

November 11, 2019

Mr. Ike Boone
Financial Oversight Coordinator
F&A Division of Accounts
State of Tennessee
14th Floor, William Snodgrass Tower
312 Rosa L. Parks Avenue
Nashville, TN 37243

**Re: State of Tennessee - State Employee Group Plan
GASB No. 74 Disclosure Information as of June 30, 2019**

Dear Mr. Boone:

We have prepared the actuarial disclosure information required under Governmental Accounting Standards Board (GASB) Statement No. 74 for the plan year ending June 30, 2019.

The following exhibits were based upon financial information through June 30, 2019 and census data information as of June 30, 2018, both of which were furnished by the State of Tennessee. If any of this information changes during the auditing process (including census data, benefit payments, contributions, administrative expenses, or the actual market value of assets as of June 30, 2019), then the following exhibits will need to be revised:

- Statement of Changes in the Employer's Net OPEB Liability and Related Ratios, using the single discount rate
- Schedule of the Employer's Net OPEB Liability
- Notes to Net OPEB Liability
- Schedule of Contributions
- Notes to Schedule of Contributions
- Sensitivity Analysis

Please note that there are other items not listed above that will be required in the Plan's financial statements and/or the State's financial report to fully comply with GASB No. 74 standards. This additional information will need to be provided by the Plan's investment consultants, accountants or other financial statement preparers.

The actuarial valuation of the liabilities was determined as of June 30, 2018 and "rolled forward" to the reporting date, June 30, 2019. This allows for timelier reporting at the end of the year. Please refer to the June 30, 2018 GASB 75 actuarial valuation report dated June 30, 2019 for information related to participant data, economic and demographic assumptions, benefit provisions and other disclosures.

Required Disclosures

This information is intended to assist in preparation of the financial statements of the State of Tennessee. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 74. These calculations have been made on a basis that is consistent with our understanding of this Statement.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 74. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 74 may produce significantly different results. This report may be provided to parties other than the State of Tennessee, only in its entirety and only with the permission of the State. GRS is not responsible for unauthorized use of this report.

This report complements the GASB 75 actuarial valuation report with the valuation date of June 30, 2018, and information herein should be considered along with the information from that report, especially for additional discussions of the nature of actuarial calculations and for more information related to participant data, economic, demographic, health care trend, morbidity assumptions, and benefit provisions.

This report is based upon information, furnished to us by State staff, concerning other postemployment benefits (OPEB), active members, deferred members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not otherwise audited. We are not responsible for the accuracy or completeness of the information provided by State staff.

Based on the available data, the information contained in this report is accurate and fairly presents the actuarial position of the State of Tennessee OPEB Plan as of the reporting date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standard Board, and with applicable statutes. If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the author of the report prior to making such decision.

The findings in this report are based on census and claims data through June 30, 2018 and financial information through June 30, 2019. Future actuarial measurements may differ significantly from the current measurements presented in this letter due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in such 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, or additional cost or contribution requirements based on the plan's funded status) and changes in plan provisions or applicable law.

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The signing actuaries are independent of the plan sponsor.

James J. Rizzo and Piotr Krekora are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

We welcome your questions and comments.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY



James J. Rizzo, ASA, MAAA
Senior Consultant & Actuary



Piotr Krekora, ASA, MAAA
Consultant & Actuary

SUMMARY OF MEMBERSHIP INFORMATION

The following table provides a summary of the number of participants in the plan as of the valuation date (June 30, 2018):

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	7,844
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	120
Active Plan Members Eligible for Future Benefits	48,362
Active Plan Members Not Eligible for Future Benefits *	<u>4,290</u>
Total Plan Members	60,616

**Non-grandfathered employees who retire after attaining eligibility for Medicare benefits will not be eligible for coverage through the State Employee Group Plan.*

MEASUREMENT OF THE NET OPEB LIABILITY

The net OPEB liability is measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Historically, the State has not pre-funded any actuarially determined OPEB liability and instead used a pay-as-you-go funding arrangement for actual costs of OPEB liabilities incurred. However, pursuant to Sections 9-27-801, of the Tennessee Code Annotated, a trust (the "OPEB Trust") was established and began operating effective January 1, 2019, whereby the State Employee Group Plan was converted to a prefunding arrangement where assets are accumulated in the OPEB Trust and benefit payments are made directly from the OPEB Trust.

A Single Discount Rate of 6.0% was used to measure the total OPEB liability for reporting as of June 30, 2019. This Single Discount Rate was based on the expected rate of return on OPEB plan investments of 6.0%. The projection of cash flows used to determine this Single Discount Rate assumed that Actuarially Determined Contributions will be made by the employer in the full amount. Based on these assumptions, the OPEB 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 OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

**STATEMENT OF CHANGES IN THE EMPLOYER'S
NET OPEB LIABILITY AND RELATED RATIOS
GASB Statement No. 74**

Fiscal year ending June 30,	2019
Total OPEB Liability	
Service Cost	\$ 65,979,347
Interest on the Total OPEB Liability	50,851,664
Benefit Changes	-
Difference between Expected and Actual Experience	-
Assumption Changes*	(199,731,387)
Benefit Payments	(92,950,959)
Refunds	-
Net Change in Total OPEB Liability	(175,851,335)
Total OPEB Liability - Beginning (June 30, 2018)	1,385,238,244
Total OPEB Liability - Ending (June 30, 2019) (a)	\$ 1,209,386,909
Plan Fiduciary Net Position	
Contributions - Employer	\$ 301,486,469
Contributions - Benefits Paid from Employer's Resources	-
Contributions - Employee	-
Net Investment Income	5,167,197
Benefit Payments	(92,950,959)
Reimbursements	-
Refunds	-
Administrative Expense	-
Other	-
Net Change in Plan Fiduciary Net Position	213,702,707
Plan Fiduciary Net Position - Beginning	-
Plan Fiduciary Net Position - Ending (b)	\$ 213,702,707
Net OPEB Liability - Beginning	1,385,238,244
Net OPEB Liability - Ending (a) - (b)	\$ 995,684,202
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	17.67 %
Covered Employee Payroll (CEP)**	\$ 2,886,193,518
Net OPEB Liability as a Percentage of CEP	34.50 %

*Change in a discount rate due to creation of an OPEB Trust.

** Payroll amount for the FYE 6/30/2019 is an estimate.

SCHEDULE OF THE EMPLOYER'S NET OPEB LIABILITY
GASB Statement No. 74

Year Ending June 30,	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Plan Fiduciary Net Position as a % of Total OPEB Liability	Covered Employee Payroll (CEP)	Net OPEB Liability as a % of CEP
2019	\$ 1,209,386,909	\$ 213,702,707	\$ 995,684,202	17.67%	\$ 2,886,193,518 *	34.50%

* Payroll amount for the FYE 6/30/2019 is an estimate.

NOTES TO NET OPEB LIABILITY
GASB Statement No. 74

Valuation Date:	June 30, 2018
Roll Forward Procedures	The Total OPEB Liability was rolled forward one year from the Valuation Date to the Measurement Date using standard actuarial techniques.
Changes in Assumptions	Discount rate used for development of Total OPEB Liability was changed to be the same as the long term rate of return of 6% to reflect creation of an OPEB trust.

Significant Assumptions Used to Measure the Total OPEB Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.25%
Discount Rate	6% (the same as expected rate of return on trust assets, previously 3.62%)
Salary Increases	Salary increase rates used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS); 3.44% - 8.72%, including inflation.
Retirement Age	Retirement rates used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS). They are based on the results of a statewide experience study (undertaken on behalf of TCRS).
Mortality	Mortality tables used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS). They are taken from the RP-2014 Healthy Participant Mortality Tables with adjustments and are generationally projected using SOA scale MP-2016. These rates were adopted upon completion of a statewide experience study (undertaken on behalf of TCRS).
Health Care Trend Rates	Based on the Getzen Model, with trend starting at 6.75% and gradually decreasing to an ultimate trend rate of 3.53% plus 0.38% increase for excise tax.
Aging factors	Based on the 2013 SOA Study "Health Care Costs - From Birth to Death"
Expenses	Investment returns are net of the investment expenses. Administrative expenses directly related to the delivery of benefits are offsets to benefits and are included in the per capita costs.

Other Information:

Notes During fiscal year 2019, the State of Tennessee established a trust fund for the purpose of prefunding its accrued other postemployment benefits (OPEB) obligation related to current and future primary government and component unit retirees participating in the State Employee Group OPEB Plan (EGOP).

There were no assumption changes during the year.

There were no benefit changes during the year.

SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 74

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Employee Payroll (CEP)	Actual Contribution as a % of CEP
2019	\$ 135,810,151	\$ 301,486,469	\$ (165,676,318)	\$ 2,886,193,518 *	10.45%

** Payroll amount for the FYE 6/30/2019 is an estimate.*

NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 74

Valuation Date: July 1, 2017
Notes Actuarially determined contributions are calculated as of July 1, which is 12 months prior to the beginning of the fiscal year in which contributions are made and reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	Market Value
Inflation	2.25%
Investment Rate of Return	6.00%
Salary Increases	Salary increase rates used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS); 3.44% - 8.72%, including inflation.
Retirement Age	Retirement rates used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS). They are based on the results of a statewide experience study (undertaken on behalf of TCRS).
Mortality	Mortality tables used in the July 1, 2017 actuarial valuation of the Tennessee Consolidated Retirement System (TCRS). They are taken from the RP-2014 Healthy Participant Mortality Tables with adjustments and are generationally projected using SOA scale MP-2016. These rates were adopted upon completion of a statewide experience study (undertaken on behalf of TCRS).
Health Care Trend Rates	Based on the Getzen Model, with trend starting at 7.50% and gradually decreasing to an ultimate trend rate of 3.53% plus 0.30% increase for excise tax.
Expenses	Investment returns are net of the investment expenses; Administrative xpenses directly related to the delivery of benefits are offsets to benefits and are included in the per capita costs.

Other Information:

Notes For additional details refer to the July 1, 2017 valuation report dated November 6, 2018.

SINGLE DISCOUNT RATE AND SENSITIVITY ANALYSIS
GASB Statement No. 74

A single discount rate of 6.00% was used to measure the total OPEB liability. This single discount rate was based on the expected rate of return on OPEB plan investments of 6.00%. The projection of cash flows used to determine this single discount rate assumed that employer contributions will be equal to the actuarially determined contribution amounts. Based on these assumptions, the OPEB 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 OPEB plan investments (6.00%) was applied to all periods of projected benefit payments to determine the total OPEB liability.

**Sensitivity of Net OPEB Liability
to the Single Discount Rate Assumption**

Regarding the sensitivity of the net OPEB liability to changes in the single discount rate, the following presents the plan's net OPEB liability, calculated using a single discount rate of 6.00%, as well as what the plan's net OPEB liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

1% Decrease	Current Single Discount Rate Assumption	1% Increase
5.00%	6.00%	7.00%
\$1,075,790,748	\$995,684,202	\$921,138,555

**Sensitivity of Net OPEB Liability
to the Healthcare Cost Trend Rate Assumption**

Regarding the sensitivity of the net OPEB liability to changes in the healthcare cost trend rates, the following presents the plan's net OPEB liability, calculated using the same trend rates as employed in the most recent funding valuation as well as what the plan's net OPEB liability would be if it were calculated using a sequence of rates that are 1-percentage-point lower or 1-percentage-point higher:

1% Trend Decrease	Current Healthcare Cost Trend Rate Assumption	1% Trend Increase
(5.75% down to 2.91%)	(7.75% down to 4.91%)	
\$879,885,334	\$995,684,202	\$1,129,707,538