$ 4,431,227						\$ 8,809,733	\$ 188,383	\$ 13,429,343
Collateralized Bonds										325,470		325,470
Commercial Mortgage-Backed										5,530,036		5,530,036
Commercial Paper										8,904,661		8,904,661
Corporate Bonds	1,039,221	4,371,644	18,504,503	26,265,419	7,509,778	5,076,018	1,297,252			21,996,746		86,060,581
Corporate Convertible Bonds					125,775							125,775
Funds - Government Agencies											69,591,109	69,591,109
Funds - Short Term Investment										11,329,557		11,329,557
Government Agencies	1,952,841	8,838,804		1,871,274						3,544,595	342,938	16,550,452
Government Bonds		399,095	5,868,126	5,263,517	6,693,324	13,052,850			295,275	10,681,913	660,012	42,914,112
Government Mortgage Backed Securities											4,485,032	4,485,032
Government Issued Commercial Mortgage-Backed											8,915,406	8,915,406
Life Settlement Funds										17,410,486		17,410,486
Municipal/Provincial Bonds		243,828		405,432		816,981				185,310		1,651,551
Non-Government Backed CMOs	232,888											232,888
Short Term Bills and Notes										342,903	7,407,092	7,749,995
Sukuk				556,303						298,500		854,803
Total Market Value by Rating	\$ 3,224,950	\$ 13,853,371	\$ 24,372,629	\$ 38,793,172	\$ 14,328,877	\$ 18,945,849	\$ 1,297,252	\$ -	\$ 295,275	\$ 89,359,910	\$ 91,589,972	\$ 296,061,257

As of December 31, 2018 the Plan's investments were rated as follows by Moody's Investor Services:

Investment Type	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C	Not Rated/ Categorized or Quality Rating not Available	US Government Guaranteed	Total
Asset Backed Securities			\$ 840,709	\$ 4,851,960						\$ 7,548,291	\$ 188,383	\$ 13,429,343
Collateralized Bonds				325,470								325,470
Commercial Mortgage-Backed										5,530,036		5,530,036
Commercial Paper										8,904,661		8,904,661
Corporate Bonds	2,967,399	4,735,227	13,848,496	27,979,643	8,858,942	7,315,961	2,026,296			18,328,617		86,060,581
Corporate Convertible Bonds					125,775							125,775
Funds - Government Agencies											69,591,109	69,591,109
Funds - Short Term Investment	11,329,557											11,329,557
Government Agencies	10,833,083		361,688	3,315,655		342,938				1,697,089		16,550,453
Government Bonds	660,012	399,095	8,750,268	5,380,245	5,166,533	8,734,509	2,455,166		295,275	9,468,877	1,604,132	42,914,112
Government Mortgage Backed Securities											4,485,032	4,485,032
Government Issued Commercial Mortgage-Backed											8,915,406	8,915,406
Life Settlement Funds										17,410,486		17,410,486
Municipal/Provincial Bonds	243,828			590,742		816,981						1,651,551
Non-Government Backed CMOs										232,888		232,888
Short Term Bills and Notes										342,903	7,407,091	7,749,994
Sukuk			298,500	556,303								854,803
Total Market Value by Rating	\$ 26,033,879	\$ 5,134,322	\$ 24,099,661	\$ 43,000,018	\$ 14,151,250	\$ 17,210,389	\$ 4,481,462	\$ -	\$ 295,275	\$ 69,463,848	\$ 92,191,153	\$ 296,061,257



Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of failure of the counterparty to a transaction, the Fund will not be able to recover the value of its investment or collateral securities that are in the possession of another party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the government, and are held by either the counterparty, or the counterparty's trust department or agent but not in the name of Fund. Investments in external investment pools and in open-end mutual funds are not exposed to custodial credit risks because their existence is not evidenced by securities that exist in physical or book entry form. To further limit Custodial Credit Risk exposure all cash and securities in physical or book entry form shall be held in safekeeping by a designated third-party custodian, its sub-custodians or depositories in the name of the designated fund. As part of its function under the Investment Policy Statement, the Investment Committee, or its designee, receives and periodically reviews lists identifying assets held in designated custodial name or depositories. As of December 31, 2018, there were no investments exposed to custodial credit risk.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss in relation to the amount of an investment in a single issuer. Governments should provide information about the concentration of risk associated with their investments by disclosing any one issuer that represents 5.0% or more of the total investments.

The MLGW Pension Plan's charter states that the Pension Board shall be able to make such investments as authorized by state law and as it deems proper. No Investment Manager should have more than 15% of the total portfolio of the Fund, excluding passively managed strategies such as index mutual funds, indexed ETFs, and other indexed commingled funds. The MLGW Pension Plan's fund will not have holdings in any one issuer of more than 5.0 to 10.0%, excluding US government and agency issues, investments in mutual funds and investments diversified to limit the exposure to any one issuer.

Of the investments subject to concentration of credit risk, there were no investments in any one issuer that represented 5.0% or more of the fund.

Interest Rate Risk

Interest rate risk is borne by changes in interest rates that unfavorably affect the fair value of an investment in debt securities. The MLGW Pension Plan's investment policy does not limit investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.



RETIREMENT AND PENSION SYSTEM
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Years Ended December 31, 2018 and 2017

At December 31, 2018, the MLGW Pension Plan had the following investments with effective duration:

Investment Type	Market Value	Effective Duration (in years)
Asset Backed Securities	\$ 12,679,486	2.7
Collateralized Bonds	325,470	6.1
Commercial Mortgage-Backed	5,327,573	4.7
Commercial Paper	8,904,661	0.4
Corporate Bonds	84,067,237	7.3
Corporate Convertible Bonds	125,775	6.2
Government Agencies	16,550,452	3.7
Government Bonds	42,914,112	6.1
Government Mortgage Backed Securities	4,485,032	7.0
Gov't-issued Commercial Mortgage-Backed	8,915,405	3.6
Municipal/Provincial Bonds	1,651,551	3.0
Non-Government Backed C.M.O.s	232,888	6.9
Short Term Bills and Notes	7,749,995	0.5
Sukuk	854,803	7.6
Subtotal:	<u>\$ 194,784,440</u>	
Asset Backed Securities	\$ 749,857	Unavailable
Commercial Mortgage-Backed	202,463	Unavailable
Corporate Bonds	1,993,344	Unavailable
Funds-Government Agencies	69,591,110	Unavailable
Funds- Short term Investments	11,329,557	Unavailable
Life Settlement Fund-Corry Capital	17,410,486	Unavailable
Subtotal:	<u>\$ 101,276,817</u>	
Total Investments with Effective Duration	<u><u>\$ 296,061,257</u></u>	



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
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Foreign Currency Risk

Foreign currency risk is the risk that an investor will have to close out a position in a foreign currency at a loss due to an adverse movement in exchange rates.

The MLGW Pension Plan's exposure to foreign currency risk at December 31, 2018, is as follows:

Investments	Currency	Fair Value
Common stock	British pound - United Kingdom	\$ 26,136,442
Preferred stock	British pound - United Kingdom	7,999
Common stock	Canadian dollar - Canada	5,321,596
Common stock	Euro - France	2,226,667
Common stock	Euro - Germany	5,194,677
Common stock	Euro-Italy	2,542,912
Preferred stock	Euro - Germany	3,473,573
Common stock	Euro - Netherlands	2,974,670
Common stock	Euro - Spain	764,998
Common stock	Euro - United Kingdom	3,017,205
Common stock	Hongkong dollar - China	2,818,539
Common stock	Japanese yen - Japan	11,114,149
Common stock	Korean won - Republic of Korea	3,710,656
Common stock	Swiss franc - Switzerland	10,366,010
Common stock	Turkey	299,077
Short Term Bills and Notes	Argentina	342,903
Government Bonds	Brazil	3,138,904
Government Bonds	Chile	1,469,708
Government Bonds	Columbia	1,729,751
Government Bonds	Hungary	2,366,405
Government Bonds	Indonesia	1,341,968
Government Agencies	Multi-National Agencies Region-Indonesia	2,296,129
Government Agencies	Multi-National Agencies Region-India	697,769
Government Bonds	Mexico	1,166,174
Government Bonds	Peru	1,310,142
Government Bonds	Poland	1,899,380
Government Bonds	Romania	1,138,614
Government Bonds	Russia Federation	1,074,171
Government Bonds	South Africa	2,042,550
Total foreign currency exposure		\$ 101,983,738



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

Securities Lending Transactions

The MLGW Pension Plan has authorized The Northern Trust Company (“Agent”) to enter into, on behalf of the plan, securities lending transactions – loans of securities to broker-dealers and other entities in exchange for collateral with a simultaneous agreement to return the collateral for the same securities in the future. MLGW authorizes the Agent to accept in exchange for borrowed securities, cash collateral having an initial market value of at least 102% of the market value of borrowed securities, or 105.0% of the market value of borrowed securities and collateral if they are denominated in different currencies. The borrower is required to deliver additional collateral when necessary so that the total collateral held by the Agent for all loans to the borrower of all participating lenders will at least equal the market value of all the borrowed securities of all participating lenders loaned to the borrower. The MLGW Pension Plan does not have the ability to pledge or sell collateral securities without a borrower default. The maturities of the investments made with cash collateral do not necessarily match the maturities of securities on loan.

The Agent may terminate a loan at any time and the borrower must deliver equivalent securities to the Agent. The Agent is required to indemnify the plan if the Agent is unable to recover borrowed securities and distributions made due to the Agent’s: 1) failure to make a reasonable determination of the borrower’s creditworthiness, 2) failure to demand adequate collateral on a timely basis or 3) failure to perform its duties in accordance with the lending agreement held with the MLGW Pension Plan.

Collateral held in trust for securities on loan included in the 2018 and 2017 statements of plan net position consisted of cash and noncash collateral. At December 31, 2018 and 2017, the MLGW Pension Plan had no credit risk exposure to borrowers because the amounts the MLGW Pension Plan owed to the borrowers exceeded the amounts the borrowers owed the MLGW Pension Plan. Investments held by broker-dealers under securities loans consist of the following:

As of December 31, 2018						
Securities Type	Market Value of Securities on Loan			Collateral Received from Borrowers		
	Cash Collateral	Non-Cash Collateral	Total	Cash Collateral	Non-Cash Collateral ¹	Total
Global Equities	\$ 453,690	\$ 10,941,151	\$ 11,394,841	\$ 473,584	\$ 11,586,436	\$ 12,060,020
U.S. Agencies	134,128	134,128	268,256	136,500	140,643	277,143
U.S. Corporate Fixed	5,722,186	1,055,859	6,778,045	5,831,453	1,102,602	6,934,055
U.S. Equities	56,784,647	11,690,156	68,474,803	57,610,522	12,000,729	69,611,251
U.S. Government Fixed	-	1,488,670	1,488,670	-	1,516,788	1,516,788
Total	\$ 63,094,651	\$ 25,309,964	\$ 88,404,615	\$ 64,052,059	\$ 26,347,198	\$ 90,399,257

As of December 31, 2017						
Securities Type	Market Value of Securities on Loan			Collateral Received from Borrowers		
	Cash Collateral	Non-Cash Collateral	Total	Cash Collateral	Non-Cash Collateral ¹	Total
Global Equities	\$ -	\$ 1,559,441	\$ 1,559,441	\$ -	\$ 1,646,696	\$ 1,646,696
U.S. Agencies	254,644	-	254,644	261,380	-	261,380
U.S. Corporate Fixed	6,922,930	246,665	7,169,595	7,102,322	252,402	7,354,724
U.S. Equities	104,420,372	10,273,809	114,694,181	107,285,513	10,538,392	117,823,905
U.S. Government Fixed	8,872,977	11,785,264	20,658,241	9,091,985	12,037,571	21,129,556
Total	\$ 120,470,923	\$ 23,865,179	\$ 144,336,102	\$ 123,741,200	\$ 24,475,061	\$ 148,216,261

¹ Collateral values are estimates based on program wide collateralization levels.



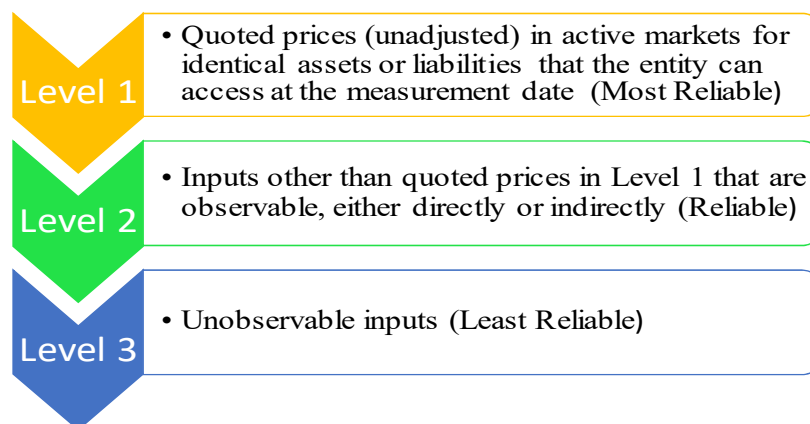
5. FAIR VALUE MEASUREMENTS

The definition of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. GASB 72 requires a government to use valuation techniques that are appropriate under the circumstances and for which sufficient data are available to measure fair value. This Statement establishes a hierarchy that prioritizes and ranks the inputs to valuation techniques used to measure fair value based on observability. The accounting standards break down the fair value hierarchy into three levels, based on how observable the inputs are that make up the valuation. The most observable inputs are classified as Level 1, inputs other than quoted prices included within level 1 that are observable for an asset or liability, either directly or indirectly are classified as Level 2, and the unobservable inputs are classified as Level 3.

Level 1: Fair value is determined using unadjusted quoted prices for identical assets or liabilities in active markets that are accessible on the measurement date. The MLGW Pension Plan includes short-term securities, debt securities, and equity securities in this level.

Level 2: Fair value is determined using quoted market prices for similar asset or liability in active markets; quoted prices for identical or similar asset or liability in inactive market; inputs other than quoted prices that are observable for the asset or liability; market-corroborated inputs. The MLGW Pension Plan's debt and equity securities in this level are based on the matrix pricing approach with access to observable information such as trades and quotes.

Level 3: Fair value is determined using unobservable inputs for an asset or liability. As a general rule, Level 3 inputs are those that are difficult to obtain on a regular basis and require verification from an outside party to validate the valuation. The MLGW Pension Plan's debt securities in this level are based on an independent pricing evaluator that did not have direct observable information.





RETIREMENT AND PENSION SYSTEM
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The following table displays information regarding investments measured using the fair value hierarchy:

	Fair Value Measurements Using							
	December 31 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)				
Investments by Fair Value Level								
Short-term securities	\$	16,744,657	\$	7,407,092	\$	432,903	\$	8,904,662
Debt Securities								
Asset backed securities		13,240,960		-		3,482,677		9,758,283
Corporate bonds		86,186,356		-		84,126,835		2,059,521
Debt other		69,916,579		-		69,591,109		325,470
Government bonds		21,493,862		-		21,493,862		-
Government mortgage-backed securities		13,400,437		-		4,465,106		8,935,331
Municipal bonds		1,651,551		-		1,466,241		185,310
Non-government bonds		20,760,238		-		20,760,238		-
Non-government mortgage-backed securities		5,762,924		-		929,086		4,833,838
U.S. government agencies		16,738,836		-		16,290,523		448,313
U.S. treasury securities		660,012		660,012		-		-
Total debt securities		249,811,755		660,012		222,605,677		26,546,066
Equity Securities								
Communication services		17,223,997		17,223,997		-		-
Consumer discretionary		25,314,814		25,314,814		-		-
Consumer staples		7,286,955		7,286,955		-		-
Energy		27,216,977		27,216,977		-		-
Equity other		398,097,526		398,097,526		-		-
Financials		51,963,874		51,243,424		720,450		-
Health care		31,621,122		31,621,122		-		-
Industrials		37,817,406		37,809,407		-		7,999
Information technologies		37,704,977		37,704,977		-		-
Materials		14,994,250		14,994,250		-		-
Telecommunication services		-		-		-		-
Utilities		6,271,757		6,271,757		-		-
Real estate		4,882,789		4,882,789		-		-
Total equity securities		660,396,444		659,667,995		720,450		7,999
Sukuk		854,803		-		854,803		-
Total investments by fair value level	\$	927,807,659	\$	667,735,098	\$	224,613,833	\$	35,458,727
Investments measured at the net asset value (NAV) *								
Distressed debt funds	\$	92,674,703						
Life settlement funds		64,882,987						
Fixed income		2,523,372						
Multi-asset fund		12,587,841						
Private equity funds		39,970,183						
Real estate funds		208,346,632						
Total investments measured at NAV	\$	420,985,718						
Investment at cost, fair value not received **								
Private equity fund	\$	25,000,000						
Total Investments		\$ 1,373,793,377						

* In accordance with GASB 72, certain investments that were measured at NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in the Statements of Fiduciary Net Position.

** The Pension Plan investment in GPB Holdings II, LP is valued at \$25.0 million, the initial capital contributed to the fund in 2017. As of the date of this report, the Plan has not received the fair market value statement at December 31, 2018. The amount presented is a reconciling item and has not been classified in the hierarchy or the investments measured at the net asset value (NAV).



RETIREMENT AND PENSION SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
Years Ended December 31, 2018 and 2017

Investments in Certain Entities that Calculate Net Asset Value (NAV) Per Share

MLGW Pension Plan measures certain investments that do not have a readily determinable fair value using NAV as a practical expedient. These investments are generally structured as limited partnerships, hedge funds, private equity funds, and real estate funds. The investments measured at NAV as a practical expedient are excluded from the fair value hierarchy because the valuation is not based on actual market inputs, but rather is quantified using the fund's reported NAV.

The following table displays information regarding investments that use NAV per share (or equivalent) as their fair value measurement:

Investments Measured at the Net Asset Value (NAV)				
	Fair Value December 31, 2018	Unfunded Commitments	Redemption Notice Period	Redemption Frequency (if Currently Eligible)
Distressed debt funds ⁽¹⁾	\$ 92,674,703	\$ 71,993,244		
Life settlement funds ⁽²⁾	64,882,987	-	120 - 180 days	Quarterly
Fixed income funds ⁽³⁾	2,523,372	47,500,000		
Multi-asset fund ⁽⁴⁾	12,587,841	-		Quarterly
Private equity funds ⁽⁵⁾	39,970,183	3,810,000		
Real estate funds ⁽⁶⁾	208,346,632	8,245,777	30 - 91 days	Quarterly or 2 years
Total investments measured at NAV	\$ 420,985,718	\$ 131,549,021		

- ⁽¹⁾ This category includes five distressed debt funds that invest in senior secured debt and stressed assets that are restructuring or believed to be misunderstood in the market place. MLGW Pension Plan investment in each fund is generally not subject to redemption and is normally returned through distributions as a result of the liquidation. It is expected that the underlying assets of the funds will be liquidated over the next 4 to 9 years.
- ⁽²⁾ This category includes three life settlement funds that invest in longevity contingent assets, including life settlements and a portfolio of individual, non-variable, life insurance policies. MLGW Pension Plan investments in this category representing 26.8% can be redeemed quarterly with 120 days notice. The remaining 47.5% can be redeemed quarterly with 180 days notice. The remaining 25.7% is not subject to redemption and it is expected that the underlying assets of this fund will be liquidated over the next 9 years.
- ⁽³⁾ This category is composed of a fixed income fund that is managed by the securitized products. The fund is an opportunistic, enhanced total return fixed income strategy that seeks to take advantage of the investment opportunity created by dislocated and mispriced assets in the residential mortgage backed sector. MLGW Pension Plan investment in this category is generally not subject to redemption and it is expected that the underlying assets of this fund will be liquidated over the next 6 years.
- ⁽⁴⁾ This category is composed of a multi-asset fund that employs alternative strategies under a flexible mandate including both fund and direct investments. MLGW Pension Plan investment in this category can be redeemed quarterly.
- ⁽⁵⁾ This category includes five private equity funds that invest in health care and technology, utilities, transportation, and energy assets, high quality cash flowing companies and secondary investments across various sectors. MLGW Pension Plan investments in this category are not subject to redemption and are normally returned through distributions as a result of the liquidation. It is expected that the underlying assets of these funds will be liquidated over the next 4 to 10 years.
- ⁽⁶⁾ This category includes five real estate funds that invest in office, retail, industrial, and multi-family properties. MLGW Pension Plan investments in this category representing 16.2% can be redeemed quarterly with 30 days notice; 20.2% can be redeemed 2 years after notice; 34.5% can be redeemed quarterly with 91 days notice. The remaining 29.1% are not subject to redemption and it is expected that the underlying assets of these funds will be liquidated over the next 7 to 9 years.



6. INCOME TAX STATUS

The MLGW Pension Plan received a favorable determination letter from the Internal Revenue Service dated October 30, 2017.

The MLGW Pension Plan is qualified under Section 401(a) of the Internal Revenue Code (the “Code”); therefore, the related trust is exempt from taxation.

See next page

REQUIRED SUPPLEMENTARY INFORMATION



RETIREMENT AND PENSION SYSTEM
REQUIRED SUPPLEMENTARY INFORMATION
Years Ended December 31, 2018 and 2017

Schedule of Changes in Retirement and Pension System's Net Pension Liability

	2018	2017	2016	2015	2014	2013
Total Pension Liability						
Service cost	\$ 31,185,071	\$ 31,977,390	\$ 32,590,805	\$ 30,139,353	\$ 31,786,185	\$ 33,122,294
Interest	108,431,791	103,730,509	102,247,950	99,939,763	100,436,012	98,818,230
Change in benefit terms	-	-	-	-	-	-
Differences between expected and actual experience	3,725,938	4,908,452	(11,297,656)	2,274,807	(16,338,083)	(14,280,030)
Changes of assumptions	-	-	-	-	(22,111,951)	-
Benefit payments, including refunds of employee contributions	(113,315,849)	(104,919,467)	(102,627,833)	(100,528,352)	(100,249,274)	(91,930,874)
Net change in total pension liability	30,026,951	35,696,884	20,913,266	31,825,571	(6,477,111)	25,729,620
Total pension liability - beginning	<u>1,471,230,073</u>	<u>1,435,533,189</u>	<u>1,414,619,923</u>	<u>1,382,794,352</u>	<u>1,389,271,463</u>	<u>1,363,541,843</u>
Total pension liability - ending (a)	<u>\$ 1,501,257,024</u>	<u>\$ 1,471,230,073</u>	<u>\$ 1,435,533,189</u>	<u>\$ 1,414,619,923</u>	<u>\$ 1,382,794,352</u>	<u>\$ 1,389,271,463</u>
Plan fiduciary net position						
Contributions - employer	22,174,419	22,389,805	21,390,060	21,390,060	26,804,170	30,706,286
Contributions - employee	13,216,689	12,958,804	12,513,273	12,309,664	11,729,085	12,000,254
Net investment income	(39,995,874)	216,498,126	108,008,264	15,231,323	98,931,237	185,706,622
Benefit payments, including refunds of employee contributions	(113,315,849)	(104,919,467)	(102,627,833)	(100,528,352)	(100,249,274)	(91,930,874)
Administrative expense	(871,948)	(859,736)	(729,599)	(758,946)	(714,266)	(657,209)
Other	-	-	-	-	-	-
Net change in plan fiduciary net position	(118,792,563)	146,067,532	38,554,165	(52,356,251)	36,500,952	135,825,079
Other adjustments	-	-	-	787,877 *	-	-
Plan fiduciary net position - beginning	<u>1,512,237,276</u>	<u>1,366,169,744</u>	<u>1,327,615,579</u>	<u>1,379,183,953</u>	<u>1,342,683,001</u>	<u>1,206,857,922</u>
Plan fiduciary net position - ending (b)	<u>\$ 1,393,444,713</u>	<u>\$ 1,512,237,276</u>	<u>\$ 1,366,169,744</u>	<u>\$ 1,327,615,579</u>	<u>\$ 1,379,183,953</u>	<u>\$ 1,342,683,001</u>
Net pension liability - ending (a) - (b)	\$ 107,812,311	\$ (41,007,203)	\$ 69,363,445	\$ 87,004,344	\$ 3,610,399	\$ 46,588,462
Plan fiduciary net position as a percentage of the total pension liability	92.82%	102.79%	95.17%	93.85%	99.74%	96.65%
Covered - employee payroll	\$ 169,605,389	\$ 167,220,851	\$ 161,925,757	\$ 160,640,772	\$ 152,367,924	\$ 154,759,208
Net pension liability as percentage of covered employee payroll	63.57%	-24.52%	42.84%	54.16%	2.37%	30.10%

Notes to Schedule:

Benefit changes : There have been no changes in benefit provisions since GASB 67 implementation.

Change of assumptions : The assumptions were updated between December 31, 2013 and December 31, 2014 based on a five-year experience study for the period ending December 31, 2013. There have been no changes in the last three fiscal years.

* The Actuary used preliminary data on net investment income (in 2014) and administrative expense (in 2013); however, the Pension Plan's annual report reflected late-reporting received from money managers. Therefore, the ending balance as of 12/31/2014 was understated by \$787,877. "Other Adjustments" represents the correction of the beginning balance at 12/31/2015.



RETIREMENT AND PENSION SYSTEM
REQUIRED SUPPLEMENTARY INFORMATION
Years Ended December 31, 2018 and 2017

Schedule of Division's Contributions to the Retirement and Pension System
Last Ten Fiscal Years

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered- Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2018	\$ 22,174,419	\$ 22,174,419	\$ -	\$ 169,605,389	13.07%
2017	22,389,805	22,389,805	-	167,220,851	13.39%
2016	21,390,060	21,390,060	-	161,925,757	13.21%
2015	21,390,060	21,258,344	131,716 *	160,640,772	13.32%
2014	26,812,140	26,804,170	7,970	152,367,924	17.59%
2013	30,705,469	30,706,286	(817)	154,759,208	19.84%
2012	30,067,184	30,062,947	4,237	154,346,706	19.48%
2011	26,208,301	26,212,629	(4,328)	154,036,290	17.02%
2010	27,381,023	27,384,615	(3,592)	153,509,072	17.84%
2009	22,400,925	21,388,274	1,012,651	154,057,060	13.88%

Notes to Schedule:

Valuation date:

The actuarially determined contribution (ADC) is calculated using January 1 valuation date as of the beginning of the fiscal year prior to the year in which contributions are reported. Therefore, the ADC for the year ended December 31, 2018 is based on the January 1, 2017 actuarial valuation.

Actuarial methods and assumptions used to determine contribution rates for the year ended December 31, 2018:

Actuarial cost method	Entry age
Amortization method	Level percent of payroll, using 1.50% annual increases
Remaining amortization period	24 years remaining as of January 1, 2017
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 30% of the market value.
Investment rate of return	7.50%, including inflation, net of pension plan investment expense
Inflation rate	2.75%
Cost-of-living adjustments	0.83% for ages 56-58 1.65% for ages 59-61 2.06% for ages 62 and older, and all disabled participants

Other information

* The MLGW Pension Plan adopted GASB Statement No. 82 in 2016. To present the comparative statements for 2016 and 2015, the Division contributions for 2015 were restated to reflect the Executive contributions as a part of Member contributions.



RETIREMENT AND PENSION SYSTEM
REQUIRED SUPPLEMENTARY INFORMATION
Years Ended December 31, 2018 and 2017

Schedule of Investment Return

Year Ended December 31	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent
2018	\$ 89,065,015	6.33	\$ (39,995,874)	(2.72)
2017	127,928,003	9.45	216,498,126	16.27
2016	116,897,173	8.95	109,044,572	8.44
2015	112,201,227	8.89	14,970,639	1.11
2014	138,270,129	11.63	98,931,237	7.54
2013	144,028,841	13.08	185,706,622	15.71
2012	33,852,220	3.04	156,645,120	14.60
2011	14,803,483	1.29	48,903,443	4.57
2010	24,728,193	2.12	131,093,537	13.29
2009	55,475,605	4.80	144,287,472	16.31
Total	\$ 857,249,889		\$ 1,066,084,894	
Five-year average return		8.97%	5.92%	
Ten-year average return		7.02%	8.92%	

Note: Each year's yield is weighted by the average asset value in that year.

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart above shows the rate of return on an actuarial basis compared to the actual market value investment return for the last ten years, including five-year and ten-year averages.



**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN
ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

Board of Commissioners and Management
Memphis Light, Gas and Water Division
Retirement and Pension System
Memphis, Tennessee

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the Memphis Light, Gas and Water Division Retirement and Pension System (the "Plan"), as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements, and have issued our report thereon dated May 31, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit, we considered the Plan's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, we do not express an opinion on the effectiveness of the Plan's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control reporting that might be significant deficiencies, or material weakness. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weakness. However, material weakness may exist that have not been identified.



Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Plan's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal controls and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Memphis, Tennessee
May 31, 2019

**MEMPHIS LIGHT, GAS AND WATER DIVISION
RETIREMENT AND PENSION SYSTEM**

Schedule of Prior Year Findings and Responses
For the Year Ended December 31, 2018

There were no prior findings reported.