

The experience and dedication you deserve

April 21, 2022

Mr. James A. Potvin
Executive Director
Employees' Retirement System of Georgia
Two Northside 75, Suite 300
Atlanta, GA 30318-7701

Dear Mr. Potvin:

Enclosed is the "Georgia Employees' Group Term Life Insurance Plan for Post-Retirement Benefits Report of the Actuary on the Valuation Prepared as of June 30, 2021".

The valuation indicates that no employer contribution is required for the fiscal year ending June 30, 2024 on account of life insurance benefits payable under the Plan for members who die after retirement.

Please let us know if there are any questions concerning the report.

Sincerely yours,

Edward J. Koebel, EA, FCA, MAA

Edward J. World

Chief Executive Officer

Cathy Turcot

Principal and Managing Director

Ben Mobley, ASA, FCA, MAAA

Consulting Actuary



The experience and dedication you deserve



GEORGIA EMPLOYEES' GROUP TERM LIFE INSURANCE PLAN FOR POST-RETIREMENT BENEFITS

REPORT OF THE ACTUARY ON THE VALUATION PREPARED AS OF JUNE 30, 2021





The experience and dedication you deserve

April 21, 2022

Board of Trustees Employees' Retirement System of Georgia Two Northside 75, Suite 300 Atlanta, GA 30318-7701

Attention: Mr. James A. Potvin, Executive Director

Members of the Board:

Chapters 47-2 and 47-19 of the Code of Georgia which govern the operation of the Georgia Employees' Group Term Life Insurance Plan provide that the actuary shall make periodic valuations of the contingent assets and liabilities of the Insurance Plan on the basis of regular interest and the tables last adopted by the Board of Trustees. In this report, we have determined liabilities for life insurance benefits payable upon death after retirement (Post-Retirement).

We have submitted the report giving the results of the valuation of the Plan prepared as of June 30, 2021. The report indicates that employee contributions at the rate of 0.45% of active payroll for Old Plan members of the Employees' Retirement System, and 0.23% of active payroll for New Plan members of the Employees' Retirement System, certain members of the Legislative Retirement System and certain members of the Judicial Retirement System are sufficient to support the post-retirement benefits of the Plan. No employer contribution is required for the fiscal year ending June 30, 2024 for pre-retirement benefits.

In preparing the valuation, the actuary relied on data provided by the System. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. Our firm, as actuary, is responsible for all of the actuarial trend data in the financial section of the annual report and the supporting schedules in the actuarial section of the annual report.

In our opinion, the valuation is complete and accurate, and the methodology and assumptions are reasonable as a basis for the valuation. The valuation takes into account the effect of all amendments to the Plan enacted through the 2021 session of the General Assembly.



Board of Trustees April 21, 2022 Page 2

Effective with the June 30, 2017 valuation, the assumed rate of return will be reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation. The assumed rate of return may not decrease below 7.00% net of investment expenses. Since the actual rate of return for the year ending June 30, 2021 was greater than 7.30%, the assumed rate of return used in the current valuation was decreased from 7.30% to 7.20%.

The Plan is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan. The assumptions and methods used for financial reporting purposes meet the parameters set by Actuarial Standards of Practice (ASOPs). The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. Gains and losses are reflected in the total unfunded accrued liability which is being amortized on a level dollar basis in accordance with the funding policy adopted by the Board. In our opinion, the Plan is operating on an actuarially sound basis and the sufficiency of the funds to provide the benefits called for by the Plan may be safely anticipated.

The Plan and the employers are required to comply with the financial reporting requirements of GASB Statements No. 74 and 75. The necessary disclosure information is provided in separate supplemental reports.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

We note that as we are preparing this report, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions at this time.

In order to prepare the results in this report, we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.



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Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Plan. Use of these computations for purposes other than meeting these requirements may not be appropriate.

Sincerely yours,

Edward J. Koebel, EA, FCA, MAA Chief Executive Officer

Edward J. Worbel

Cathy Turcot
Principal and Managing Director

Cathy Turcot

Ben Mobley, ASA, FCA, MAAA Consulting Actuary



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Section I – Summary of Principal Results

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below:

Valuation Date	June 30, 2021	June 30, 2020
Active members: Number Annual compensation	18,875 \$ 1,032,218,675	21,144 \$ 1,138,881,646
Retired members: Number Insurance amount	44,320 \$ 2,121,046,917	44,059 \$ 2,077,304,220
Terminated Vested members	1,012	991
Actuarial Accrued Liability	\$ 931,245,421	\$ 904,532,639
Fair Value of Assets	\$ 1,566,821,000	\$ 1,256,718,000
Valuation Interest Rate	7.20%	7.30%
Unfunded Actuarial Accrued Liability Funding Period	\$ (635,575,579) N/A*	\$ (352,185,361) N/A*
Funded Ratio based on Fair Value of Assets	168.3%	138.9%
Contributions for Fiscal Year Ending	June 30, 2024	June 30, 2023
Annual Required Contribution rates:		
Total Normal Rate	0.28%**	0.28%**
Employee Rates: Old Plan Members New Plan, LRS and JRS Members	0.45%*** 0.23%	0.45%*** 0.23%
Employer Normal Rate	0.05%	0.05%
Accrued Liability Rate	(0.05)%	(0.05)%
Total Employer Rate	0.00%	0.00%

^{*} If the unfunded actuarial accrued liability is amortized in accordance with the Board's funding policy, the ADEC is less than \$0, which is not allowed under the funding policy. Therefore, the accrued liability contribution rate has been set to such that the total ADEC equals \$0.

^{*** 0.22%} paid by employer.



^{**} The normal contribution rate includes administrative expenses.



Section I – Summary of Principal Results

- We have determined liabilities separately for life insurance benefits payable upon death in active service (pre-retirement) and those payable upon death after retirement (post-retirement). Separate trusts for pre-retirement life insurance benefits and post-retirement life insurance benefits were established and assets were split during 2007.
- 3. The major benefit and contribution provisions of the Plan as reflected in the valuation are summarized in Schedule G. The valuation takes into account the effect of all amendments of the Plan enacted through the 2021 session of the General Assembly. There have been no changes since the previous valuation.
- 4. Schedule C of this report outlines the full set of actuarial assumptions and methods used in the valuation. Effective with the June 30, 2017 valuation, the assumed rate of return will be reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation. The assumed rate of return may not decrease below 7.00% net of investment expenses. Since the actual rate of return for the year ending June 30, 2021 was greater than 7.30%, the assumed rate of return used in the current valuation was decreased from 7.30% to 7.20%.
- 5. The Board Funding Policy as adopted by the Board on March 15, 2018 is shown in Schedule E.
- Comments on the valuation results as of June 30, 2021 are given in Section IV and further discussion of the contribution levels is set out in Section V.
- 7. We have prepared the Solvency Test for the Plan's Annual Comprehensive Financial Report. This table is shown in Schedule H.



Section II – Membership Data

 Data regarding the membership of the Plan for use as a basis for the valuation were furnished by the Retirement System office. The following table shows the number of active members and their annual compensation as of June 30, 2021 on the basis of which the valuation was prepared.

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2021

GROUP	NUMBER	ANNUAL COMPENSATION
ERS Old Plan	22	\$ 1,933,208
ERS New Plan	18,633	1,008,594,834
Legislative Retirement System	52	901,767
Judicial Retirement System	<u>168</u>	20,788,866
Total	18,875	\$ 1,032,218,675

2. The following table shows the number of covered retired members on the roll as of June 30, 2021 together with the amount of their insurance in force under the Plan as of that date.

THE NUMBER AND INSURANCE IN FORCE OF COVERED RETIRED MEMBERS ON THE ROLL AS OF JUNE 30, 2021

GROUP	NUMBER*	INSURANCE IN FORCE
Service Retirements	38,900	\$ 1,873,908,153
Disability Retirements	<u>5,420</u>	247,138,764
Total	44,320	\$ 2,121,046,917

^{*} In addition the valuation includes 1,012 terminated vested members eligible for benefits.





Section III - Assets

- In 2007, separate trusts were established for pre-retirement life insurance benefits and for postretirement life insurance benefits and assets were split based on actuarial accrued liabilities.
 Assets in excess of what were actuarially required were transferred to ERS Survivor Benefit Fund.
- 2. As of June 30, 2021, the total fair value of assets for post-retirement benefits amounted to \$1,566,821,000 as reported by the independent auditor of the Plan. The fair value of assets is used for the June 30, 2021 valuation.
- 3. Schedule B shows receipts and disbursements of the Plan for the two years preceding the valuation date and a reconciliation of the fund balances at fair value.





Section IV – Comments on Valuation

- Schedule A outlines the results of the actuarial valuation for post-retirement life insurance benefits.
 The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule C.
- 2. The valuation shows that the Plan has an actuarial accrued liability of \$791,436,643 for benefits expected to be paid to current retired and terminated vested members, and \$139,808,778 for benefits expected to be paid on account of present active members for death after retirement. The total actuarial accrued liability of the Plan for post-retirement benefits is, \$931,245,421. Against these liabilities, the Plan has assets for valuation purposes of \$1,566,821,000. Therefore, the unfunded actuarial accrued liability is equal to (\$635,575,579).
- 3. The funding policy adopted by the Board, as shown in Schedule E, provides that the unfunded actuarial accrued liability as of June 20, 2013 (Transitional UAAL) will be amortized as a level dollar amount over a closed 20-year period. In each subsequent valuation all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation will determine a New Incremental UAAL. Each New Incremental UAAL will be amortized as a level dollar amount over a closed 20-year period from the date it is established.
- 4. The total UAAL contribution rate is (6.52)% of payroll, determined in accordance with the Board's funding policy. However, since this payment would cause the total employer contribution to be less than \$0, the final UAAL contribution rate is determined to be (0.05)%.
- Schedule F of this report shows the amortization schedules for the Transitional UAAL and the New Incremental UAALs.





Section IV – Comments on Valuation

6. The following table shows the components of the total UAAL and the derivation of the UAAL contribution rate in accordance with the funding policy:

TOTAL UAAL AND UAAL CONTRIBUTION RATE

	Remaining Balance <u>UAAL</u>	Remaining Amortization Period (years)	Amortization Payment
Transitional	\$(115,868,138)	12	\$(14,743,910)
New Incremental 6/30/2014	(79,831,153)	13	(9,660,434)
New Incremental 6/30/2015	(27,462,473)	14	(3,177,963)
New Incremental 6/30/2016	63,341,593	15	7,042,675
New Incremental 6/30/2017	(48,945,387)	16	(5,250,113)
New Incremental 6/30/2018	(31,073,501)	17	(3,226,936)
New Incremental 6/30/2019	(24,976,421)	18	(2,518,928)
New Incremental 6/30/2020	(74,036,294)	19	(7,271,030)
New Incremental 6/30/2021	(296,723,805)	20	<u>(28,445,490)</u>
Total UAAL	\$(635,575,579)		\$(67,252,129)
Estimated Payroll		\$1,032,218,675	
Calculated UAAL Contribution		(6.52)%	
Final UAAL Contribution Rate		(0.05)%	
Blended Amortization Period*		N/A	

^{*} If the unfunded actuarial accrued liability is amortized in accordance with the Board's funding policy, the ADEC is less than \$0, which is not allowed under the funding policy. Therefore, the accrued liability contribution rate has been set to such that the total ADEC equals \$0.





Section V – Contributions

- 1. The contribution rate of employers consists of a normal contribution rate and an accrued liability contribution rate.
- The normal contribution rate is calculated as the level dollar which, if applied to each member during the entire period of anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on the member's behalf. On this basis of the valuation, the normal contribution rate is determined to be 0.22% of payroll for post-retirement benefits.
- 3. An additional \$640,000 or 0.06% of payroll is required for administrative expenses for the fiscal year ending June 30, 2024.
- 4. The total normal contribution rate including administrative expenses is therefore, 0.28% of payroll.
- 5. The member contribution rate made by or on behalf of ERS Old Plan members is 0.45% of payroll and the member contribution rate made by ERS New Plan members, LRS members and JRS members is 0.23% of payroll. The employer normal contribution rate is determined to be 0.05% of payroll for post-retirement benefits.
- 6. If the unfunded accrued liability is amortized in accordance with the funding policy the total employer contribution rate would be less than 0%. Since the funding policy also states that the total employer contribution rate cannot be less than 0%, the accrued liability contribution rate for post-retirement benefits is set equal to (0.05%) of active members' payroll and there is no required contribution for the post-retirement benefits.



Section VI – Accounting Information

The information required under the Government Accounting Standards Board (GASB) Statements No. 74 and 75 will be issued in separate reports. The following is provided for informational purposes only.

1. The schedule of funding progress is shown below.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation <u>Date</u>	Fair Value of Assets <u>(a)</u>	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (<u>a/b)</u>	Covered Payroll <u>(c)</u>	UAAL as a Percentage of Covered Payroll ((b-a)/c)
6/30/2016	\$ 1,028,541,000	\$ 832,369,092	\$(196,171,908)	123.6%	\$ 1,442,023,957	(13.6)%
6/30/2017*	1,121,251,000	876,585,960	(244,665,040)	127.9	1,394,394,570	(17.6)
6/30/2018*	1,189,462,000	919,157,264	(270,304,736)	129.4	1,323,540,523	(20.4)
6/30/2019	1,233,856,000	946,738,469	(287,117,531)	130.3	1,213,173,877	(23.7)
6/30/2020#	1,256,718,000	904,532,639	(352,185,361)	138.9	1,138,881,646	(30.9)
6/30/2021*	1,566,821,000	931,245,421	(635,575,579)	168.3	1,032,218,675	(61.6)

^{*} Reflects change in assumed rate of return

 The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2021. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2021	
Actuarial cost method	Entry age	
Amortization method	Level dollar open	
Remaining amortization period	N/A*	
Asset valuation method	Fair Value of Assets	
Actuarial assumptions:		
Investment Rate of Return**	7.20%	
Projected Salary Increases		
ERS**	3.00 – 6.75%	
JRS**	3.75%	
LRS	N/A	

^{*} The remaining amortization period is infinite.



[#] Reflects change in actuarial assumptions

^{**} Includes inflation at 2.50%.



Schedule A – Valuation Results

(1)	ACTUARIAL ACCRUED LIABILITY FOR:	
	Benefits payable on account of present retired members and terminated vested members	\$ 791,436,643
	Benefits payable on account of present active members	139,808,778
	TOTAL ACTUARIAL ACCRUED LIABILITY	<u>\$ 931,245,421</u>
(2)	PRESENT ASSETS FOR VALUATION PURPOSES:	\$1,566,821,000
(3)	UNFUNDED ACTUARIAL ACCRUED LIABILITY: (1)-(2)	\$ (635,575,579)
(4)	EMPLOYER NORMAL CONTRIBUTION RATE:	0.05%
(5)	ACCRUED LIABILITY CONTRIBUTION RATE:	(0.05)
(6)	TOTAL EMPLOYER CONTRIBUTION RATE: (4)+(5)	0.00%





Schedule B – Summary of Receipts and Disbursements

FAIR VALUE OF ASSETS

	YEAR ENDING	
Receipts for the Year	<u>June 30, 2021</u>	June 30, 2020
Insurance Premiums	\$ 2,817,000	\$ 3,088,000
Other	0	0
Investment Earnings	362,663,000	65,248,000
TOTAL	\$ 365,480,000	\$ 68,336,000
Disbursements for the Year		
Death Benefits	\$ 54,680,000	\$ 44,754,000
Administration Expense	697,000	720,000
TOTAL	\$ 55,377,000	\$ 45,474,000
Excess of Receipts over Disbursements	\$ 310,103,000	\$ 22,862,000
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	\$ 1,256,718,000	\$ 1,233,856,000
Excess of Receipts over Disbursements	310,103,000	22,862,000
Asset Balance as of the End of Year	<u>\$ 1,566,821,000</u>	<u>\$ 1,256,718,000</u>
Rate of Return*	29.5%	5.4%

^{*} Calculated assuming cash flow occurs in the middle of the year





Actuarial assumptions and methods adopted by the Board December 17, 2020. Valuation interest rate adopted by the Board March 15, 2018.

VALUATION INTEREST RATE: 7.20% per annum, compounded annually, net of investment expenses, composed of a 2.50% inflation assumption and a 4.70% real rate of investment return assumption.

SALARY INCREASES: The assumed annual rates of salary increase are as follows:

Members of Employees' Retirement System (ERS)			
Service	Rate		
1	6.75%		
2	5.75		
3	5.25		
4	5.00		
5	4.75		
10	4.30		
15	4.05		
20	3.80		
25	3.55		
30	3.30		
35 & Over 3.00			

Members of Judicial Retirement System (JRS): 3.75%

No salary increases are assumed for members of the Legislative Retirement System (LRS).

SEPARATIONS BEFORE RETIREMENT: Representative values of the assumed annual rates of separation other than retirement are as follows.

Annual Rates of Disability					
	Non-Law E	nforcement	Law	JRS	
<u>Age</u>	<u>Males</u>	<u>Females</u>	Enforcement	<u>Members</u>	
25	0.000	0.000	0.000	0.0125	
30	0.010	0.005	0.050	0.0250	
35	0.040	0.010	0.125	0.0375	
40	0.200	0.085	1.125	0.0500	
45	0.375	0.215	2.625	0.0875	
50	0.625	0.365	3.625	0.1250	
55	0.875	0.565	4.125	0.2250	
60				0.3625	
65				0.5875	





Annual Rates of Withdrawal					
	ERS Members – Non-Law Enforcement				
	Years of Service				
<u>Age</u>	<u>0-4</u>	<u>5-9</u>	<u>10 & Over</u>		
		<u>Males</u>			
20	40.00%				
25	30.00	16.25%			
30	25.00	12.50	8.00%		
35	23.00	10.50	6.25		
40	20.00	9.50	4.75		
45	20.00	8.50	4.00		
50	17.00	7.25	4.50		
55	15.00	6.75	4.75		
60	14.50	5.50			
65	14.50	12.50			
		<u>Females</u>			
20	35.00%				
25	27.00	18.00%			
30	23.00	12.50	9.00%		
35	20.00	10.25	6.50		
40	18.00	9.00	5.25		
45	17.00	8.00	4.25		
50	16.00	7.50	4.25		
55	15.00	7.25	4.25		
60	15.50	7.00			
65	16.50	12.00			

Annual Rates of Withdrawal							
	ERS Members - Law Enforcement LRS JRS						
<u>Age</u>	<u>0-9</u>	10 & Over	Members	Members			
20	11.00%		9.00%	5.00%			
25	6.50	3.00%	9.00	5.00			
30	5.25	3.00	9.00	5.00			
35	5.25	3.00	9.00	5.00			
40	5.25	2.50	10.00	4.00			
45	5.25	2.50	11.00	3.50			
50	5.25	2.50	9.25	2.75			
55			8.00	2.75			
60			8.00	2.50			
65			8.00	2.50			





RETIREMENT: Representative values of the assumed annual rates of service retirement are as follows.

ERS

	Non-Law Enforcement Old Plan							
Age	Early Ret	irement	Age 60 or	30 years	34 y	ears	More tha	n 34 years
	Male	Female	Male	Female	Male	Female	Male	Female
50 52 55 57 60 62 65 67 70 75	2.0% 2.0 3.0 3.5	2.0% 2.0 3.5 5.0	7.5% 7.5 7.5 10.5 15.0 32.0 35.0 35.0 35.0	6.0% 6.0 10.0 10.0 20.0 40.0 40.0 35.0 35.0	100.0% 100.0 100.0 100.0 97.5 97.5 35.0 35.0 35.0	100.0% 100.0 100.0 100.0 95.0 95.0 40.0 35.0 35.0	90.0% 90.0 75.0 70.0 40.0 40.0 35.0 35.0 35.0	100.0% 100.0 90.0 70.0 55.0 65.0 40.0 35.0 35.0

		Law Enforcement			
Age	Early Re	tirement	Normal R	etirement	
	Male	Female	Male*	Female**	
50 52 55 57 60 62 65 67 70	5.0% 5.0 6.0 6.0	3.8% 3.8 5.8 7.3	60.0% 50.0 50.0 45.0 25.0 37.5 32.0 32.0 30.0	42.0% 42.0 40.0 37.0 28.0 37.5 33.0 32.0 30.0	75.0% 60.0 15.0 15.0 30.0 35.0 25.0 25.0

^{*} An additional 20% are assumed to retire in the first year eligible for unreduced retirement with 30 years of service before age 60.



^{**} An additional 25% for ages below 53 and 20% for ages 53 to 59 are assumed to retire in the first year eligible for unreduced retirement with 30 years of service before age 60.



Annual Rates of Retirement					
Age	LRS	JRS			
60	8%	15%			
61	8	10			
62	12	10			
63 – 64	8	10			
65	10	13			
66 – 67	10	15			
68	10	18			
69	15	18			
70 – 77	15	25			
78 – 79	15	100			
80	100	100			

RATES OF DEATH BEFORE RETIREMENT: The Pub-2010 General Employee Table, with no adjustments, projected generationally with the MP-2019 scale is used for both males and females while in active service. Representative values of the assumed annual rates of mortality while in active service are as follows:

Annual Rates of Death*						
Age	Males	Females	Age	Males	Females	
20	0.0370%	0.0130%	45	0.0980%	0.0560%	
25	0.0280	0.0090	50	0.1490	0.0830	
30	0.0360	0.0150	55	0.2190	0.1230	
35	0.0470	0.0230	60	0.3190	0.1860	
40	0.0660	0.0360	65	0.4680	0.2960	

RATES OF DEATHS AFTER RETIREMENT: The Pub-2010 Family of Tables projected generationally with MP-2019 scale and with further adjustments are used for post-retirement mortality assumptions as follows:

Participant Type	Membership Table	Set Forward (+)/ Setback (-)	Adjustment to Rates
Service Retirees	General Healthy Annuitant	Male: +1; Female: +1	Male: 105%; Female: 108%
Disability Retirees	General Disabled	Male: -3; Female: 0	Male: 103%; Female: 106%
Beneficiaries	General Contingent Survivors	Male: +2; Female: +2	Male: 106%; Female: 105%





Representative values of the assumed annual rates of mortality are as follows:

	Annual Rates of Death*						
	Service Retirement Disability Retirement Beneficiaries						
Age	Males	Females	Males	Females	Males	Females	
50	0.3371%	0.2516%	1.2576%	1.5720%	0.7918%	0.3843%	
55	0.4861	0.3251	1.8725	1.8465	0.9402	0.5334	
60	0.6941	0.4493	2.3484	2.0734	1.1978	0.7529	
65	1.0532	0.7366	2.7573	2.3914	1.7257	1.1057	
70	1.7882	1.2863	3.4536	3.0337	2.7157	1.7000	
75	3.1448	2.2799	4.4743	4.2432	4.3036	2.7500	
80	5.6427	4.0900	6.0986	6.3674	6.8879	4.6778	
85	10.0958	7.6043	8.8220	9.8909	11.3049	8.4315	
90	16.9785	13.8596	12.9831	14.4849	18.6083	14.6496	

^{*} Base mortality rates as of 2010 before application of the improvement scale

ASSETS: Fair value

ACTUARIAL COST METHOD: Entry Age Normal Actuarial Cost Method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability (UAAL). See Schedule D for a brief description of this method.

ADMINISTRATIVE EXPENSES: Administrative expenses equal to \$640,000 are added to the normal cost contribution.





Schedule D - Actuarial Cost Method

- 1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.20%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members, beneficiaries and members entitled to deferred vested benefits to obtain the present value of all expected benefits payable from the Plan on account of the present group of members and beneficiaries.
- The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an unfunded actuarial accrued liability contribution.
- 3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level amount which, if applied for the average member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
- 4. The unfunded actuarial accrued liability contributions are determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets, from the present value of expected benefits to be paid from the Plan.



Schedule E – Funding Policy #2 of the SEAD Board of Directors

The purpose of this Funding Policy is to state the overall objectives for the Georgia Employees' Group Term Life Insurance Plan for Post-Retirement Benefits (System), the benchmarks that will be used to measure progress in achieving those goals, and the methods and assumptions that will be employed to develop the benchmarks. It is the intent of the State Employees' Assurance Department Board of Directors that the Funding Policy outlined herein will remain unchanged until the objectives below are met

I. Funding Objectives

The goal in requiring employer and member contributions to the System is to accumulate sufficient assets during a member's employment to fully finance the benefits the member's beneficiary is expected to receive in the event of the death of the member during the member's retirement. In meeting this objective, the System will strive to meet the following funding objectives:

- To develop a pattern of contribution rates expressed as a percentage of employer payroll and measured by valuations prepared in accordance with applicable State laws and the principles of practice prescribed by the Actuarial Standards Board.
- To maintain a stable funded ratio (ratio of actuarial value of assets to actuarial accrued liabilities) that reflects a trend of strong actuarial condition. The long-term objective is to maintain at least a 100% funded ratio over a reasonable period of future years.
- To maintain adequate asset levels to finance the benefits promised to members and monitor the future demand for liquidity.
- To promote intergenerational equity for taxpayers with respect to contributions required for the benefits provided by the System.

II. Measures of Funding Progress

To track progress in achieving the System's funding objectives, the following measures will be determined annually as of the actuarial valuation date (with due recognition that a single year's results may not be indicative of long-term trends):

- Funded Ratio The funded ratio, defined as the actuarial value of assets divided by the actuarial accrued liability, should remain stable over time, before adjustments for changes in benefits, actuarial methods, and/or actuarial adjustments. The target funded ratio will be 100 percent. In the event that the funded ratio falls below 100%, the targeted funded ratio will be 100% within 20 years of the date the funded ratio first falls below 100%.
- Unfunded Actuarial Accrued Liability (UAAL)
 - Transitional UAAL The UAAL established as of the initial valuation date for which this funding policy is adopted shall be known as the Transitional UAAL.
 - New Incremental UAAL Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuations.

• UAAL Amortization Period

- The transitional UAAL will be amortized over a closed 20 year period beginning on the initial valuation date for which this funding policy is adopted.
- Each New Incremental UAAL shall be amortized over a closed 20 year period beginning with the year it is incurred.

Employer Contribution Rate

- Employer Normal Contribution Rate the contribution rate determined as of the valuation date each year to fund the employer portion of the annual normal cost of the System based on the assumptions and methods adopted by the Board.
- In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined as the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, the amortization rate





Schedule E – Funding Policy #2 of the SEAD Board of Directors

for the Transitional UAAL and the individual amortization rate for each of the New Incremental UAAL bases.

- o In no event shall the employer contribution rate be less than 0%.
- The valuation methodology, including the amortization of the Unfunded Actuarial Accrued Liability (UAAL), would be expected to maintain reasonably stable contribution rates as a dollar per active member.

III. Methods and Assumptions

The annual actuarial valuations providing the measures to assess funding progress will utilize the actuarial methods and assumptions last adopted by the Board based upon the advice and recommendations of the actuary. These include the following primary methods and assumptions:

- The actuarial cost method used to develop the benchmarks will be the Projected Unit Credit (PUC) actuarial cost method.
- The long-term annual investment rate of return assumption will be:
 - o Effective with the June 30, 2013 valuation date, 7.50% net of investment expenses.
 - Effective with the June 30, 2017 valuation date, reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the following conditions are met:
 - The actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation, and
 - The assumed rate of return does not decrease below 7.00% net of investment expenses.
- The actuarial value of assets will be equal to the market value of assets as of the valuation date.

The employer contribution rates determined in an annual actuarial valuation will be at least sufficient to satisfy the annual normal cost of the System and amortize the UAAL as a level dollar amount over a period not to exceed 20 years. However in no event shall the employer contribution rate be less than 0%.

The actuary shall conduct an investigation into the System's experience at least every five years and utilize the results of the investigation to form the basis for recommended assumptions and methods. Any changes to the recommended assumptions and methods that are approved by the Board will be reflected in this Policy.

IV. Funding Policy Progress

The Board will periodically have actuarial projections of the valuation results performed to assess the current and expected future progress towards the overall funding goals of the System. These periodic projections will provide the expected valuation results over at least a 10-year period. The projected measures of funding progress and the recent historical trend provided in valuations will provide important information for the Board's assessment of the System's funding progress.

Adopted: March 15, 2018





TRANSITIONAL UAAL

Valuation Date	Amortization Period	Balance of Transitional UAAL	Expected UAAL Contribution
6/30/2013	20	\$ (153,044,912)	\$ (15,012,511)
6/30/2014	19	(149,510,770)	(15,012,511)
6/30/2015	18	(145,711,566)	(15,012,511)
6/30/2016	17	(141,627,423)	(15,012,511)
6/30/2017	16	(137,236,969)	(14,914,947)
6/30/2018	15	(132,477,558)	(14,822,141)
6/30/2019	14	(127,326,279)	(14,822,141)
6/30/2020	13	(121,798,956)	(14,822,141)
6/30/2021	12	(115,868,138)	(14,743,910)
6/30/2022	11	(109,466,734)	(14,743,910)
6/30/2023	10	(102,604,428)	(14,743,910)
6/30/2024	9	(95,248,037)	(14,743,910)
6/30/2025	8	(87,361,986)	(14,743,910)
6/30/2026	7	(78,908,139)	(14,743,910)
6/30/2027	6	(69,845,614)	(14,743,910)
6/30/2028	5	(60,130,588)	(14,743,910)
6/30/2029	4	(49,716,081)	(14,743,910)
6/30/2030	3	(38,551,728)	(14,743,910)
6/30/2031	2	(26,583,543)	(14,743,910)
6/30/2032	1	(13,753,648)	(14,743,910)
6/30/2033	0	0	0





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2014	Expected UAAL Contribution
6/30/2014	20	\$ (100,370,143)	\$ (9,845,527)
6/30/2015	19	(98,052,376)	(9,845,527)
6/30/2016	18	(95,560,777)	(9,845,527)
6/30/2017	17	(92,882,308)	(9,778,710)
6/30/2018	16	(89,976,889)	(9,714,932)
6/30/2019	15	(86,830,270)	(9,714,932)
6/30/2020	14	(83,453,947)	(9,714,932)
6/30/2021	13	(79,831,153)	(9,660,434)
6/30/2022	12	(75,918,562)	(9,660,434)
6/30/2023	11	(71,724,265)	(9,660,434)
6/30/2024	10	(67,227,978)	(9,660,434)
6/30/2025	9	(62,407,959)	(9,660,434)
6/30/2026	8	(57,240,899)	(9,660,434)
6/30/2027	7	(51,701,810)	(9,660,434)
6/30/2028	6	(45,763,906)	(9,660,434)
6/30/2029	5	(39,398,474)	(9,660,434)
6/30/2030	4	(32,574,730)	(9,660,434)
6/30/2031	3	(25,259,677)	(9,660,434)
6/30/2032	2	(17,417,940)	(9,660,434)
6/30/2033	1	(9,011,599)	(9,660,434)
6/30/2034	0	0	0





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2015	Expected UAAL Contribution
6/30/2015	20	\$ (33,048,041)	\$ (3,241,755)
6/30/2016	19	(32,284,889)	(3,241,755)
6/30/2017	18	(31,464,501)	(3,218,853)
6/30/2018	17	(30,574,021)	(3,196,926)
6/30/2019	16	(29,608,999)	(3,196,926)
6/30/2020	15	(28,573,531)	(3,196,926)
6/30/2021	14	(27,462,473)	(3,177,963)
6/30/2022	13	(26,261,808)	(3,177,963)
6/30/2023	12	(24,974,695)	(3,177,963)
6/30/2024	11	(23,594,910)	(3,177,963)
6/30/2025	10	(22,115,780)	(3,177,963)
6/30/2026	9	(20,530,154)	(3,177,963)
6/30/2027	8	(18,830,362)	(3,177,963)
6/30/2028	7	(17,008,185)	(3,177,963)
6/30/2029	6	(15,054,811)	(3,177,963)
6/30/2030	5	(12,960,794)	(3,177,963)
6/30/2031	4	(10,716,008)	(3,177,963)
6/30/2032	3	(8,309,598)	(3,177,963)
6/30/2033	2	(5,729,926)	(3,177,963)
6/30/2034	1	(2,964,518)	(3,177,963)
6/30/2035	0	0	0





Valuation Date	Amortization Period	 Balance of New Incremental UAAL 6/30/2016		pected UAAL ontribution
6/30/2016	20	\$ 73,301,181	\$	7,190,273
6/30/2017	19	71,608,496		7,137,545
6/30/2018	18	69,769,980		7,086,921
6/30/2019	17	67,776,267		7,086,921
6/30/2020	16	65,637,013		7,086,921
6/30/2021	15	63,341,593		7,042,675
6/30/2022	14	60,859,513		7,042,675
6/30/2023	13	58,198,722		7,042,675
6/30/2024	12	55,346,355		7,042,675
6/30/2025	11	52,288,617		7,042,675
6/30/2026	10	49,010,722		7,042,675
6/30/2027	9	45,496,819		7,042,675
6/30/2028	8	41,729,914		7,042,675
6/30/2029	7	37,691,793		7,042,675
6/30/2030	6	33,362,926		7,042,675
6/30/2031	5	28,722,382		7,042,675
6/30/2032	4	23,747,718		7,042,675
6/30/2033	3	18,414,878		7,042,675
6/30/2034	2	12,698,074		7,042,675
6/30/2035	1	6,569,660		7,042,675
6/30/2036	0	0		0





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2017	Expected UAAL Contribution
6/30/2017	20	\$ (54,689,758)	\$ (5,323,907)
6/30/2018	19	(53,412,894)	(5,284,703)
6/30/2019	18	(52,027,332)	(5,284,703)
6/30/2020	17	(50,540,624)	(5,284,703)
6/30/2021	16	(48,945,387)	(5,250,113)
6/30/2022	15	(47,219,342)	(5,250,113)
6/30/2023	14	(45,369,022)	(5,250,113)
6/30/2024	13	(43,385,479)	(5,250,113)
6/30/2025	12	(41,259,121)	(5,250,113)
6/30/2026	11	(38,979,665)	(5,250,113)
6/30/2027	10	(36,536,088)	(5,250,113)
6/30/2028	9	(33,916,574)	(5,250,113)
6/30/2029	8	(31,108,455)	(5,250,113)
6/30/2030	7	(28,098,151)	(5,250,113)
6/30/2031	6	(24,871,105)	(5,250,113)
6/30/2032	5	(21,411,712)	(5,250,113)
6/30/2033	4	(17,703,243)	(5,250,113)
6/30/2034	3	(13,727,764)	(5,250,113)
6/30/2035	2	(9,466,050)	(5,250,113)
6/30/2036	1	(4,897,493)	(5,250,113)
6/30/2037	0	0	0





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2018	Expected UAAL Contribution	
6/30/2018	20	\$ (33,633,354)	\$ (3,249,153)	
6/30/2019	19	(32,839,436)	(3,249,153)	
6/30/2020	18	(31,987,562)	(3,249,153)	
6/30/2021	17	(31,073,501)	(3,226,936)	
6/30/2022	16	(30,083,857)	(3,226,936)	
6/30/2023	15	(29,022,958)	(3,226,936)	
6/30/2024	14	(27,885,675)	(3,226,936)	
6/30/2025	13	(26,666,508)	(3,226,936)	
6/30/2026	12	(25,359,560)	(3,226,936)	
6/30/2027	11	(23,958,512)	(3,226,936)	
6/30/2028	10	(22,456,589)	(3,226,936)	
6/30/2029	9	(20,846,528)	(3,226,936)	
6/30/2030	8	(19,120,541)	(3,226,936)	
6/30/2031	7	(17,270,284)	(3,226,936)	
6/30/2032	6	(15,286,809)	(3,226,936)	
6/30/2033	5	(13,160,523)	(3,226,936)	
6/30/2034	4	(10,881,144)	(3,226,936)	
6/30/2035	3	(8,437,651)	(3,226,936)	
6/30/2036	2	(5,818,225)	(3,226,936)	
6/30/2037	1	(3,010,202)	(3,226,936)	
6/30/2038	0	0	0	





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2019	Expected UAAL Contribution	
6/30/2019	20	\$ (26,261,482)	\$ (2,536,993)	
6/30/2020	19	(25,641,579)	(2,536,993)	
6/30/2021	18	(24,976,421)	(2,518,928)	
6/30/2022	17	(24,255,796)	(2,518,928)	
6/30/2023	16	(23,483,285)	(2,518,928)	
6/30/2024	15	(22,655,154)	(2,518,928)	
6/30/2025	14	(21,767,397)	(2,518,928)	
6/30/2026	13	(20,815,722)	(2,518,928)	
6/30/2027	12	(19,795,526)	(2,518,928)	
6/30/2028	11	(18,701,877)	(2,518,928)	
6/30/2029	10	(17,529,484)	(2,518,928)	
6/30/2030	9	(16,272,679)	(2,518,928)	
6/30/2031	8	(14,925,384)	(2,518,928)	
6/30/2032	7	(13,481,084)	(2,518,928)	
6/30/2033	6	(11,932,795)	(2,518,928)	
6/30/2034	5	(10,273,028)	(2,518,928)	
6/30/2035	4	(8,493,759)	(2,518,928)	
6/30/2036	3	(6,586,381)	(2,518,928)	
6/30/2037	2	(4,541,673)	(2,518,928)	
6/30/2038	1	(2,349,746)	(2,518,928)	
6/30/2039	0	0	0	





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2020	Expected UAAL Contribution	
6/30/2020	20	\$ (75,826,177)	\$ (7,325,194)	
6/30/2021	19	(74,036,294)	(7,271,030)	
6/30/2022	18	(72,095,877)	(7,271,030)	
6/30/2023	17	(70,015,750)	(7,271,030)	
6/30/2024	16	(67,785,854)	(7,271,030)	
6/30/2025	15	(65,395,406)	(7,271,030)	
6/30/2026	14	(62,832,846)	(7,271,030)	
6/30/2027	13	(60,085,781)	(7,271,030)	
6/30/2028	12	(57,140,927)	(7,271,030)	
6/30/2029	11	(53,984,044)	(7,271,030)	
6/30/2030	10	(50,599,865)	(7,271,030)	
6/30/2031	9	(46,972,025)	(7,271,030)	
6/30/2032	8	(43,082,981)	(7,271,030)	
6/30/2033	7	(38,913,926)	(7,271,030)	
6/30/2034	6	(34,444,699)	(7,271,030)	
6/30/2035	5	(29,653,688)	(7,271,030)	
6/30/2036	4	(24,517,723)	(7,271,030)	
6/30/2037	3	(19,011,969)	(7,271,030)	
6/30/2038	2	(13,109,801)	(7,271,030)	
6/30/2039	1	(6,782,677)	(7,271,030)	
6/30/2040	0	0	0	





Valuation Date	Amortization Period	Balance of New Incremental UAAL 6/30/2021	Expected UAAL Contribution	
6/30/2021	20	\$ (296,723,805)	\$ (28,445,490)	
6/30/2022	19	(289,642,428)	(28,445,490)	
6/30/2023	18	(282,051,191)	(28,445,490)	
6/30/2024	17	(273,913,386)	(28,445,490)	
6/30/2025	16	(265,189,659)	(28,445,490)	
6/30/2026	15	(255,837,823)	(28,445,490)	
6/30/2027	14	(245,812,655)	(28,445,490)	
6/30/2028	13	(235,065,675)	(28,445,490)	
6/30/2029	12	(223,544,912)	(28,445,490)	
6/30/2030	11	(211,194,655)	(28,445,490)	
6/30/2031	10	(197,955,179)	(28,445,490)	
6/30/2032	9	(183,762,460)	(28,445,490)	
6/30/2033	8	(168,547,866)	(28,445,490)	
6/30/2034	7	(152,237,821)	(28,445,490)	
6/30/2035	6	(134,753,453)	(28,445,490)	
6/30/2036	5	(116,010,211)	(28,445,490)	
6/30/2037	4	(95,917,455)	(28,445,490)	
6/30/2038	3	(74,378,020)	(28,445,490)	
6/30/2039	2	(51,287,747)	(28,445,490)	
6/30/2040	1	(26,534,973)	(28,445,490)	
6/30/2041	0	0	0	





Schedule G – Summary of Main Plan Provisions

AS INTERPRETED FOR VALUATION PURPOSES

Eligibility for Coverage

Membership in the Employees' Retirement System of Georgia (ERS), the Georgia Legislative Retirement System (LRS) or the Judicial Retirement System (JRS). ERS new entrants on and after January 1, 2009 and JRS and LRS new entrants on and after July 1, 2009 are excluded from membership.

Premiums

Before Retirement

ERS Old Plan Members (Hired before July 1, 1982)

Member pays 0.45% of monthly salary. State picks up 0.22% of the member premium.

ERS New Plan Members (Hired on or after July 1, 1982 and before January 1, 2009),

<u>LRS Members and JRS Members</u> Member pays 0.23% of monthly salary.

All ERS and LRS members pay the above premiums. If the member is not covered under the Group Term Life Insurance (GTLI) Plan, employee contributions with interest are refunded upon termination of State employment. Otherwise, no premiums are refundable. Participation is voluntary for JRS Members.

After Retirement

If employed prior to April 1, 1964 or reemployed after April 1, 1964 with creditable service established for the period prior to April 1, 1964, the member pays ½ of 1% of the monthly salary payable the last month preceding retirement. If employed after April 1, 1964 with no creditable service established for the period prior to April 1, 1964, the member pays no premium.

Coverage

The amount of insurance is 18 times monthly earnable compensation (frozen at age 60). For a member with no creditable service prior to April 1, 1964, the amount decreases from age 60 by $\frac{1}{2}$ of 1% per month until age 65, at which point the member will be covered for 70% of the age 60 coverage.

The insurance amount for a retiree with creditable service prior to April 1, 1964 is the full amount of insurance in effect on the date of retirement.





Schedule G – Summary of Main Plan Provisions

The insurance amount for a service retiree who retires before July 1, 1998 with no creditable service prior to April 1, 1964 is 40% of the amount of insurance at age 60 or at termination, if earlier.

The insurance amount for a disability retiree who retires before July 1, 1998 with no creditable service prior to April 1, 1964 is 18 times earnable compensation at retirement, reduced to 40% of such amount at age 60.

The insurance amount for a service retiree who retires on or after July 1, 1998 with no creditable service prior to April 1, 1964 is 70% of the amount of insurance at age 60 or at termination, if earlier.

The insurance amount for a disability retiree who retires on or after July 1, 1998 with no creditable service prior to April 1, 1964 is 18 times earnable compensation at retirement, reduced to 70% of such amount at age 60.



Schedule H – Annual Comprehensive Financial Report Schedule

		GA SEAD	Post-retiremen	t: Solvency	Test		
Actuarial Accrued Liability for:							
Actuarial Valuation as of 6/30	Active Member Contributions	Retirants & Beneficiaries	Active Members (Employer Funded Portion)	Valuation Assets		of Aggregate ies Covered b	
	(1)	(2)	(3)		(1)	(2)	(3)
2021	\$0	\$791,437	\$139,809	\$1,566,821	N/A	100.0%	100.0%
2020	0	757,612	146,920	1,256,718	N/A	100.0%	100.0%
2019	0	772,657	174,082	1,233,856	N/A	100.0%	100.0%
2018	0	735,214	183,943	1,189,462	N/A	100.0%	100.0%
2017	0	693,118	183,468	1,121,251	N/A	100.0%	100.0%
2016	0	652,291	180,078	1,028,541	N/A	100.0%	100.0%
2015	0	621,426	148,321	1,046,559	N/A	100.0%	100.0%
2014	0	621,502	166,518	1,037,901	N/A	100.0%	100.0%
2013	0	586,228	168,558	907,831	N/A	100.0%	100.0%
2012	0	528,165	176,452	818,284	N/A	100.0%	100.0%
All dollar	All dollar amounts are in thousands.						

