Maine Public Employees Retirement System State Employee and Teacher Retirement Program Actuarial Valuation Report

as of June 30, 2007

Produced by Cheiron

November 2007



Table of Contents

Letter of Transmittal	i
Foreword	ii
Section I – Board Summary	1
Section II – Assets	12
Section III – Liabilities	17
Section IV – Contributions	21
Section V – Accounting Statement Information	24
Appendix A – Membership Information	30
Appendix B – Actuarial Assumptions and Methods	39
Appendix C – Summary of Plan Provisions	44



November 19, 2007

Board of Trustees Maine Public Employees Retirement System #46 State House Station Augusta, Maine 04333-0046

Dear Members of the Board:

We are pleased to submit the June 30, 2007 Actuarial Valuation Report for the Plans in the State Employee and Teacher Retirement Program of the Maine Public Employees Retirement System. This report contains information on assets, liabilities, and contributions of the System's Retirement Programs, as well as the required accounting statement disclosures under the Government Accounting Standards Board Statement #25.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. The actuarial assumptions reflect our understanding of the likely future experience of the plans in the program and the assumptions as a whole represent our best estimate for the future experience of the those plans. The accuracy of the results presented in this report is dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plans could vary from our results.

We hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, and that as Members of the American Academy of Actuaries, we meet the Qualification Standards to render the opinion contained in this report.

Sincerely, Cheiron

Gene Kalwarski, FSA, EA Consulting Actuary

Tina Ehiste

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FOREWORD

Cheiron has performed the actuarial valuation of the plans in the Maine Public Employees Retirement System State Employee and Teacher Program as of June 30, 2007. The purpose of this report is to:

- 1) **Measure and disclose**, as of the valuation date, the financial condition of the plans in the Program;
- 2) **Indicate trends**, both historical and prospective, in the financial condition of the plans in the Program;
- 3) **Report on the contribution rate** developed in this valuation (actual contributions to be paid by the State for Fiscal Years 2008 and 2009 were developed in the 2006 valuation report.)
- 4) **Provide specific information** and documentation required by the Government Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our key findings and discloses important trends experienced by the plans in the Program in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV develops the State contribution rates that would be applied absent the State's biennial budgeting process.

Section V includes the required disclosures under GASB Statement No. 25.

Finally, at the end of this report we present appendices that contain a summary of the:

- Program membership by plan at the valuation date (Appendix A)
- the actuarial methods and assumptions used in the valuation (Appendix B)
- major benefit provisions of the Program and the various plans included in the Program (Appendix C)

SECTION I BOARD SUMMARY

General Comments

The State of Maine's annual contributions to the plans in this Program are determined on a biennial basis (in every evennumbered year). As such, last year's valuation (2006) produced employer contribution rates for each plan, which are used in the State's budgeting process to develop applicable State budget contributions for FY 08 and FY 09. This valuation develops the rates that would be used for FY 09 absent this budgeting process and provides an indication as to whether the rates are trending up or down since that report.

The State of Maine composite rate produced by the June 30, 2006 valuation for all plans in the State Employee and Teacher Retirement Program was 17.59% of payroll. The State composite rate produced in this valuation is 17.11% of payroll.

State law requires that a portion of any General Fund surplus must be allocated to the Maine Public Employee Retirement System (MainePERS) on an annual basis. There was no surplus in the Fiscal Year 2007 budget and so no allocation took place.

There were no changes in actuarial assumptions or program or plan provisions since the 2006 valuation. Cheiron is in the process of migrating our valuation process to a new actuarial valuation system in order to keep current with changes in the legal environment and the actuarial profession. As a first step in migrating the MainePERS liability to the new system we reran the June 30, 2006 valuation results and obtained results that were within 1% of the liabilities produced under the previous system for all actuarial accrued liability, or funding, calculations. The development of present value of accrued benefits was uniformly higher using the new System but still within the 5% tolerance our industry uses to call such system changes neutral.

Experience from July 1, 2006 through June 30, 2007 (FY 2007)

As of June 30, 2007, the Program had an Unfunded Actuarial Liability (UAL) of \$2.912 billion. This represents a decrease of \$131 million from the \$3.043 billion UAL measured as of June 30, 2006. The UAL was projected to increase to \$3.082 billion and so the experience of the Program reflected a net gain of \$170 million over what was anticipated.

Two sources contributed to that \$170 million net gain; investment performance measured on an actuarial smoothing basis produced an actuarial gain of \$209 million, and the overall liability experience for FY 2007 produced a loss of \$39 million.

Historical Trends

It is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

On the next page, we present a series of charts which display key historical trends in the Program's financial condition. Following the historical review, we present projections of the probable condition of the Program into the future under various market return scenarios.



SECTION I BOARD SUMMARY

Growth in Assets

The first graph below illustrates how well the actuarial smoothing method has insulated the Program from market volatility. The upward trend in market value of assets since 1995 was reversed in 2001 and 2002 as the equity bull market turned into a bear market. Due to the asset smoothing method in place, the actuarial value of assets continued to increase over these years. As of the 2006 valuation the market value had grown to approximately equal the actuarial value. Now it exceeds the actuarial value which means as of June 30, 2007 there are past investment gains being stored for recognition in future valuations.



Assets and Liabilities

The next graph illustrates the progress of assets against liabilities. The three colored bars represent the three different measures of liability mentioned in Section III of this report. Used for funding purposes, the actuarial liability (AL) is represented by the top of the grey bar. We compare the actuarial value of assets to this measure of liability in developing the funding ratios. These are the percentages shown in the graph labels.

The chart illustrates that the Program has reached its highest funded percentage (74%) since June 30, 2000, just before the market downturn. At the top of the pink bars, there is the Present Value of Future Benefits (PVFB). This is the amount needed to provide all projected benefits for the current participants and their beneficiaries. The yellow bars represent the Present Value of Accrued Benefits (PVAB) as of the valuation date.



SECTION I BOARD SUMMARY

Contributions

This graph shows the history of contributions to the Program both as dollar amounts and as a percentage of payroll. The stacked bars in this graph show the contributions made by both the State and the members in dollar terms. These bars should be read in relation to the axis on the left-hand side. The solid black line shows the State's Fiscal Year Appropriation contribution rate as a percent of payroll and should reference the right-hand axis. In addition red and blue dots show the computed contribution rates coming out of each year's valuation.

The member contribution rate is set by the statutes, depending on the plan in which the member participates. The employer contribution rate paid by the State is set by the actuarial process, on a biennial basis. The contribution rate paid during FY 2007 was based on the June 30, 2004 valuation and is only the second to fully reflect the impact of the 2001 - 2002 market downturn.

Participant Trends

As with many funds in this country, there has been a steady growth in the number of retired members as the Program has matured. The bars in the graph below show the number of active members, terminated vesteds and retirees over the last eleven years. The labels above each bar show the "support ratio" defined as the number of active members per retiree. We anticipate this support ratio will continue to decline as the baby boom generation enters retirement. The valuation process takes this trend into account and the projections on the next two pages show that assets will be sufficient to meet this growing demand.



SECTION I BOARD SUMMARY

Projections

Base Line Projections

The charts on this page show the expected progress of the Program's funding status over the next 25 years measured in terms of the employer contribution rate and the funding ratio. The first chart below shows that the State's composite contribution rate is projected to decline as gains are recognized through 2027, if all actuarial assumptions are met, including the 7.75% investment assumption. In 2028, the UAL is expected to be paid off, and the State's contribution rate drops to the Normal Cost, or 5.5%.

 The next chart compares Assets and Liabilities and shows that if all actuarial assumptions are exactly met, the Program's funded ratio is projected to improve from the current level of 74% to 100% funding in 2028, the year that the Maine Constitution mandates that the Program's UAL is to be paid off.



SECTION I BOARD SUMMARY

Projections with Asset Returns of 8.75%

The future funding of this Program will be largely driven by the investment earnings. Relatively minor changes in the market returns can have significant effects on the Program's status. The chart below shows that if the Program were to earn 8.75% annual returns each year, the contribution rate would decline to 0% by 2026.

Assuming the same 8.75% return on investments, this next chart shows that the Program would reach full funding in 15 years, or 2022 well in advance of the 2028 target date.





SECTION I BOARD SUMMARY

Projections with Asset Returns of 6.75%

Just as returns in excess of the earnings assumption will lead to declining State contributions and an improved funded status, the opposite will occur if investment earnings are below the assumption. The graphs on this page show the projections under a 6.75% annual return scenario. The State's contribution rate would rise to over 35% of payroll by the year 2027, in order to meet the requirement of full funding in 2028.



The Program's funded ratio would continue to increase from its current 74% but would grow to 99% over the next 24 years. In this scenario, the Program would likely still have an Unfunded Actuarial Liability at the end of the current amortization period. The Constitutional Amendment would be satisfied, in that the UAL existing on July 1, 1997 would be paid off by 2028, but new losses would create additional UAL that would have to be funded.



SECTION I BOARD SUMMARY

Summary of Principal Results								
Total State Employee and Teacher Program								
Valuation as of:	June 30, 2006 June 30, 2007 % Change							
Participant Counts								
Actives	42,643	42,184	(1.1)%					
Retired Members	17,720	18,251	3.0%					
Beneficiaries of Retirees	5,460	5,553	1.7%					
Survivors of Deceased Members	878	810	(7.7)%					
Disabled Members	1,673	1,687	0.8%					
Deferred "Vested" Members	6,006	6,621	10.2%					
Total	74,380	75,106	1.0%					
Annual Salaries of Active Members	\$ 1,538,201,110	\$ 1,586,436,561	3.1%					
Annual Payments to Benefit Recipients	\$ 422,302,716	\$ 456,863,471	8.2%					
Assets and Liabilities								
Total Actuarial Liability	\$10,547,299,194	\$11,157,770,138	5.8%					
Assets/Actuarial (Smoothed)	7,504,219,546	8,245,520,019	9.9%					
Unfunded Actuarial Liability	\$ 3,043,079,648	\$ 2,912,250,119	(4.3)%					
Funding Ratio	71.15%	73.90%	. ,					
Present Value of Accrued Benefits	\$ 8,585,575,164	\$ 9,679,295,888	12.7%					
Assets/Market Value	7,503,201,781	8,668,381,195	15.5%					
Unfunded PVAB	\$ 1,082,373,383	\$ 1,010,914,693	(6.6)%					
Accrued Benefit Funding Ratio	87.39%	89.56%						
Contributions as a Percentage of Payroll	Fiscal Year 2008	Fiscal Year 2009						
Normal Cost Contribution	5.52%	5.52%						
Unfunded Actuarial Liability Contribution	<u>12.07%</u>	<u>11.59%</u>						
Total Contribution	17.59%	17.11%						

SECTION I BOARD SUMMARY

Summary of Principal Results						
	Teachers					
Valuation as of:	June 30, 2006	June 30, 2007	% Change			
Participant Counts						
Actives	28,105	27,712	(1.4)%			
Retired Members	10,013	10,399	3.9%			
Beneficiaries of Retirees	2,291	2,369	3.4%			
Survivors of Deceased Members	350	329	(6.0)%			
Disabled Members	680	689	1.3%			
Deferred "Vested" Members	4,289	4,831	12.6%			
Total	45,728	46,329	1.3%			
Annual Salaries of Active Members	\$ 990,883,932	\$ 1,012,497,013	2.2%			
Annual Payments to Benefit Recipients	\$ 240,110,548	\$ 262,533,986	9.3%			
Assets and Liabilities						
Total Actuarial Liability	\$ 6,742,748,075	\$ 7,153,160,276	6.1%			
Assets/Actuarial (Smoothed)	4,782,782,014	5,290,457,349	10.6%			
Unfunded Actuarial Liability	\$ 1,959,966,061	\$ 1,862,702,927	(5.0)%			
Funding Ratio	70.93%	73.96%				
Present Value of Accrued Benefits	\$ 5,361,416,430	\$ 6,110,385,320	14.0%			
Assets/Market Value	4,782,133,346	5,561,771,834	16.3%			
Unfunded PVAB	\$ 579,283,084	\$ 548,613,486	(5.3)%			
Accrued Benefit Funding Ratio	89.20%	91.02%	· · /			
Contributions as a Percentage of Payroll	Fiscal Year 2008	Fiscal Year 2009				
Normal Cost Contribution	5.25%	5.25%				
Unfunded Actuarial Liability Contribution	<u>12.07%</u>	<u>11.61%</u>				
Total State Contribution	17.32%	16.86%				

SECTION I BOARD SUMMARY

Summary of Principal Results								
State Employees (Regular and Special Plans)								
Valuation as of:	June 30, 2006 June 30, 2007 % Change							
Participant Counts								
Actives	14,538	14,472	(0.5%)					
Retired Members	7,707	7,852	1.9%					
Beneficiaries of Retirees	3,169	3,184	0.5%					
Survivors of Deceased Members	528	481	(8.9%)					
Disabled Members	993	998	0.5%					
Deferred "Vested" Members	1,717	1,790	4.3%					
Total	28,652	28,777	0.4%					
Annual Salaries of Active Members	\$ 547,317,178	\$ 573,939,548	4.9%					
Annual Payments to Benefit Recipients	\$ 182,192,168	\$ 194,329,485	6.7%					
Assets and Liabilities								
Total Actuarial Liability	\$ 3,804,551,119	\$ 4,004,609,862	5.3%					
Assets/Actuarial (Smoothed)	2,721,437,532	2,995,062,670	8.6%					
Unfunded Actuarial Liability	\$ 1,083,113,587	\$ 1,049,547,192	(3.1%)					
Funding Ratio	71.3%	73.79%						
Present Value of Accrued Benefits	\$ 3,224,158,734	\$ 3,568,910,568	10.7%					
Assets/Market Value	2,721,068,435	3,106,609,361	14.2%					
Unfunded PVAB	\$ 503,090,299	\$ 462,301,207	5.9%					
Accrued Benefit Funding Ratio	84.40%	87.05%	(8.1%)					
Contributions as a Percentage of Payroll	Fiscal Year 2008	Fiscal Year 2009						
Normal Cost Contribution	6.02%	6.00%						
Unfunded Actuarial Liability Contribution	<u>12.08%</u>	<u>11.54%</u>						
Total State Contribution	18.10%	17.54%						

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SECTION I BOARD SUMMARY

Summary of Principal Results State Employees (Regular Plan)								
Valuation as of:June 30, 2006June 30, 2007%								
Participant Counts								
Actives	12,665	12,548	(0.9%)					
Retired Members	6,929	7,062	1.9%					
Beneficiaries of Retirees	2,845	2,846	0.4%					
Survivors of Deceased Members	518	470	(9.3%)					
Disabled Members	926	928	0.2%					
Deferred "Vested" Members	1,717	1,790	4.3%					
Total	25,600	25,644	0.2%					
Annual Salaries of Active Members	\$ 462,776,707	\$ 483,861,505	4.6%					
Annual Payments to Benefit Recipients	\$ 157,005,543	\$ 167,236,774	6.5%					
Assets and Liabilities								
Total Actuarial Liability	\$ 3,212,266,457	\$ 3,389,596,849	5.5%					
Assets/Actuarial (Smoothed)	2,336,855,726	2,541,365,194	8.8%					
Unfunded Actuarial Liability	\$ 875,410,731	\$ 848,231,655	(3.1%)					
Funding Ratio	72.75%	74.98%						
Present Value of Accrued Benefits	\$ 2,701,531,273	\$ 3,012,686,920	11.5%					
Assets/Market Value	2,336,538,789	2,671,695,928	14.3%					
Unfunded PVAB	\$ 364,992,484	\$ 340,990,992	(6.6%)					
Accrued Benefit Funding Ratio	86.49%	88.68%						
Contributions as a Percentage of Payroll	Fiscal Year 2008	Fiscal Year 2009						
Normal Cost Contribution	5.75%	5.75%						
Unfunded Actuarial Liability Contribution	11.54%	11.07%						
Total State Contribution	17.29%	16.82%						



SECTION I BOARD SUMMARY

Summary of Principal Results								
State Employees (Special Plans - Composite) Valuation as of: June 30, 2006 June 30, 2007 % Change								
	Suite 30, 2000	Suite 50, 2007	70 Change					
Participant Counts	1.072	1.024	2 70/					
	1,8/3	1,924	2.7%					
Retired Members	//8	790	1.5%					
Beneficiaries of Retirees	324	338	4.3%					
Survivors of Deceased Members	10		10.0%					
Disabled Members	67	/0	4.5%					
Deterred "Vested" Members	0	0						
lotal	3,052	3,133	2.7%					
Annual Salaries of Active Members	\$ 84,540,471	\$ 90,078,043	6.6%					
Annual Payments to Benefit Recipients	\$ 25,186,625	\$ 27,092,711	7.6%					
Assets and Liabilities								
Total Actuarial Liability	\$ 592,284,662	\$ 615,013,013	3.8%					
Assets/Actuarial (Smoothed)	384,581,806	413,697,476	7.6%					
Unfunded Actuarial Liability	\$ 207,702,856	\$ 201,315,537	(3.1%)					
Funding Ratio	64.93%	67.27%						
Present Value of Accrued Benefits	\$ 522,627,461	\$ 556,223,648	6.4%					
Assets/Market Value	384,529,646	434,913,433	13.1%					
Unfunded PVAB	\$ 138,097,815	\$ 121,310,215	(12.2%)					
Accrued Benefit Funding Ratio	73.58%	78.19%						
Contributions as a Percentage of Payroll	Fiscal Year 2008	Fiscal Year 2009						
Normal Cost Contribution	7.47%	7.34%						
Unfunded Actuarial Liability Contribution	<u>14.99</u> %	<u>14.11</u> %						
Total State Contribution	22.46%	21.45%						

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SECTION II ASSETS

Pension program assets play a key role in the financial operation of the Program and in the decisions the Trustees make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, State Contributions, and the ultimate security of participants' benefits.

The assets of the Program include amounts contributed for all programs for which the System is the Plan Sponsor, namely, the State Employee and Teacher Program, the Judicial Retirement Program, the Legislative Retirement Program, the Participating Local District Retirement Program, which includes the Consolidated Plan for Participating Local Districts (PLDs), along with several plans of PLDs who withdrew from the System, as the assets of all these programs are co-mingled for investment purposes. In performing the annual valuation, the actuarial value of assets that is developed reflects all defined benefit plan assets and subsequently it is allocated across all of the defined benefit plans included in the programs administered by MainePERS.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of assets at June 30, 2006 and June 30, 2007;
- Statement of the **changes** in market values during the year;
- Development of the Actuarial Value of Assets;
- Allocation of Actuarial Value to subplans;
- Assessment of investment performance; and
- Projection of expected cash flows for the next ten years.

Disclosure

The market value of assets represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. Because these fluctuations would result in volatility in the resulting contributions if the market value were used, unadjusted, in the valuation process, an actuarial value is developed.

The actuarial value is based on the market value that has been smoothed. This actuarial value becomes the actuary's best estimate of long-term asset values and is used for evaluating the Program's ongoing ability to meet its obligations.

Current actuarial methods employed in this Program set the actuarial value equal to the expected value plus one-third of the difference between the actual market value of assets and the expected value of assets. The expected value of assets takes the prior year's actuarial value of assets and adjusts it for contributions, benefit payments, and expected interest earnings at the assumed 7.75% rate.

SECTION II ASSETS

Changes in Market Value of Total Defined Benefit Plan Assets (All Programs)				
Value of Assets – June 30, 2006			\$	9,529,306,066
Additions Contributions: Employer Contributions Employee Contributions Transfer Total Contributions	\$ 312,302,291 155,061,293 (5,354)		\$	467,358,230
Investment Income: Net Appreciation (Depreciation) in Fair Value of Investments Interest on Bank Balances Total Investment Income	\$ 1,561,176,288 1,486,502	\$ 1,562,662,790		
Investment Activity Expenses: Management Fees Investment Related Expense Banking Fees Total Investment Activity Expenses	\$ (23,518,118) (214,212) (64,019)	\$ (23,796,348)		
Net Income from Investing Activities			\$	1,538,866,442
Total Additions			\$	2,006,224,672
Deductions Retirement Benefits Disability Benefits Survivor Benefits Refunds and Other Expenses Total Deductions	\$ (483,900,828) (51,473,506) (5,862,639) (21,938,751)		\$	(563,177,268)
<u>Total</u> Net Increase (Decrease)			\$	1,443,047,404
Value of Assets – June 30, 2007			\$	10,972,353,470

SECTION II ASSETS

	Development of Actuarial Value of Assets (All Programs) as of June 30, 2007					
1.	Actuarial Value of Assets at June 30, 2006	\$	9,530,598,662			
2.	Amount in (1) with Interest to June 30, 2007		10,269,220,057			
3.	Employer and Member Contributions for the Plan Year Ended June 30, 2007		467,358,230			
4.	Interest on Contributions Assuming Received Uniformly Throughout the Year to June 30, 2007		17,772,220			
5.	Disbursements from Trust Except Investment Expenses, July 1, 2006 through June 30, 2007		(563,177,268)			
6.	Interest on Disbursements Assuming Payments Made Uniformly throughout the Year to June 30, 2007		(21,700,176)			
7.	Expected Value of Asset at June 30, 2007 = $(2) + (3) + (4) + (5) + (6)$	\$	10,169,473,063			
8.	Actual Market Value of Assets at June 30, 2007	\$	10,972,353,470			
9.	Excess of (8) Over (7)		802,880,407			
10.	Actuarial Value of Assets at June 30, 2007 = $(7) + 33\frac{1}{3}\%$ of (9)	\$	10,437,099,865			



SECTION II ASSETS

Actuarial Value of Assets

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, volatile contribution rates which could develop from short-term fluctuations in the Market Value of Assets. For this Program, the Actuarial Value has been calculated by adding one-third of the difference between actual Market Value and Expected Value, to the Expected Value. The previous table illustrates the calculation of Actuarial Value of Assets for the June 30, 2007 valuation.

Allocation of Actuarial Value of Assets

The assets for all of the defined benefit plans in the programs administered by MainePERS are commingled for investment purposes. Other assets are in effect commingled in that their value is allocated among all of the programs. The actuarial smoothing methodology is applied on the market value of total assets. This produces an asset ratio which is then applied to the market value of assets attributable to each of the programs. The asset value derived in this valuation is 0.95122 ($$10,437,099,865 \div $10,972,353,470$). The allocation of actuarial value of assets to each of the System's retirement programs is shown in the following chart.

Allocation of Actuarial Value of Assets as of June 30, 2007							
	Market Value Actuarial Value						
Teachers	\$ 5,561,771,834	\$ 5,290,457,349					
State (Regular & Special)	3,106,609,361	2,955,062,67					
Judges	50,698,214	48,225,053					
Legislators	9,168,846	8,721,571					
Participating Local Districts (Consolidated & Non-Consolidated)	2,244,105,215	2,134,633,222					
Total Fund	\$10,972,353,470	\$10,437,099,865					

Investment Performance

The Market Value of Assets returned 16.23% during FY 2007. This is significantly higher than the assumed return of 7.75%. The returns in FY 2006 and FY 2005 were 7.46% and 11.75% respectively.

On an actuarial value of assets basis, the return for FY 2007 was 10.57%. This return is less than the return on a market value basis, but exceeds the 7.75% assumption and therefore gives rise to an investment gain this year.

SECTION II ASSETS

Projection of State and Teacher Program Benefit Payments and Contributions					
Expected BenefitExpected StateExpected MemberFY Ending June 30PaymentsContributionsContributions				Total Expected Contribution	
2008	\$ 502,274,000	\$ 271,439,000	\$ 122,314,000	\$ 393,753,000	
2009	544,589,000	284,333,000	128,124,000	412,457,000	
2010	588,263,000	297,838,000	134,210,000	432,048,000	
2011	633,700,000	311,986,000	140,585,000	452,571,000	
2012	682,648,000	326,805,000	147,263,000	474,068,000	
2013	734,347,000	342,328,000	154,258,000	496,586,000	
2014	788,203,000	358,589,000	161,585,000	520,174,000	
2015	842,519,000	375,622,000	169,260,000	544,882,000	
2016	896,451,000	393,464,000	177,300,000	570,764,000	
2017	948,853,000	412,154,000	185,722,000	597,876,000	

We provide this projection of cash flows in and out of the Program for informational purposes. The Board may share these projections with its investment advisor for consideration of the growing gap between cash coming in from State and member contributions and cash being paid out to provide benefits. The chart shows this gap is expected to widen as more of the baby boom generation joins the retiree payroll.

The expected benefit payments were developed on the basis of those currently included in this valuation and on the assumption that the actuarial assumptions disclosed in Appendix B will be exactly met. Actual benefit payments will vary if members retire sooner or later than assumed and if salary increases and projected future post-retirement COLAs differ from those assumed. The projections exclude any assumption about new hires, whose experience will eventually lead to increased benefit payments. However, we do not feel this exclusion will materially impact the projections for the time period shown.

Expected contributions are based on the current covered payroll and the composite State contribution rate developed in this valuation of 17.11% of payroll. We have assumed that payroll will increase by 4.75% per year in the projection period and that the rate will remain constant.

The projection of member contributions is similarly based on a 4.75% per year increase in covered payroll multiplied by the average aggregate member contribution rate of 7.70%.



SECTION III LIABILITIES

In this section, we present detailed information on liabilities including:

- **Disclosure** of liabilities at June 30, 2006 and June 30, 2007;
- Statement of changes in these liabilities during the year; and
- An **allocation** of liabilities to the Teachers, State Regular and State Special plans.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- **Present Value of Future Benefits:** Used for analyzing the overall financial obligations, this represents the amount of money needed today to fully pay off all future benefits, assuming participants continue to earn salary increases and accrue benefits under the current program and plan provisions.
- Actuarial Liability: Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Future Benefits above and subtracting the value of obligations that are assigned to future years. This offset is equal to the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. This method is referred to as the Entry Age Normal funding method.

• **Present Value of Accrued Benefits:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FAS 35) and used to assess whether the Program can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior years' valuations. With respect to the Actuarial Liability and the Present Value of Accrued Benefits, a subtraction of the appropriate value of assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

The Present Value of Future Benefits is compared to the current market value of assets, the expected future value of member contributions and the expected future value of State contributions assuming the valuation rate remains constant. The difference between the Present Value of Future Benefits (PVB) and these anticipated resources indicates either a shortfall or an expected surplus that may develop over time. This surplus or a shortfall indicates the size of the State and Teacher Program's allocation of the stored gains or losses that remain outside of the valuation process. These gains or losses may enter the rate-making processes depending on the future investment performance.

SECTION III LIABILITIES

Disclosure of Liabilities				
	June 30, 2006	June 30, 2007		
Present Value of Future Benefits (PVB)				
Active Participant Benefits	\$ 6,912,206,378	\$ 7,111,965,049		
Retiree Benefits	5,042,695,627	5,439,581,538		
Terminated Vested and Inactive Members	325,090,052	411,301,233		
Total PVB	\$ 12,279,992,057	\$ 12,962,847,820		
Market Value of Assets (MVA)	7 503 201 781	8 668 381 195		
Future Employee Contributions	1 010 640 232	1 052 428 059		
Future State Contributions at the Current Rate	1,010,010,202	1,002,120,009		
(17 59% FY 2006 [•] 17 11% FY 2007)	3 767 929 644	3 666 043 089		
Projected (Surplus)/Shortfall	(1 779 599)	$(424\ 004\ 523)$		
Total Resources	\$ 12,279,992,057	\$ 12,962,847,820		
Actuarial Liability				
Present Value of Future Benefits (PVB)	\$ 12 270 002 057	\$ 12,962,847,820		
Present Value of Future Normal Costs (PVENC)	ϕ 12,279,992,037	\$ 12,702,047,020		
Employer Portion	722 052 631	752 649 623		
Employee Portion	1 010 640 232	1 052 428 059		
Actuarial Liability (AL – PVR – PVFNC)	<u>\$ 10547299194</u>	\$ 11 157 770 138		
$\Delta \text{ ctuarial Value of } \Delta \text{ ssets } (\Delta V \Delta)$	7 504 219 546	\$ 245 520 019		
Net (Surnlus)/Unfunded ($\Delta L = \Delta V \Delta$)	\$ 3,043,079,648	\$ 2,912,250,119		
Net (Surplus)/ Omunded (AL – A VA)	ψ 3,0+3,077,0+0	ψ 2,712,230,117		
Present Value of Accrued Benefits				
Present Value of Future Benefits (PVB)	\$ 12,279,992,057	\$ 12,962,847,820		
Present Value of Future Benefit Accruals (PVFBA)	3,694,416,893	3,283,551,932		
Accrued Liability (PVAB = PVB – PVFBA)	\$ 8,585,575,164	\$ 9,679,295,888		
Market Value of Assets (MVA)	7,503,201,781	8,668,381,195		
Net (Surplus)/Unfunded (PVAB – MVA)	\$ 1,082,373,383	\$ 1,010,914,693		

SECTION III LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each subsequent valuation. The components of these changes, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Program and Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in assets resulting from:

- State contributions being different than expected
- Investment earnings being different than expected
- A change in the method used to measure Plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the Program. Below we present key changes in liabilities since the last valuation.

	Present Value of Future Benefits Actuarial Liability		Pre Acc	esent Value of crued Benefits		
Liabilities 6/30/2006	\$ 12,2	79,992,057	\$ 10,54	7,299,194	\$	8,585,575,164
Liabilities 6/30/2007	12,962,847,820 11,15		7,770,138		9,679,295,888	
Liability Increase (Decrease)	682,855,763 610,470,944			1,093,720,724		
Change Due to:						
Program/Plan Amendment	\$		\$		\$	
System Change						467,969,358
Actuarial (Gain)/Loss		N/C	3	9,346,019		N/C
Benefits Accumulated and Other Sources	6	82,855,763	57	1,124,925		625,751,366

N/C = Not calculated

SECTION III LIABILITIES

Allocation of Actuarial Liability as of June 30, 2007					
		Total Program	Teachers	State Regular	Special Plans
1.	Actuarial Liabilities for:				
	a. Active Members	\$ 5,306,887,367	\$ 3,629,016,896	\$ 1,418,294,047	\$ 259,576,424
	b. Retired, Disabled and Beneficiary Members	5,439,581,538	3,218,623,831	1,865,521,118	355,436,589
	c. Vested Deferred and Inactive Status Members	411,301,233	305,519,549	105,781,684	0
2.	Total Actuarial Liability				
	(1(a) + 1(b) + 1(c))	\$ 11,157,770,138	\$ 7,153,160,276	\$ 3,389,596,849	\$ 615,013,013
3.	Actuarial Value of Assets	8,245,520,019	5,290,457,349	2,541,365,194	413,697,476
4.	Unfunded Actuarial Liability				
	(2-3)	\$ 2,912,250,119	\$ 1,862,702,927	\$ 848,231,655	\$ 201,315,537

SECTION IV CONTRIBUTIONS

In the process of evaluating the financial condition of the plans of any pension program, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to achieve and maintain an appropriate funded status. Typically, the actuarial process will use a funding method that will result in a pattern of contributions that are both stable and predictable.

For the plans in this Program, the funding methodology employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two components to the total contribution: the **normal cost rate**, and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined by the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into a plan, of a representative new entrant's projected future benefits. Second, this value is then divided by the value, also at entry age, of the member's expected future salary. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The UAL rate is that percentage of member payroll which, when applied to each year's payroll, is sufficient to amortize the unfunded actuarial liability (UAL) over 21 years from June 30, 2007.

The table below presents and compares the composite State contribution rate for all plans in the Program for this valuation and the prior one.

Composite State Rate June 30, 2006 June 30, 2007					
Normal Cost Rate	5.52%	5.52%			
UAL Rate	<u>12.07%</u>	<u>11.59%</u>			
Total State Rate	17.59%	17.11%			

The charts on the pages that follow show the rate for each plan within the State and Teacher Program and the development of the UAL amortization rate for each plan.



SECTION IV CONTRIBUTIONS

Table IV-1 State Employer Contribution Rates								
State Police Marine Resources Valuation Forest 1998 Date State & Wildlife Employees Rangers 25 & Out Specia June 30, 2007 Total State Teacher Regular (Closed) (Closed) Plan Plan							1998 Special Plan	
New Entrant Normal Cost Contributions as a Percent of Payroll	5.52%	5.25%	5.75%	17.84%	9.04%	7.34%	8.25%	6.50%
Unfunded Actuarial Liability Contribution as a Percent of Payroll	<u>11.59</u>	<u>11.61</u>	11.07	34.31	<u>17.39</u>	<u>14.12</u>	<u>15.87</u>	<u>12.50</u>
Total Contributions as a Percent of Payroll	17.11%	16.86%	16.82%	52.15%	26.43%	21.46%	24.12%	19.00%



SECTION IV CONTRIBUTIONS

Γ	Table IV-2 Derivation of Unfunded Actuarial Liability Rates							
	Valuation Date June 30, 2007	Teachers	State Regular	State Police Marine Resources Inland Fish & Wildlife (Closed)	Prison Employees (Closed)	Forest Rangers (Closed)	25 & Out Plan	1998 Special Plan
1.	Present Value of Future Benefits	\$ 8,265,949,890	\$ 3,959,426,670	\$267,314,176	\$ 56,782,535	\$ 28,230,971	\$117,138,028	\$ 268,005,550
2.	Normal Cost Rate	5.25%	5.75%	17.84%	9.04%	7.34%	8.25%	6.50%
3.	Present Value of Future Payroll	8,626,276,078	4,252,461,352	4,444,315	2,686,262	2,697,255	237,607,170	529,497,321
4.	Present Value of Future Normal Cost (2) x (3)	452,879,494	244,516,528	792,866	242,838	197,979	19,602,592	34,417,326
5.	Present Value of Future Contributions	659,910,120	325,313,293	384,433	232,362	233,313	20,553,020	45,801,518
6.	Actuarial Liability $(1) - (4) - (5)$	7,153,160,276	3,389,596,849	266,136,877	53,307,335	27,799,679	76,982,416	187,786,706
7.	Actuarial Value of Assets	5,290,457,349	2,541,365,194	253,440,086	53,974,559	25,848,055	11,098,282	69,336,494
8.	Unfunded Actuarial Liability (6) – (7)	1,862,702,927	848,231,655	12,696,791	2,332,776	1,951,624	65,884,134	118,450,212
9.	Estimated Payroll	1,012,497,013	483,861,505	2,335,928	846,964	872,691	26,211,219	59,811,241
10.	Amortization Factor	15.8411	15.8411	15.8411	15.8411	15.8411	15.8411	15.8411
11.	Unfunded Actuarial Liability Rate (8) / (9) / (10)	11.61%	11.07%	34.31%	17.39%	14.12%	15.87%	12.50%



SECTION V ACCOUNTING STATEMENT INFORMATION

Statement No. 35 of the Financial Accounting Standards Board (FASB) requires the disclosure of certain information regarding the funded status of the plans in a retirement program. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB-35 disclosures provide a quasi "snap shot" view of how assets compare to liabilities if contributions were to stop and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if all plans in the Program were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB-35) and the actuarial accrued liability (GASB-25) are determined assuming that the plans in the Program are ongoing and participants will continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75% per annum.

FASB Statement No. 35 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets

for funding purposes. The relevant amounts as of June 30, 2006 and June 30, 2007 are exhibited in Table V-1. Table V-2 reconciles the FASB-35 liabilities determined as of the prior valuation, June 30, 2006 to the liabilities as of June 30, 2007.

Tables V-3 through V-5 are exhibits required for the System's Comprehensive Annual Financial Report. The GFOA recommends showing 6-10 years of experience in each of these exhibits. This report will continue to add years of experience to the charts and eventually build up to the recommended disclosure. Table V-3 shows the Notes to Required Supplementary Information. Table V-4 is a history of gains and losses in Accrued Liability, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.



SECTION V ACCOUNTING STATEMENT INFORMATION

	Table V-1						
	Accounting Sta	atement Information June 30, 2006	June 30, 2007				
A. FA	ASB No. 35 Basis	· · · · ·	· · · · ·				
1.	Present Value of Benefits Accrued and Vested to Datea. Members Currently Receiving Paymentsb. Vested Terminatedc. Active Membersd. Total PVAB	\$ 5,042,695,627 325,090,052 <u>3,217,789,485</u> \$ 8,585,575,164	\$ 5,439,581,538 411,301,233 <u>3,828,413,117</u> \$ 9,679,295,888				
2.	Assets at Market Value	7,503,201,781	8,668,381,195				
3.	Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$ 1,082,373,383	\$ 1,010,914,693				
4.	Ratio of Assets to Value of Benefits $(2) / (1)(d)$	87.39%	89.56%				
B. G.	ASB No. 25 Basis						
1.	 Actuarial Liabilities a. Members Currently Receiving Payments b. Vested Deferred and Inactive Status Members c. Active Members d. Total 	\$ 5,042,695,627 325,090,052 <u>5,179,513,515</u> \$10,547,299,194	\$ 5,439,581,538 411,301,233 <u>5,306,887,367</u> \$11,157,770,138				
2.	Actuarial Value of Assets	7,504,219,546	8,245,520,019				
3.	Unfunded Actuarial Liability	\$ 3,043,079,648	\$ 2,912,250,119				
4.	Ratio of Actuarial Value of Assets to Actuarial Liability (2) / (1)(d)	71.15%	73.90%				

SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-2 Statement of Changes in Total Actuarial Present Value of All Accrued Benefits		
	Accu Oblig	mulated Benefit gation (FASB 35)
Actuarial Present Value of Accrued Benefits as of June 30, 2006	\$	8,585,575,164
Increase (Decrease) During Years Attributable to: Passage of Time Benefits Paid – FY 2007 System Change Program/Plan Amendment Benefits Accrued, Other Gains/Losses Net Increase (Decrease)		628,804,533 (471,968,288) 467,969,358
Actuarial Present Value of Accrued Benefits as of June 30, 2007	\$	9,679,295,888



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-3 NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.				
Valuation date	June 30, 2007			
Actuarial cost method	Entry age			
Amortization method	Level percent closed			
Remaining amortization period	21 years			
Asset valuation method	3-Year smoothed market			
Actuarial assumptions:				
Investment rate of return*	7.75%			
Projected salary increases*	4.75%			
*Includes inflation at	4.50%			
Cost-of-living adjustments	3.75%			

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based on the most recent review of the experience of the plans in the Program, completed in 2006.

The rate of employer contributions to the plans in the Program is composed of the normal cost and an amortization of the unfunded actuarial accrued liability. The normal cost is a level percent of payroll cost which, along with the member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-4 ANALYSIS OF FINANCIAL EXPERIENCE Gain and Loss in Accrued Liability During Years Ended June 30 Resulting from Differences Between Assumed Experience and Actual Experience							
Gain (or Loss) for Year ended June 30, 2006 Gain (or Loss) for Year ended June 30, 2007							
Type of Activity							
Investment Income	\$ (2,036,992)	\$ 209,910,525					
Combined Liability Experience	48,354,919	<u>\$ (39,346,019)</u>					
Gain (or Loss) During Year from Financial Experience	\$ 46,317,927	\$ 170,564,505					
Non-Recurring Items	5,292,234	0					
Composite Gain (or Loss) During Year	\$ 51,610,161	\$ 170,564,505					



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-5 SOLVENCY TEST Aggregate Accrued Liabilities For							
Valuation Date June 30,	(1) Active Member Contributions	(2) Retirees Vested Terms, Beneficiaries	(3) Active Members (Employer Financed Portion)	Reported Assets	Po Lia by (1)	rtion of Accru abilities Cove Reported Ass (2)	red sets (3)
2007 2006 2005 2004	<pre>\$ 1,789,362,929 1,645,241,719 1,569,409,748 1,464,936,256</pre>	\$ 5,850,882,771 5,367,785,679 4,832,994,427 4,387,963,456	\$ 3,517,524,438 3,534,271,796 3,596,845,863 3,589,489,687	<pre>\$ 8,245,520,019 7,504,219,546 6,964,597,457 6,452,570,243</pre>	100% 100% 100% 100%	100% 100% 100% 100%	17% 14% 16% 17%

Active Member Data as of June 30, 2007				
TeachersCountAverage Current AgeAverage ServiceAverage Valuation Pay	27,712 46.1 14.4 \$ 36,536			
State Employee Regular Plan Count Average Current Age Average Service Average Valuation Pay	12,548 47.1 13.2 \$ 38,561			
Forest Rangers Special Plan (Closed Plan) Count Average Current Age Average Service Average Valuation Pay	17 51.0 27.5 \$ 51,335			
Inland Fisheries & Wildlife Officers Special Plan (Closed Plan) Count Average Current Age Average Service Average Valuation Pay	11 54.0 29.7 \$ 55,175			
Prison Employees Special Plan (Closed Plan) Count Average Current Age Average Service Average Valuation Pay	17 53.5 27.7 \$ 49,821			

Active Member Data as of June 30, 2007				
State Police Special Plan (Closed Plan)				
Count	19			
Average Current Age	52.2			
Average Service	26.3			
Average Valuation Pay	\$ 81,706			
Marine Resource Officers Special Plan (Closed Plan)				
Count	3			
Average Current Age	51.8			
Average Service	30.0			
Average Valuation Pay	\$ 58,863			
State Employee Special 25 & Out Plan				
Count	446			
Average Current Age	38.7			
Average Service	12.0			
Average Valuation Pay	\$ 58,770			
State Employee 1998 Special Plan				
Count	1,411			
Average Current Age	43.5			
Average Service	10.6			
Average Valuation Pay	\$ 42,389			
State Employee Totals (Excludes Teachers)				
Count	14,472			
Average Current Age	46.6			
Average Service	13.0			
Average Valuation Pay	\$ 39,659			

Non-Active Member Data as of June 30, 2007 Teachers						
	Count	Aı	Total nnual Benefit	Average Annual Benefit		
Retired	10,399	\$	221,866,654	\$ 21,335		
Retired – Concurrent Beneficiaries	1,334	\$	6,676,233	\$ 5,005		
Disabilities / 1122	2	\$	43,657	\$ 21,829		
Disabilities / 3 and 3A	687	\$	17,679,316	\$ 25,734		
Beneficiaries	1,035	\$	14,386,219	\$ 13,900		
Pre-Retirement Death Benefits	329	\$	1,881,907	\$ 5,720		
Terminated Vested	4,831	\$	32,161,511	\$ 6,657		

Non-Active Member Data as of June 30, 2007 State Regular										
	Count	Total Annual Benefit	Average Annual Benefit							
Retired	7,062	\$ 121,627,372	\$ 17,223							
Retired – Concurrent Beneficiaries	1,123	\$ 5,081,068	\$ 4,525							
Disabilities / 1122	6	\$ 104,646	\$ 17,441							
Disabilities / 3 and 3A	922	\$ 18,379,419	\$ 19,934							
Beneficiaries	1,723	\$ 19,381,605	\$ 11,249							
Pre-Retirement Death Benefits	470	\$ 2,662,664	\$ 5,665							
Terminated Vested	1,790	\$ 13,560,159	\$ 7,576							



Non-Active Member Data as of June 30, 2007 Special Plans											
	Count	An	Total nual Benefit	Average Annual Benefit							
Retired	790	\$	22,141,663	\$ 28,027							
Retired – Concurrent Beneficiaries	163	\$	824,777	\$ 5,060							
Disabilities / 1122	3	\$	51,282	\$ 17,094							
Disabilities / 3 and 3A	67	\$	1,613,903	\$ 24,088							
Beneficiaries	175	\$	2,361,485	\$ 13,494							
Pre-Retirement Death Benefits	11	\$	99,601	\$ 9,055							
Terminated Vested	0	\$	0	\$ 0							



APPENDIX A MEMBERSHIP INFORMATION

					Years of	Service					
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals
Under 25	245	476	56	0	0	0	0	0	0	0	777
25 to 29	240	1,047	868	43	0	0	0	0	0	0	2,198
30 to 34	187	587	937	709	27	0	0	0	0	0	2,447
35 to 39	192	652	682	978	564	15	1	0	0	0	3,084
40 to 44	167	619	714	510	757	546	11	0	0	0	3,324
45 to 49	133	530	836	622	568	907	507	13	0	0	4,116
50 to 54	95	415	589	655	701	622	1,112	608	9	0	4,806
55 to 59	78	297	421	483	711	732	592	1,063	435	7	4,819
60 to 64	33	152	179	155	266	299	259	153	188	38	1,722
65 to 69	14	42	44	35	25	50	28	28	10	25	301
70 and up	6	20	34	18	7	7	14	3	0	9	118
Total	1,390	4,837	5,360	4,208	3,626	3,178	2,524	1,868	642	79	27,712

Distribution of Active Members As of June 30, 2007



Age Distribution

Service Distribution





APPENDIX A MEMBERSHIP INFORMATION

	Average Salary																	
	Years of Service																	
	U	Under 1 1 to 4 5 to 9 10 to 14 15 to 19 20 to 24 25 to 29 30 to 34 35 to 39 40 and up										ŀ	Average					
Under 25	\$	12,174	\$	18,382	\$	22,174	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -	\$	16,698
25 to 29		16,268		25,633		29,424		31,741		-		-	-	-	-	-		26,227
30 to 34		18,955		26,126		32,320		35,517		36,860		-	-	-	-	-		30,789
35 to 39		16,512		25,175		31,623		38,643		41,816		36,144	2,282	-	-	-		33,422
40 to 44		16,599		21,385		29,421		36,152		44,510		44,932	37,607	-	-	-		34,324
45 to 49		15,243		21,442		27,975		34,598		43,206		46,966	49,771	52,948	-	-		36,774
50 to 54		18,247		25,232		28,727		35,178		42,865		47,456	51,659	52,781	48,828	-		41,970
55 to 59		16,082		25,939		31,844		36,879		41,939		45,733	49,648	54,448	53,864	51,953		44,519
60 to 64		11,693		19,739		28,232		36,655		39,004		43,687	47,481	52,544	55,181	48,287		40,711
65 to 69		11,958		9,831		22,673		23,676		36,738		38,284	51,086	46,234	46,233	59,853		32,966
70 and up		5,926		6,057		8,952		14,782		24,186		20,655	18,704	18,645	-	41,790		14,703
Average	\$	15,811	\$	23,496	\$	29,796	\$	36,104	\$	42,511	\$	45,874	\$ 50,110	\$ 53,559	\$ 54,060	\$ 51,532	\$	36,536

Distribution of Active Members As of June 30, 2007



Average Salary Distribution

APPENDIX A MEMBERSHIP INFORMATION

	State											
		Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals	
Under 25	202	241	15	0	0	0	0	0	0	0	458	
25 to 29	176	482	218	6	0	0	0	0	0	0	882	
30 to 34	151	402	482	91	7	0	0	0	0	0	1,133	
35 to 39	145	382	491	278	188	31	0	0	0	0	1,515	
40 to 44	118	358	450	215	395	294	28	0	0	0	1,858	
45 to 49	112	403	472	261	387	450	304	41	0	0	2,430	
50 to 54	116	337	488	274	328	426	414	241	28	1	2,653	
55 to 59	78	281	304	211	292	387	263	250	170	21	2,257	
60 to 64	30	117	179	118	148	166	89	64	69	39	1,019	
65 to 69	6	20	36	22	30	33	17	15	10	13	202	
70 and up	1	5	12	3	3	8	13	7	7	6	65	
Total	1,135	3,028	3,147	1,479	1,778	1,795	1,128	618	284	80	14,472	

Distribution of Active Members As of June 30, 2007



Age Distribution

Service Distribution



APPENDIX A MEMBERSHIP INFORMATION

	State																	
	Average Salary																	
	Years of Service																	
	Under 1 1 to 4 5 to 9 10 to 14 15 to 19 20 to 24 25 to 29 30 to 34 35 to 39 40 and up										P	verage						
Under 25	\$	8,156	\$	21,037	\$	24,785	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -	\$	15,479
25 to 29		15,456		31,653		34,108		35,035		-		-	-	-	-	-		29,051
30 to 34		15,347		34,164		40,484		43,901		43,092		-	-	-	-	-		35,182
35 to 39		16,415		34,943		39,416		47,007		44,012		43,840	-	-	-	-		38,140
40 to 44		14,492		34,384		39,368		47,525		46,877		45,614	43,538	-	-	-		40,419
45 to 49		13,653		35,488		38,665		46,280		47,127		47,492	46,370	42,768	-	-		41,818
50 to 54		16,255		35,703		39,577		45,455		47,204		46,971	49,765	44,493	45,117	44,126		42,899
55 to 59		16,615		36,310		38,188		45,637		44,302		47,571	49,726	50,450	46,780	52,574		43,789
60 to 64		15,965		35,343		38,856		40,416		43,758		45,168	48,932	50,223	55,258	49,655		42,818
65 to 69		16,302		34,924		36,076		39,697		41,755		41,472	43,264	42,258	49,343	47,370		39,941
70 and up		22,578		17,189		25,347		25,468		45,383		25,661	46,961	45,139	53,353	65,636		38,835
Average	\$	14,172	\$	33,413	\$	38,805	\$	45,553	\$	45,902	\$	46,592	\$ 48,490	\$ 47,335	\$ 48,928	\$ 51,179	\$	39,659

Distribution of Active Members As of June 30, 2007





APPENDIX A MEMBERSHIP INFORMATION

Distribution of Retirees, Disabled Members, Beneficiaries, and Survivors As of June 30, 2007

Teachers



State

Age	Count	Annual Benefit	Annual Benefit Distribution	
Under 45	219	\$ 1,804,000	2 \$50	
45 to 49	250	3,800,180	运 5 \$40\$36	
50 to 54	633	11,200,154		
55 to 59	1,209	23,364,394	§ ≥ \$30 \$23 \$25	_
60 to 64	1,931	36,429,864		
65 to 69	1,922	31,422,114		
70 to 74	1,965	29,840,805		
75 to 79	1,776	25,160,294		
80 to 84	1,365	17,436,703		
85 to 89	828	9,634,818	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
90 & up	417	4,228,640	ω^{α} ω^{α} ω^{α} ω^{α} ω^{α} ω^{α} ω^{α} ω^{α} ω^{α}	
Total	12,515	\$ 194,321,965	$\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ $\nabla^{\mathbf{v}}$ \mathbf{Age}	



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

4. Rates of Termination (% at Selected Service):

1. Rate of Investment Return:

State Employees: 7.75%

Teachers: 7.75%

2. Cost-of-Living Increases in Benefits:

State Employees: 3.75%

Teachers: 3.75%

3. Rates of Salary Increase (% at Selected Years of Service):

Service	State Employees and Teachers
0	10.00%
5	7.50
10	6.07
15	5.28
20	4.90
25 and over	4.75

The above rates include a 4.75% across-the-board increase at each year of service.

Service	State Employees	Teachers
0	30.00%	37.00%
5	7.50	12.50
10	4.40	6.00
15	3.50	4.50
20	2.00	3.00
25	2.00	2.00

Members with ten or more years of service and whose age plus service totals 60 or more are assumed to elect deferred vested benefits; other terminations are assumed to elect refunds.



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

5. Rate of Mortality for Active Healthy Lives and Retired Healthy Lives at Selected Ages (number of deaths per 10,000 members)*:

	State E	mployees	Tea	chers
Age	Male	Female	Male	Female
20	5	3	5	3
25	7	3	6	3
30	9	4	7	3
35	9	5	8	4
40	12	8	10	6
45	17	10	14	9
50	28	15	24	13
55	48	25	40	21
60	86	48	73	41
65	156	93	133	79
70	255	148	217	125

* For State Regular and Teachers 5% of deaths assumed to arise out of and in the course of employment; for State Special 20% of deaths are assumed to arise out of and in the course of employment.

6. Rates of Mortality for Future Disabled Lives and Retired Disabled Lives at Selected Ages (number of deaths per 10,000 members):

	State E	mployees	Te	achers
Age	Male	Female	Male	Female
25	92	72	92	72
30	112	89	112	89
35	134	109	134	109
40	160	126	160	126
45	193	144	193	144
50	236	165	236	165
55	295	191	295	191
60	362	226	362	226
65	446	272	446	272
70	576	331	576	331

APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

7. Rates of Retirement at Selected Ages (number retiring per 1,000 members):

	State En	nployees	Teac	hers
Age	Tier 1	Tier 2	Tier 1	Tier 2
45	28	28	18	18
50	42	42	39	39
55	103	103	106	106
59	200	148	156	100
60	228	148	225	100
61	133	133	139	100
62	268	250	277	250
63	202	202	224	224
64	221	221	223	223
65	478	478	485	485
70	589	589	570	570

* Members of Special Groups are assumed to retire at a rate of 50% per year, once they reach eligibility for unreduced benefits at every age.

In the case of State Regular and Teacher employees, Tier 1 refers to those who had accrued at least 10 years of service by July 1, 1993. Tier 2 are those who had not or were hired after that date.

8. Rates of Disability at Selected Ages (members becoming disabled per 10,000 members)**:

Age	State Employees	Teachers
25	6.8	4.6
30	7.6	5.0
35	10.2	5.5
40	19.0	6.8
45	27.9	15.5
50	42.7	24.3
55	81.0	33.0
60	119.3	41.8

** 10% assumed to receive Workers Compensation benefits offsetting disability benefit; also, rates for State Special groups are higher by 7 per 10,000 at all ages.

9. Family Composition Assumptions:

80% of active members are married and have two children born when the member is 24 and 28; children are dependent until age 18; female spouse is three years younger than male spouse; member has no dependent parents; unmarried members have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.

APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

10. Vacation/Sick Leave Credits:

For members who had ten years of service on July 1, 1993, credits for unused vacation and sick leave may be used to increase final average compensation and/or creditable service. In order to reflect this, projected benefits are increased by 1.0% for state employees and 1.3% for teachers.

11. Changes Since Last Valuation

None



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method:

The Entry Age Normal method is used to determine costs. Under this funding method, a total contribution rate is determined which consists of two elements: the normal cost rate and the unfunded actuarial liability (UAL) rate.

For Teachers and State Employees, including each of the State Special Plans, a normal cost rate is determined for a typical new entrant. This rate is determined by taking the value, as of age at entry into a plan in the Program, of the member's projected future benefits, reducing it by the value of future member contributions, and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

In addition to contributions required to meet a plan's normal cost, contributions are required to fund the plan's unfunded actuarial liability. The actuarial liability is defined as the present value of future benefits less the present value of future normal costs and future member contributions. The unfunded actuarial liability is the total of the actuarial liability for all members less the actuarial value of assets. The actuarial liability includes projections of future member pay increases and future service credits and should not be confused with the Accrued Benefit Liability. The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases 4.75% per year. The UAL measured as of June 30, 2007 is amortized over a 21 year period.

2. Asset Valuation Method:

For purposes of determining the State contribution to the plans in the Program, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.

APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

State Employees and Teachers

1. Membership:

Membership is a condition of employment for state employees and teachers, and optional for elected and appointed officials.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

2. Member Contributions:

Except as otherwise described below, members are required to contribute 7.65% of earnable compensation.

<u>Contribution Requirements for Special State Employee</u> <u>Groups</u>

State police, inland fisheries and wildlife officers, and marine resources officers employed before 9/1/84 - 8.65% of earnable compensation for 20 years; 7.65% thereafter.

Forest rangers and state prison employees employed before 9/1/84 - 8.65% of earnable compensation until eligible for retirement; 7.65% thereafter.

1998 Special Plan employees which include state prison employees, airplane pilots, forest rangers, defense, veterans and emergency management firefighters employed at Bangor International Airport, corrections employees, Baxter State Park Authority rangers, fire marshals, investigators and inspectors, oil and hazardous materials emergency response workers and capitol security officers – 8.65% of earnable compensation for 25 years; 7.65% thereafter.

State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82 - 8.65% of earnable compensation for 25 years; 7.65% thereafter.

Inland fisheries and wildlife officers and marine resources officers employed on or after 9/1/84 - 8.65% of earnable compensation for 25 years; 7.65% thereafter.

3. Average Final Compensation:

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) which produce the highest such average.

For compensation paid on or after July 1, 1993, increases in earnable compensation of greater than 5% per year or 10% over the highest three years are not included in calculating average final compensation unless the employer pays the cost of including such compensation. Earnable compensation does not include sick and vacation pay for those members who had less than ten years of service at July 1, 1993. For members for whom sick and vacation pay is includible in earnable compensation, these payments are included in applying the caps described above.

APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

4. Creditable Service:

Creditable service includes service while a member, certain service prior to the establishment of the Program, purchased military service credit, other purchased service credit, and service while receiving disability benefits under the Program.

5. Service Retirement Benefits:

- A. Regular Plan (State Employees and Teachers)
 - *i.* Provisions for Members With at Least Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 60

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age. Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by approximately $2\frac{1}{4}\%$ for each year retirement age is less than age 60.

Form of Payment: Life annuity.

ii. Provisions for Members With Less Than Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 62

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement age and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by 6% for each year retirement age is less than age 62.

APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Form of Payment: Life annuity.

B. Special Plans (State Employees)

i. State Police Employed Before 9/16/84; Inland Fisheries and Wildlife Officers and Marine Resource Officers Employed Before 9/1/84

Eligibility: 20 years of creditable service in named positions.

Benefit: one-half of average final compensation plus 2% for each year of service in excess of 20. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: 50% joint and survivor annuity, or life annuity.

ii. Forest Rangers Employed Before 9/1/84

Eligibility: Age 50 with 25 years of creditable service as a forest ranger.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

iii. Airplane Pilots Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as an airplane pilot.

Benefit: Greater of (1) one-half of average final compensation plus 2% for each year of service earned after qualification for retirement, and (2) if retiring after age 60, the benefit under the general formula.

Form of Payment: Life annuity.

iv. Liquor Inspectors Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as a liquor inspector.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

v. State Prison Employees Employed Before 9/1/84

Eligibility: Age 50 and 20 years of creditable service as a prison employee.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement.

APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Form of Payment: Life annuity.

vi. 1998 Special Plan

1998 Entrants: State prison employees, airline pilots, forest rangers and liquor inspectors, employed after 8/31/84; defense, veterans and emergency management firefighters employed on and after 7/1/98.

2000 Entrants: Baxter State Park Authority rangers, correctional employees and state fire marshals employed on or after 1/1/2000.

2002 Entrants: Capitol security officers and oil and hazardous materials emergency response workers.

Eligibility: Ten years of creditable service under the 1998 Special Plan in one or a combination of the covered capacities and the attainment of age 55 - OR - 25 years of creditable service in one or a combination of the covered capacities.

Benefit: For service prior to coverage in the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 60 or 62, except oil and hazardous materials emergency response workers and certain prison employee benefits are reduced for retirement before age 55.

-AND-

For service under the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 55.

Form of Payment: Life annuity.

vii. 25 & Out Plan

1998 Entrants: State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82.

2002 Entrants: Inland fisheries and wildlife officers and marine resources officers employed on and after 8/31/84.

Eligibility: 25 years of creditable service in named positions.

Benefit: 1/50 of average final compensation multiplied by years of service.

Form of Payment: Life annuity.

Members in Special Plans who fail to qualify for special plan benefits can receive regular plan benefits when and as eligible and qualified.

6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7):

Eligibility: Disabled as defined in the MSRS statutes prior to normal retirement age; employed prior to October 16, 1992 and did not elect No Age Disability Benefits.

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APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Benefit: 66²/₃% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age or on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with costof-living adjustments and service is credited. On the date when service benefits reach a level of 66²/₃% of average final compensation or ten years after the normal retirement date, if earlier, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

7. No Age Disability Retirement Benefits

Eligibility: Disabled as defined in the MSRS statutes; employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity; in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with costof-living adjustments and service is credited. On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

8. Pre-Retirement Ordinary Death Benefits:

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, child(ren), or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 12); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent child(ren), parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, child(ren), older parents, or estate.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

9. Pre-Retirement Accidental Death Benefits:

Eligibility: Death while active or disabled resulting from an injury received in the line of duty.

- If the member is survived by a spouse who has the care of dependent child(ren) of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.
- If the member is survived by a spouse who does not have the care of the member's dependent child(ren), the surviving spouse and dependent child(ren) shall share equally an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.
- If the member leaves no spouse, the dependent child(ren) shall be paid an annual sum equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child".

10. Refund of Contributions:

Eligibility: Termination of service without retirement or death. Benefit: Member's accumulated contributions with interest.

11. Cost-of-Living Adjustments:

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index.

Cost-of-living adjustments are effective September 1 and are applied to all benefits which have been in payment for twelve months. The maximum annual increase or decrease is 4%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

Members on service retirement who did not have ten years of service on July 1, 1993 will not receive a cost-of-living adjustment until 12 months after their normal retirement age.

12. Methods of Payment of Service Retirement Benefits:

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining employee contribution balance, if any, at the date of death (where the employee contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by employee contributions).

Option 2: 100% joint and survivor annuity.

APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6: 100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with pop-up.*

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

