



# Cavanaugh Macdonald

CONSULTING, LLC

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April 15, 2010

Ms. Pamela Pharris  
Executive Director  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7778

Dear Ms. Pharris:

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, 2009".

The valuation indicates that the employer annual required contribution for the fiscal year ending June 30, 2012 on account of life insurance benefits payable under the Plan for members who die after retirement is 0.59% of covered payroll.

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

Sincerely yours,

Edward A. Macdonald, ASA, FCA, MAAA  
President

Cathy Turcot  
Principal and Managing Director

EAM/CT:mjn

Enclosure

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**EMPLOYEES'**  
**RETIREMENT SYSTEM**  
OF GEORGIA

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

**REPORT OF THE ACTUARY ON THE VALUATION  
PREPARED AS OF JUNE 30, 2009**





# Cavanaugh Macdonald

CONSULTING, LLC

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April 15, 2010

Board of Trustees  
Employees' Retirement System of Georgia  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7778

Attention: Ms. Pamela Pharris, 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).

In accordance with GASB 43 and 45, we have determined the liabilities for life insurance benefits payable upon death after retirement. We have submitted the report giving the results of the valuation of the Plan prepared as of June 30, 2009. The report indicates, for post-retirement benefits, the employer annual required contribution for the fiscal year ending June 30, 2012 based on a 30-year amortization period of the unfunded accrued liability is 0.61% of covered payroll.

The funding method used for this valuation is the unit credit actuarial cost method with projected benefits. Gains and losses are reflected in the unfunded accrued liability. The actuarial assumptions used are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan. 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 assuming future annual required contributions (ARC) are contributed when due.

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.

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Board of Trustees  
April 15, 2010  
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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.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Edward Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA  
President

A handwritten signature in blue ink, appearing to read 'Cathy Turcot'.

Cathy Turcot  
Principal and Managing Director

EAM/CT:mjn



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**GEORGIA EMPLOYEES' GROUP TERM LIFE INSURANCE PLAN  
FOR POST-RETIREMENT BENEFITS  
REPORT OF THE ACTUARY  
ON THE VALUATION  
PREPARED AS OF JUNE 30, 2009**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the valuation are summarized below:

	<b>June 30, 2009</b>	<b>June 30, 2008</b>
Active members:		
Number	69,745	75,859
Annual compensation	\$ 2,653,527,165	\$ 2,850,849,928
Retired members:		
Number	32,826	31,562
Insurance amount	\$ 1,408,161,467	\$ 1,330,922,085
Terminated Vested members	681	N/A
Actuarial Accrued Liability	\$ 733,670,705	\$ 699,884,034
Market Value of Assets	\$ 628,199,000	\$ 737,114,000
Unfunded Actuarial Accrued Liability	\$ 105,471,705	\$ (37,229,966)
Funding Period	30 years	6 years
Funded Ratio	85.6%	105.3%
<b>For Fiscal Year Ending</b>	<b>June 30, 2012</b>	<b>June 30, 2011</b>
Annual Required Contribution rates:		
Total Normal Rate	0.52%	0.51%
Employee Rates:		
Old Plan Members	0.45%*	0.45%*
New Plan, LRS and JRS Members	0.23%	0.23%
Employer Normal Rate	0.27%	0.26%
Accrued Liability Rate	<u>0.34%</u>	<u>(0.26)%</u>
Total Employer Rate	0.61%	0.00%

\*0.22% paid by employer.



2. In accordance with GASB 43 and 45, 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 C. There have been no changes since the previous valuation.
4. Schedule B of this report outlines the full set of actuarial assumptions and methods used in the valuation. Since the previous valuation, the method used for amortization of the unfunded liability has been changed from level percentage of payroll to level dollar since the plan is now completely closed to new entrants and total payroll is no longer expected to increase over time.
5. Comments on the valuation results as of June 30, 2009 are given in Section IV and further discussion of the contribution levels is set out in Section V.

## **SECTION II – MEMBERSHIP DATA**

1. Data regarding the membership of the System 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, 2009 on the basis of which the valuation was prepared.

### **THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2009**

<b>GROUP</b>	<b>NUMBER</b>	<b>ANNUAL COMPENSATION</b>
Old Plan	3,492	\$ 183,631,442
New Plan	65,656	2,426,072,105
Legislative Retirement System	218	3,780,487
Judicial Retirement System	<u>379</u>	<u>40,043,131</u>
Total	69,745	\$ 2,653,527,165



2. The following table shows the number of covered retired members on the roll as of June 30, 2009 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, 2009**

<b>GROUP</b>	<b>NUMBER*</b>	<b>INSURANCE IN FORCE</b>
Service Retirements	28,066	\$ 1,202,861,280
Disability Retirements	<u>4,760</u>	<u>205,300,187</u>
Total	32,826	\$ 1,408,161,467

\* In addition the valuation includes 681 terminated vested members eligible for benefits

**SECTION III - ASSETS**

1. GASB 43 and 45 define plan assets as resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan. In 2007, separate trusts were established for pre-retirement life insurance benefits and for post-retirement 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, 2009, the total market value of assets for post-retirement benefits amounted to \$628,199,000 as reported by the independent auditor of the Plan. The market value of assets is used for the June 30, 2009 valuation.





#### **SECTION IV – COMMENTS ON VALUATION**

1. 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 B.
2. The valuation shows that the Plan has an actuarial accrued liability of \$524,717,565 for benefits expected to be paid to current retired and terminated vested members, and \$208,953,140 for benefits expected to be paid on account of present active members for death after retirement based on service to the valuation date. The total actuarial accrued liability of the Plan for post-retirement benefits is, therefore, \$733,670,705. Against these liabilities, the Plan has present assets for valuation purposes of \$628,199,000. Therefore, the unfunded actuarial accrued liability is equal to \$105,471,705.
3. In previous valuations, actual reported salaries for the prior fiscal year were increased by one half year's salary increase assumption to estimate rates of salary at the valuation date. Based on information we received from the retirement system regarding actual anticipated salaries for the 2010 fiscal year, we have not applied this increase for this valuation. All other future expected salary increases remain unchanged.

#### **SECTION V – CONTRIBUTIONS**

1. The normal contribution rate is equal to the actuarial present value of benefits accruing during the current year as a percent of active member payroll. The total normal contribution rate is determined to be 0.52% of payroll for post-retirement benefits.
2. 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 0.27% of payroll for post-retirement benefits.



3. The unfunded accrued liability contribution rate for post-retirement benefits is equal to 0.34% of active members' payroll based on a 30-year level dollar amortization period for the unfunded accrued liability.
4. The total annual required contribution (ARC) for post-retirement benefits is, therefore, 0.61% of active members' payroll.



**SECTION VI – ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements 43 and 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the Plan and the employer.

**SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Market Value of Assets (a)	Actuarial Liability (AAL) Projected Unit Credit (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
6/30/2006	\$ 0	\$ 568,475,523	\$ 568,475,523	0.0%	\$ 2,667,158,543	21.3%
6/30/2007	778,048,000	642,530,433	(135,517,567)	121.1	2,720,771,905	(5.0)
6/30/2008	737,114,000	699,884,034	(37,229,996)	105.3	2,850,849,928	(1.3)
6/30/2009	628,199,000	733,670,705	105,471,705	85.6	2,653,527,165	4.0

2. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2009. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2009
Actuarial cost method	Projected unit credit
Amortization method	Level dollar, open
Remaining amortization period	30 years
Asset valuation method	Market Value of Assets
Actuarial assumptions:	
Investment Rate of Return*	7.5%
Projected Salary Increases	
ERS*	5.45 – 9.25%
JRS*	6.00%
LRS	0.00%
* Includes inflation at	3.75%



**SCHEDULE A**

**VALUATION RESULTS**

**PREPARED AS OF JUNE 30, 2009  
OF THE GEORGIA EMPLOYEES' GROUP TERM LIFE INSURANCE PLAN  
FOR POST-RETIREMENT BENEFITS**

<b>(1) ACTUARIAL ACCRUED LIABILITY:</b>	
Present value of benefits payable on account of present retired members and terminated vested members	\$ 524,717,565
Present value of benefits payable on account of present active members	<u>208,953,140</u>
<b>TOTAL ACTUARIAL ACCRUED LIABILITY</b>	<b>\$ <u>733,670,705</u></b>
<b>(2) PRESENT ASSETS FOR VALUATION PURPOSES:</b>	<b>\$ 628,199,000</b>
<b>(3) UNFUNDED ACTUARIAL ACCRUED LIABILITY: (1)-(2)</b>	<b>\$ 105,471,705</b>
<b>(4) EMPLOYER NORMAL CONTRIBUTION RATE:</b>	<b>0.27%</b>
<b>(5) ACCRUED LIABILITY CONTRIBUTION RATE:</b>	<b><u>0.34</u></b>
<b>(6) TOTAL EMPLOYER CONTRIBUTION RATE: (4)+(5)</b>	<b>0.61%</b>



**SCHEDULE B**

**SUMMARY OF RECEIPTS AND DISBURSEMENTS  
(Market Value)**

	YEAR ENDING	
	<u>June 30, 2009</u>	<u>June 30, 2008</u>
<u>Receipts for the Year</u>		
Insurance Premiums	\$ 7,551,000	\$ 7,756,000
Investment Earnings	<u>(96,424,000)</u>	<u>(27,032,000)</u>
TOTAL	\$ (88,873,000)	\$ (19,276,000)
<u>Disbursements for the Year</u>		
Death Benefits	\$ 19,839,000	\$ 21,455,000
Administration Expense	<u>203,000</u>	<u>203,000</u>
TOTAL	\$ 20,042,000	\$ 21,658,000
<u>Excess of Receipts over Disbursements</u>	\$ (108,915,000)	\$ (40,934,000)
<u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year	\$ 737,114,000	\$ 778,048,000
Excess of Receipts over Disbursements	<u>(108,915,000)</u>	<u>(40,934,000)</u>
Asset Balance as of the End of Year	<u>\$ 628,199,000</u>	<u>\$ 737,114,000</u>
Rate of Return	(13.2)%	(3.5)%



**SCHEDULE C**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

**VALUATION INTEREST RATE:** 7.50% per annum, compounded annually.

**SALARY INCREASES:**

<b>Members of Employees' Retirement System (ERS)</b>			
<b>Age</b>	<b>Annual Rate</b>	<b>Age</b>	<b>Annual Rate</b>
20	9.25%	45	5.45%
25	8.25	50	5.45
30	6.25	55	5.45
35	5.75	60	0.00
40	5.45	65	0.00

6% Annual increases are assumed for members of the Judicial Retirement System (JRS).  
 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:

	<b>Annual Rates of</b>						
	<b>Death</b>				<b>Disability</b>		
	<b><u>ERS Members</u></b>		<b><u>JRS &amp; LRS Members</u></b>		<b><u>ERS Members</u></b>		<b><u>JRS &amp; LRS Member</u></b>
	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>	<b><u>Males</u></b>	<b><u>Females</u></b>	
20	.06%	.03%	.06%	.03%	.05%	.05%	.1%
25	.07	.03	.07	.03	.05	.05	.1
30	.08	.04	.08	.04	.05	.05	.2
35	.09	.06	.09	.06	.10	.05	.3
40	.13	.08	.13	.08	.35	.14	.4
45	.19	.11	.19	.11	.77	.40	.7
50	.32	.17	.32	.17	1.30	.70	1.0
55	.56	.29	.56	.29	2.00	1.20	1.8
60	1.02	.58	1.02	.58			2.9
65	1.80	1.08	1.80	1.08			4.7



<u>Annual Rates of Withdrawal</u>			
Years of Service			
<u>Age</u>	<u>0-4</u>	<u>5-9</u>	<u>10 &amp; Over</u>
<u>ERS Members – Males</u>			
20	30.00%		
25	24.00	11.00%	
30	22.00	9.00	6.00%
35	22.00	8.00	5.00
40	20.00	8.00	4.00
45	17.00	7.00	3.00
50	14.00	6.00	3.50
55	13.00	5.00	4.00
60	13.00	5.00	4.50
65	16.00	10.00	4.50
<u>ERS Members – Females</u>			
20	28.00%		
25	24.00	11.00%	
30	22.00	11.00	8.00%
35	20.00	9.00	6.00
40	17.00	8.00	4.00
45	16.00	7.00	3.50
50	16.00	6.00	3.50
55	15.00	6.00	5.00
60	15.00	6.00	5.00
65	20.00	11.00	5.00

<u>Age</u>	<u>LRS Members</u>	<u>JRS Members</u>
20	10.00%	13.00%
25	10.00	13.00
30	10.00	13.00
35	10.00	13.00
40	10.00	13.00
45	10.00	4.50
50	10.00	3.00
55	10.00	3.00
60	10.00	3.00
65	10.00	3.00



**RETIREMENT:** Representative values of the assumed annual rates of service retirement for non-law enforcement officers are as follows. Special retirement rates apply to law enforcement officers.

**ERS**

Age	Old Plan <sup>1</sup>				New Plan <sup>2</sup>	
	Age 65 or more than 34 years		Age 60 or 30 years		Male	Female
	Male	Female	Male	Female		
50	50%	50%	9.0%	7.5%	10%	10%
55	50	50	11.0	11.5	10	10
60	50	50	22.0	24.0	15	20
62	50	50	43.0	44.0	38	36
64	50	50	27.0	30.0	29	30
65	44	45			43	38
67	26	28			27	34
70	100	100			100	100

<sup>1</sup> It is also assumed that 95% of active Old Plan members will retire during the year in which they attain 34 years of service. In addition, it is assumed that 3.5% of male members under age 55, 7.5% of male members ages 55 and over, 3.0% of female members under age 55 and 8.0% of female members ages 55 and over will retire under early reduced retirement.

<sup>2</sup> An additional 10% of active New Plan members less than age 65 are expected to retire in the year in which they attain 30 years of service. In addition, it is assumed that 6.0% of male members under age 55, 6.5% of male members ages 55 and over, 5.0% of female members under age 55 and 10.0% of female members ages 55 and over will retire under early reduced retirement.

**LRS**

Age	Annual Rate	Age	Annual Rate
60-69	10%	73	25%
70	35%	74	40%
71	15%	75	100%
72	15%		

**JRS**

Age	Annual Rates of Retirement
60	25%
61 – 64	10
65 – 69	12
70	50
71 – 74	20
75	100





**DEATHS AFTER RETIREMENT:** The 1994 Group Annuity Table rated forward two years is used for the period after service retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table set forward three years is used for the period after disability retirement.

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

Age	Males	Females	Age	Males	Females
40	.125%	.082%	65	1.803%	1.076%
45	.190	.111	70	2.848	1.651
50	.321	.173	75	4.517	2.837
55	.558	.292	80	7.553	4.915
60	1.015	.583	85	11.567	8.402

**ASSETS:** Market value

**ACTUARIAL METHOD:** Costs were determined using the Projected Unit Credit Actuarial Cost Method. The annual service cost is the present value of the portion of the projected benefit attributable to participation service during the upcoming year, and the accumulated postretirement benefit obligation (APBO) is equal to the present value of the portion of the projected benefit attributable to service before the valuation date. Service from hire date through the expected retirement date was used in allocating costs.



## SCHEDULE D

### **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),

LRS Members and JRS Members 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  $\frac{1}{2}$  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.

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.