



Actuarial Valuation Report

City of Michie Water Systems

The Local Government Employer Group Plan

For the Fiscal Year Ending June 30, 2020

Measurement Date June 30, 2019

Department ID 92551 **(Revised December 2020)**

Introduction

This report documents the results of the OPEB actuarial valuation for the fiscal year ending June 30, 2020 of the Local Government Employee Group Plan for the Local Employer. These results are based on a Measurement Date of June 30, 2019 and include medical benefits provided to the retirees and covered spouses by the Local Employer. All reporting requirements are included in the employer's financial statement. The information provided in this report is intended strictly for documenting information relating to the employer and plan disclosure and reporting requirements.

Determinations for purposes other than the financial accounting requirements may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board. In addition, the valuation results are based on our understanding of the financial accounting and reporting requirements under U.S. Generally Accepted Accounting Principles as set forth in Government Accounting Standards Board Statement 75 (GASB 75) including any guidance or interpretations provided by the Company and/or its audit partners prior to the issuance of this report. The information in this report is not intended to supersede or supplant the advice and interpretations of the Local Employer's auditors. Additional disclosures may be required under GASB 74.

A valuation model was used to develop the liabilities for the June 30, 2019 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of The Local Government Employer Group Plan.

The valuation model outputs various cost scenarios. The "1% increase" and "1% decrease" interest rate scenarios vary only the discount rate assumption, in order to illustrate the impact of a change in that assumption in isolation. In practice, certain other assumptions would also be expected to vary when the discount rate changes. Therefore, the output from these scenarios should be used solely for assessing the impact of the discount rate in isolation and may not represent a realistic set of results for other purposes.

The "1% increase" and "1% decrease" healthcare cost trend scenarios vary only the healthcare cost trend assumption, in order to illustrate the impact of a change in that assumption in isolation. Therefore, the output from these scenarios should be used solely for assessing the impact of the healthcare cost trend in isolation and may not represent a realistic set of results for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to (but not limited to) such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in actuarial methods or in economic or demographic assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions or applicable law.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

Funded status measurements shown in this report are determined based on various measures of plan assets and liabilities. For entity and plan disclosure and reporting purposes, funded status is determined using plan assets measured at market value. Plan liabilities are measured based on the interest rates and other assumptions summarized in the Actuarial Assumptions and Methods section of this report.

These funded status measurements may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and funded status measurements for the Local Employer and plan disclosure and reporting purposes may not be appropriate for assessing the need for or the amount of future contributions. In conducting the valuation, we have relied on personnel, plan design, health care claim cost, and asset information supplied by the Local Employer as of the valuation date. For detailed plan provisions and health care cost development, please refer to the consolidated Local Government Employee Group Plan report. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

The actuarial assumptions and methods used in this valuation are described in the Actuarial Assumptions and Methods section of this report and the consolidated Local Government Employee Group Plan report. The State of Tennessee selected the economic and demographic assumptions and prescribed them for use for purposes of compliance with GASB 75. Aon provided guidance with respect to these assumptions, and it is our belief that the assumptions represent reasonable expectations of anticipated plan experience.

The undersigned are familiar with the near-term and long-term aspects of OPEB valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. The information provided in this report is dependent upon various factors as documented throughout this report, which may be subject to change. Each section of this report is considered to be an integral part of the actuarial opinions.

To our knowledge, no colleague of Aon providing services to the Local Employer has any material direct or indirect financial interest in the Local Employer. Thus, we believe there is no relationship existing that might affect our capacity to prepare and certify this actuarial report for the Local Employer.

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Accounting Requirements

Development of GASB 75 Net OPEB Expense

Calculation Details

The following table illustrates the Net OPEB Liability under GASB 75.

	Fiscal Year Ending June 30, 2020
(1) Total OPEB Liability	\$ 0
(2) Plan Fiduciary Net Position	<u>0</u>
(3) Net OPEB Liability	\$ 0
(4) Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	0%
(5) Deferred Outflow of Resources for Contributions Made After Measurement Date	\$ 0

Expense

The following table illustrates the OPEB expense under GASB 75.

	Fiscal Year Ending June 30, 2020
(1) Service Cost	\$ 839
(2) Interest Cost	239
(3) Expected Investment Return	0
(4) Employee Contributions	0
(5) Administrative Expense	0
(6) Plan Changes	(6,837)
(7) Amortization of Unrecognized	
(a) Liability (Gain)/Loss	437
(b) Asset (Gain)/Loss	0
(c) Assumption Change (Gain)/Loss	<u>(119)</u>
(8) Total Expense	\$ (5,441)

Deferred Outflows/Inflows

The following table illustrates the Deferred Inflows and Outflows as of June 30, 2020 under GASB 75.

	Deferred Outflows	Deferred Inflows
(1) Difference Between Actual and Expected Experience	\$ 0	\$ 0
(2) Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	0	0
(3) Assumption Changes	0	0
(4) Sub Total	\$ 0	\$ 0
(5) Contributions Made in Fiscal Year Ending June 30,2020 After Measurement Date	0	TBD
(6) Total	\$ 0	\$ 0

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of June 30, 2020.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
6/30/2020	Liability (Gain)/Loss	9.51	9.51	\$ 0	\$ 0	\$ 0
6/30/2020	Assumptions	9.51	9.51	\$ 0	\$ 0	\$ 0
6/30/2019	Liability (Gain)/Loss	11.80	11.80	\$ 478	\$ 0	\$ 437
6/30/2019	Assumptions	11.80	11.80	\$ 149	\$ 0	\$ 136
6/30/2018	Assumptions	12.00	12.00	\$ (307)	\$ 0	\$ (255)
	Total Charges				\$ 0	\$ 318

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows:

Year End June 30:

2021	\$	0
2022	\$	0
2023	\$	0
2024	\$	0
2025	\$	0
Total Thereafter	\$	0

Interest Rate Sensitivity

The following table illustrates the impact of interest rate sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2020:

	1% Decrease (2.51%)	Current Rate (3.51%)	1% Increase (4.51%)
Employer's Share of OPEB Liability	\$ 0	\$ 0	\$ 0

Healthcare Cost Trend Sensitivity

The following table illustrates the impact of healthcare cost trend sensitivity on the Net OPEB Liability for fiscal year ending June 30, 2020:

	1% Decrease	Trend Rate	1% Increase
Employer's Share of OPEB Liability	\$ 0	\$ 0	\$ 0

Disclosure—Changes in the Net OPEB Liability and Related Ratios

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending June 30, 2020
Total OPEB Liability	
Service Cost	\$ 839
Interest Cost	239
Changes of Benefit Terms	(6,837)
Differences Between Expected and Actual Experiences	0
Changes of Assumptions	0
Benefit Payments	(1)
Net Change in Total OPEB Liability	\$ (5,760)
Total OPEB Liability (Beginning)	5,760
Total OPEB Liability (Ending)	\$ 0
Covered-Employee Payroll	\$ N/A
Total OPEB Liability as a Percentage of Payroll	\$ N/A

¹ GASB 75 was effective first for employer fiscal years beginning after June 15, 2017.

Appendix

Participant Data

The actuarial valuation was based on personnel information from City of Michie Water Systems records as of June 30, 2019. Following are some of the pertinent characteristics from the personnel data as of that date.

	June 30, 2019
Actives eligible for benefits	
Number	0
Actives not eligible for benefits	
Number	0
Inactives entitled but not yet receiving benefits	
Number	0
Inactives currently receiving benefits	
Number	0
Total Participants	
Number	0

Actuarial Assumptions and Methods

The following outlines the assumptions and method Aon will use in determining the GASB expense calculations for the Local Government Employer Group Plan for the fiscal year ending June 30, 2020.

Actuarial Method	Entry Age Normal Cost Method
Normal Cost	Determined for each active employee as the Actuarial Present Value of benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan provisions. This allocation is based on each individual's service between date of hire and date the individual becomes fully eligible for benefits.
Asset Valuation Method	Market Value of Assets as of the Measurement Date
Discount Rate	3.51% based on Bond Buyer GO 20-Bond Municipal Bond Index as of the Measurement Date.
Mortality Rates	<p>Healthy: RP-2014 Employees and Healthy Annuitants mortality table projected generationally with MP-2016 from the central year.</p> <p>Post-retirement tables are Blue Collar and adjusted with a 2% load for males and a -3% load for females, projected generationally from 2014 with MP-2016.</p> <p>Disabled: Reflects those used by TCRS and are taken from the gender distinct table published in the IRS Revenue Ruling 96-7 for disabled lives with a 10% load.</p>
Valuation Date	June 30, 2019
Measurement Date	June 30, 2019
Census Data	June 30, 2019
Fiscal Year Ending	June 30, 2020
Inflation	Long-term price inflation is assumed to be 2.20% per year.

Data Assumptions

In cases of a discrepancy between expected service and service reported for this valuation, imputed service was used.

Salary Increases

Assumed salary increases are the same as used by TCRS: 8.72% at age 20 graded to 3.44% at age 70 (with 4.00% weighted average).

Health Care Claims

The sample per capita claims cost assumptions shown below by age, benefit, and plan represent the true underlying baseline experience estimated for Local Government Employee Group Plan's sponsored postretirement benefits and costs. These rates are used in the expense calculation for the period 7/1/2019–06/30/2020 and disclosures as of 06/30/2019.

Age	Medical/Rx/Admin
55	\$ 9,073
60	\$ 11,206
65	\$ 6,033
70	\$ 7,132
75	\$ 7,978
80	\$ 8,387
85	\$ 8,673
90+	\$ 8,831

Health Care Cost Trend Rates

Year	Pre-65	Post-65
2019	6.03%	5.20%
2020	5.84%	5.03%
2021	5.66%	4.85%
2022	5.48%	4.68%
2023	5.30%	4.50%
2024	5.12%	4.50%
2025	4.94%	4.50%
2026	4.76%	4.50%
2027	4.58%	4.50%
2028+	4.53%	4.50%

Demographic Assumptions

Unless noted otherwise, demographic assumptions employed in this Actuarial Valuation were the same as those employed in the July 1, 2017 for a Group I employees in the Pension Actuarial Valuation of the Tennessee Consolidated Retirement System (TCRS). These demographic assumptions were developed by TCRS from an Actuarial Experience Study (undertaken on behalf of TCRS) and are considered appropriate for use in this OPEB Actuarial Valuation. These include assumed rates of future salary increases, termination, mortality, disability, and retirement.

Future participation

Active employees currently declining coverage are assumed not to opt into the plan in the future. Covered employees are assumed to remain covered until retirement.

Decrement Timing

Decrements of all types are assumed to occur at the middle of the year.

Eligibility Testing

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Decrement Relativity

Decrement rates are treated as absolute rates of decrement.

Method Changes

There have been no method changes since the prior year.

Assumption Changes

The financial accounting valuation reflects the following assumption changes:

- The discount rate decreased from 3.62% to 3.51%.
- The medical and drug trend rate assumptions were updated to reflect more recent experience as of the Measurement Date.
- A change in expected per capita health claims to reflect more recent information as of the Measurement Date.