Actuarial Valuation Report
as of
June 30, 2014

Maine Public Employees' Retirement System
Retiree Group Life Insurance

Presented by Cheiron

October 2014

Classic Values, Innovative Advice

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Via Email and UPS Delivery

November 3, 2014

Ms. Sandy Matheson
Executive Director
Maine Public Employees Retirement System
P.O. Box 349
Augusta, ME 04332-0349

Re: Maine Public Employees Retirement System Retiree Group Life Insurance Actuarial Valuation Report

Dear Sandy:

The purpose of this report is to present the estimated Postretirement Group Life Insurance obligations as of June 30, 2014, for the Maine Public Employees Retirement System (MainePERS). The enclosed Sections contain the data the auditors need to prepare the disclosure section of the annual report.

Section I summarizes the change in asset information from June 30, 2013, to June 30, 2014.

Sections II, III and IV contain the Liability and Asset information as of June 30, 2014. Per the System's direction, this is the information needed for the auditors. The assets represent the total group life reserve, and adjustments may be necessary if any reserves are not available to satisfy retiree liabilities. The liabilities are based on the biennial valuation as of June 30, 2014. The next full biennial valuation is scheduled to be performed as of June 30, 2016.

Appendix A describes the Participant Data, Assumptions, and Methods used in the calculation of the disclosure items contained in Sections I-III.

Appendix B contains the substantive Plan Provisions provided by the System.

In preparing our report, we relied on information (some oral and some written) supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.

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Actuarial computations provided in this report are for purposes of fulfilling employee benefit plan financial accounting requirements. The calculations reported in the enclosed sections have been made on a basis consistent with our understanding of the associated Actuarial Standards of Practice. Determinations for purposes other than meeting the employee benefit plan's financial accounting requirements (for example, establishing a long-term funding strategy) may be significantly different from the results in this report.

This report was prepared solely for MainePERS for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

To the best of our knowledge, this report and its contents have 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. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

Sincerely,
Cheiron

John Colberg, FSA, EA, MAAA	Michael J. Noble, FSA, FCA, EA, MAAA
Principal Consulting Actuary	Principal Consulting Actuary

INTRODUCTION

Maine Public Employees Retirement System (MainePERS) engaged Cheiron to provide an analysis of the Postretirement Group Life Insurance liabilities as of June 30, 2014. The primary purposes of performing this actuarial valuation are to:

- Estimate the annual required contribution (ARC) for the Postretirement Group Life Insurance using GASB 43/45 methodology under the current funding strategy for information purposes;
- Provide disclosures for financial statements; and,
- Estimate revenue based on current premium rates in force to be used for budgeting purposes.

We have determined costs and liabilities for the substantive Plan using actuarial assumptions and methods that we consider reasonable.

Below is a summary of the key results of our calculations:

- The ARC for fiscal year ending June 30, 2015, is $8.9 million.
- The actuarial liability under the Entry Age Normal Actuarial Cost Method as of June 30, 2014, is $186.7 million.

The fundamental principal underlying our analysis, as well as the GASB standard, is that the cost of benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. The *normal cost (*which is a component of the *ARC)* is the annual amount which would be sufficient to fund the substantive Plan benefits (net of retiree contributions) if it were paid from each employee's entry into the Plan until termination or retirement. The *actuarial liability* represents the portion of the value of the projected benefit at retirement that is allocated to service earned prior to the valuation date. The *unfunded actuarial liability* (UAL) represents the excess of the actuarial liability over Plan assets.

GASB's Statement 43 refers to the financial reporting for postemployment benefit plans other than pension plans and Statement 45 refers to the employer accounting for these plans. Statement 43 is generally applicable where an entity has a separate trust or fund for OPEB benefits. Statement 45 requires the plan sponsor to book the actuarial cost (net of employee, retiree, and their dependents' contributions) of the plan as an expense on its financial statements and then accrue a liability to the extent actual contributions were less than this expense. Additional disclosures include a description of the substantive plan, summary of significant accounting policies (not included in this report), contributions, and a statement of funding progress, along with the methods and assumptions used for those disclosures.

The current premium rates were developed from an experience study completed in 2012 and reflect rate changes based on that experience study as adopted by the Board. The premiums were unchanged for Teachers and PLD employees. Teachers pay $.05 bi-weekly per $1,000 of coverage for active coverage and the State contributes a dollar amount equal to the calculated ARC for retired teacher coverage. PLD employees pay $.46 monthly per $1,000 in coverage. The premiums for State employees have been increased from $.26 to $.29 bi-weekly per $1,000 of coverage for FY 2014. This premium includes $.07 for active coverage and $.22 for retiree coverage. The premium for retiree coverage has been increased to $.24 for FY 2016, and it is anticipated that premium rates will be increased to $.26 for FY 2018, and $.28 for FY 2020.

Section I: Asset Reconciliation

The following chart shows the assets as of the valuation date reconciled from the prior valuation date.

	State[1]	Teachers	PLDs	Judges[1]	Legislators[1,2]	Total
Balance June 30, 2013 (in millions)	**$ 26.5**	**$ 36.0**	**$ 13.2**	**$ 0.5**	**$ -**	**$ 76.2**
Claims and Expenses	$ (5.3)	$ (3.3)	$ (2.8)	$ (0.1)	$ -	$ (11.5)
Premium Revenue	5.0	5.3	2.3	0.1	-	12.7
Investment Income and Interest	5.0	7.2	2.5	0.1	-	14.8
Net Change during Fiscal Year	**4.8**	**9.1**	**2.0**	**0.1**	**-**	**16.0**
Balance June 30, 2014	**$ 31.3**	**$ 45.1**	**$ 15.2**	**$ 0.5**	**$ -**	**$ 92.1**

[1] Split of assets, expenses, investment income and premiums for State, Judges, and Legislators estimated based on ratio of liabilities as of the valuation date.
[2] Less than $0.05 million

Section II: Financial Statement Information

The following chart shows Actuarial Liability, the assets as of the valuation date, and the Unfunded Actuarial Liability**.** The Actuarial Liability is calculated taking the Present Value of Future Benefits (shown in Section II) and subtracting the present value of future Normal Costs under the **Entry Age Normal** funding method.

As of June 30, 2014 (in millions)	State	Teachers	PLDs[1]	Judges	Legislators[2]	Total
Actuarial Liability						
- Active Employees	$ 27.3	$ 27.1	$ 8.6	$ 0.6	$ -	$ 63.6
- Retirees	58.6	48.5	15.2	0.8	-	123.1
Total	**85.9**	**75.6**	**23.8**	**1.4**	**-**	**186.7**
Less: Assets at Valuation Date	$ 31.3	$ 45.1	$ 15.2	$ 0.5	$ -	$ 92.1
Unfunded Actuarial Liability (UAL)	**$ 54.6**	**$ 30.5**	**$ 8.6**	**$ 0.9**	**$ -**	**$ 94.6**

The ARC consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year, and (2) the amortization of the UAL. In the table below, we show the computed FYE 2015 ARC.

For Fiscal 2015 (in millions)	State	Teachers	PLDs[1]	Judges	Legislators[2]	Total
Actuarial Required Contribution (ARC)						
- Normal Cost	$ 1.0	$ 0.9	$ 0.3	$ -	$ -	$ 2.2
- UAL Amortization[3]	3.7	2.1	0.8	0.1	-	6.7
Total	**$ 4.7**	**$ 3.0**	**$ 1.1**	**$ 0.1**	**$ -**	**$ 8.9**

[1] Net of PLD premiums ($0.46 per month per $1000 of benefit)
[2] Less than $0.05 million
[3] Amortized as a level percent of pay over 23 years (PLDs over 16 years)

Section III: Balance Sheet Information

The following chart develops the Present Value of Future Benefits for the purpose of analyzing the overall financial obligations and the prospective funding source for Postretirement Life Insurance Benefits. The Present Value of Benefits 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.

As of June 30, 2014 (in millions)	State	Teachers	PLDs[1]	Judges	Legislators[2]	Total
Assets						
- Current Value of Assets	$ 31.3	$ 45.1	$ 15.2	$ 0.5	$ -	$ 92.1
- Future Employer Contributions	61.2	35.7	10.7	1.1	-	108.7
Total Present Value of Assets	**92.5**	**80.8**	**25.9**	**1.6**	**-**	**200.8**
Liabilities						
- Active Accrued Benefits	$ 19.8	$ 20.9	$ 6.6	$ 0.6	$ -	$ 47.9
- Active Future Accruals	14.1	11.4	4.1	0.2	-	29.8
- Active Present Value of Benefits	33.9	32.3	10.7	0.8	-	77.7
- Inactive Present Value of Benefits	58.6	48.5	15.2	0.8	-	123.1
Total Present Value of Benefits	**$ 92.5**	**$ 80.8**	**$ 25.9**	**$ 1.6**	**$ -**	**$ 200.8**

[1] Net of PLD premiums ($0.46 per month per $1000 of benefit)
[2] Less than $0.05 million

Section IV: Estimated Revenue

The following chart develops estimated revenues generated by premiums paid on behalf of active participants.

As of June 30, 2014 (in millions)	State[1]	Teachers	PLDs[2]
Active Data			
- Total Payroll (in millions)	$ 563.5	$ 666.2	$ 251.6
- Insurance in Force[3] (in millions)	14.7	17.3	6.5
Current Total Premium[3, 4]	**$ 0.29**	**$ 0.05**	**$ 0.21**
Revenue from Premium Rates[4, 5]			
- FY 2016 (in millions)	$ 4.7	$ 0.9	$ 1.4
- FY 2017 (in millions)	4.9	0.9	1.5

1 Including Judge and Legislator amounts, as these are not developed separately.
2 Net of PLD premiums ($0.46 per month per $1000 of benefit)
3 Biweekly amount per thousand
4 The Current Total Premium funds the cost of death benefits during employment and for State and PLDs the cost of postretirement benefits. For teachers, the premium does not include retiree costs, which are paid separately by the state.
5 Based on updated premium rates for FY 2016. The State rates increase to $0.24 for retirees and $0.07 for actives for a total of $0.31. Teacher and PLD rates remain unchanged.

Section IV: Estimated Revenue (continued)

The following chart for teachers shows the development of retiree cost on an actuarial basis for use in State budgeting and the cost of Life Insurance for death during employment (Active Cost).

	Teachers	
Projected Costs	**FY 2016**	**FY 2017**
Retiree Cost		
- Normal Cost	$ 933,657	$ 966,335
- UAL Amortization[6]	2,162,824	2,238,523
- Total ARC = Retiree Cost	$ 3,096,481	$ 3,204,858
Active Cost	896,376	927,749
Total Cost	$ 3,992,857	$ 4,132,607

[6] Amortized as a level percent of pay over 22 and 21 years, respectively.

Appendix A: Participant Data, Assumptions, and Methods

Participant Data as of June 30, 2014

Actives				
Group	Count	Average Age	Average Service	Average Salary
State	11,821	48.4	13.3	$ 47,112
Teachers	13,829	47.0	14.2	48,174
PLDs	5,486	49.7	12.2	45,870
Judges	58	59.8	15.8	114,155
Legislators	0	N/A	N/A	N/A
TOTAL	31,194	48.0	13.5	47,489

Retirees			
Group	Count	Average Age	Average Benefit[1]
State	8,446	70.2	$ 15,978
Teachers	6,545	71.4	18,280
PLDs	2,673	71.4	14,983
Judges	41	74.7	38,325
Legislators	10	81.1	4,405
TOTAL	17,715	70.9	16,724

1 Ultimate benefit (40% of initial base benefit)

Note that all assumptions are based on the MainePERS Pension assumptions, except where otherwise indicated.

Economic Assumptions

Valuation Date: June 30, 2014

Investment Return: 7.25% per year (PLDs)
7.125% per year (all others)

Cost-of-Living Increases in Life Benefits:
N/A. Unlike the pension benefits, Life Benefits do not increase with Cost of Living.

Premium Expense Assumption:
To reflect administrative expenses associated with the distribution of benefits, the following loads have been added to the liabilities, normal cost, and benefit payments.

State Employees, Judges and Legislators: 9.58%
Teachers: 12.16%
PLDs: 8.70%

Rates of Salary Increase
(Experience-based sample rates by service including both merit scale increase and yearly increase):

Service	State	Teachers	PLD	Judges	Legislators
0	10.50%	13.50%	9.50%	3.50%	3.50%
5	6.00%	6.25%	4.00%	3.50%	3.50%
10	4.50%	5.00%	3.50%	3.50%	3.50%
15	3.95%	4.50%	3.50%	3.50%	3.50%
20	3.70%	3.70%	3.50%	3.50%	3.50%
25+	3.50%	3.50%	3.50%	3.50%	3.50%

Demographic Assumptions

Rates of Termination
(experience-based sample rates by service):

Service	State	Teachers	PLDs	PLDs Special
0	30.0%	37.0%	20.0%	25.0%
5	7.5	12.0	7.5	4.0
10	4.4	6.9	2.5	2.5
15	4.0	5.5	2.5	2.5
20	4.0	5.5	2.5	2.5
25	4.0	5.5	2.5	2.5

(experience-based sample rates by age):

Age	Judges & Legislators
25	7.00%
30	6.00%
35	5.00%
40	4.00%
45	3.00%
50	2.00%
55	1.00%

Rates of Healthy Mortality
(experience-based sample deaths per 10,000 members by age):

	All Other Plans		Teachers	
Age	Male	Female	Male	Female
50	16	13	14	11
55	27	24	22	20
60	53	47	41	36
65	103	90	81	71
70	177	155	142	125
75	306	249	246	204
80	554	413	448	338
85	997	708	807	571
90	1,727	1,259	1,418	1,026
95	2,596	1,888	2,267	1,654

Rates of Disabled Mortality
(experience-based sample deaths per 10,000 members by age):

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

Demographic Assumptions (continued)

Rates of Retirement
(experience-based sample retirements per 1,000 members by age):

	State Employees			Teachers		
Age	**Tier 1**	**Tier 2**	**Tier 3**	**Tier 1**	**Tier 2**	**Tier 3**
45	3	NA	NA	13	NA	NA
50	19	NA	NA	29	NA	NA
55	19	NA	NA	79	NA	NA
59	58	75	75	150	225	225
60	300	100	100	225	225	225
61	300	100	100	230	225	225
62	270	250	125	250	300	225
63	270	250	125	260	300	225
64	250	250	125	270	300	225
65	250	250	250	300	300	300
70	1,000	1,000	1,000	1,000	1,000	1,000

PLD Regular

Age	Assumption
45	50
50	50
55	100
60	270
65	300
70	1,000

PLD Special

Service	Assumption
20	400
21-24	300
25	400
26-29	300
30	400
31-34	300
35+	1,000

Judges: Members in Tier 1 are assumed to retire at age 60. Members in Tier 2 are assumed to retire at a rate of 50% each year from age 62 through age 70. Members in Tier 3 are assumed to retire at a rate of 50% each year from age 65 through age 70.

Legislators: Members in Tier 1 are assumed to retire at age 60. Members in Tier 2 are assumed to retire at age 62. Members in Tier 3 are assumed to retire at age 65.

Participants who are not members of MainePERS: Age 62.

Rates of Disability
(experience-based sample disablements per 10,000 members by service):

Age	State	Teachers	PLDs	Judges & Legislators
25	6.8	3.5	3	6
30	7.6	3.8	4	6
35	10.2	3.8	5	7
40	19.0	5.1	7	11
45	27.9	11.6	15	22
50	42.7	18.2	33	42
55	53.0	24.8	61	72

Participation Percent for Future Retirees:
100% of those currently enrolled (unique to this valuation).

Appendix A: Participant Data, Assumptions and Methods (continued)

Other Assumptions (Unique to this Valuation)

Conversion Charges: Apply to the cost of active group life insurance, not retiree group life insurance.

Form of Benefit Payment: Lump Sum

Actuarial Cost Method

To be consistent with past analyses and with the Pension Plan funding, the individual entry age normal method is used to determine liabilities. Under this funding method, a normal cost rate is calculated for each member. This rate is determined by taking the value, as of age at entry into the Plan, of the member's projected future benefits, and dividing it by the value, also as of the member's entry age of his expected future salary. The normal cost for each member is the product of annual salary and the normal cost rate. The normal cost for the group is the sum of the normal costs for all members.

The actuarial liability is defined as the present value of future benefits, less the present value of future normal costs. The unfunded actuarial liability is the total of the actuarial liability for all members, less the actuarial value of the System's assets.

The discount rate used reflects that the long term funding policy is to fully fund the benefits on an actuarial basis by FY 2038 for State and Teachers and by FY 2031 for PLDs

Asset Valuation Method

Figures are taken as reported by the MainePERS without audit or change, except that State assets are allocated to State, Judges, and Legislators based on total actuarial liability.

Appendix B: Summary of Key Plan Provisions

Summary of Key Plan Provisions

Membership

Service Retirement: A retiree must have participated in the group life insurance program for at least ten years and possess coverage just prior to retirement.

Disability Retirement: An employee must have participated in the group life insurance program immediately prior to disablement.

Basic Insurance

Average final compensation calculated for retirement purposes.

Amount of Insurance for a Retiree

Service Retirement: The Basic Insurance will be reduced by 15% per year until the amount equal to the greater of (a) 40% of the initial Basic Insurance, or (b) $2,500.

Disability Retirement: The amount of basic life insurance in force prior to retirement will be continued until normal retirement age. At normal retirement age, the amount of insurance will be reduced as for service retirement.

Retiree Contribution

State Employees: None

Teachers: None

PLD Employees: PLD must pay $0.46 per month per $1,000 of base benefit, based on the coverage amounts declining from 100% to 40%.

Judges: None

Legislators: None

Normal Retirement Age

The specified age, the years of service requirement or any age and years of service combination at which a participant may become eligible for unreduced service retirement benefits.

Discontinued Coverages at Retirement

- Supplemental Life
- Accidental Death and Dismemberment
- Dependent Life

(Discontinued coverage may be ported to another group term product or converted to an individual policy. MainePERS is charged a fee for those active employees who convert to an individual policy upon termination from employment. Conversion charges are considered a cost of active, not retiree, group life insurance. Therefore, it is not included in these liabilities.)