Analysis of Early Retirement Incentive Program for the State Retirement System

March, 2004

Commonwealth of Massachusetts | Public Employee Retirement Administration Commission

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INTRODUCTION

The Public Employee Retirement Administration Commission (PERAC) is pleased to release our analysis regarding Section 616 of Chapter 26 of the Acts of 2003, which established an early retirement incentive program (ERIP) for State employees. Subsection (o) directed PERAC to complete an analysis of the costs and liabilities attributable to the additional benefits payable in accordance with the Act and submit a report to the Secretary of Administration and Finance, the Joint Committee on Public Service, and the House and Senate Committees on Ways and Means by January 15, 2004. Our January 9, 2004 letter and exhibit were based on data available at that time. This final report includes all members who retired under the ERIP.

The law provides that eligible members who elect to participate in the ERIP have their retirement allowances determined by adding 5 years to their age and/or creditable service (any combination in full years to a maximum of 5 years). The enhanced benefit cannot exceed 80% of the average rate of annual compensation used in the calculation. All members retiring under the program had effective dates of retirement between October 1, 2003 and December 31, 2003.

This study was based on active member data as of December 31, 2002, and additional data for 2003 retirees who were eligible for and elected the ERIP. All data was supplied by the State Retirement Board. We previously reviewed the December 31, 2002 active member data as part of our January 1, 2003 actuarial valuation of the State Retirement System. We reviewed members retiring under the ERIP as part of the January 1, 2004 actuarial valuation of the State Retirement System.

The actuarial assumptions used to calculate the accrued liability and the normal cost are the same as those used in the actuarial valuations of the State Retirement System as of January 1, 2003 and January 1, 2004. The assumptions are shown at the back of this report.

We believe this report represents an accurate appraisal of the costs and liabilities of the ERIP for the State Retirement System and was performed in accordance with generally accepted actuarial principles and practices relating to pension plans. In our opinion, the actuarial assumptions used in this report are reasonable, related to plan experience and expectations, and represent our best estimate of anticipated experience.

We gratefully acknowledge the efforts of the State Retirement Board in completing this project. The Board provided comprehensive retiree information in a timely and efficient manner.

Respectfully submitted,
Public Employee Retirement Administration Commission

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Dated: March 18, 2004

COST ANALYSIS

To determine the actuarial accrued liability attributable to the ERIP, we valued the members who elected to retire under the program in two ways. We first valued the group as active (including terminated vested) members on January 1, 2003 including any changes to reflect service adjustments after January 1. This calculation determines liabilities attributable to the employees who elected the ERIP without the application of the incentive. These results were then brought forward to reflect the accrued liability as of January 1, 2004.

The group was then valued as retirees after the application of the ERIP. These liabilities were determined as of January 1, 2004.

The difference between the two calculations reflects the increase in liability due to the ERIP. This amount will be amortized as part of the Commonwealth funding schedule.

The normal cost (actuarial cost for the current year) is shown as of January 1, 2003. There is no normal cost for members who have retired.

Below is a summary of the results (dollars in thousands):

	As Actives	As Retirees
Number of Members		
Active	3,018	
Terminated Vested	26	
Retirees*	0	3,048
Total	3,044	3,048
Regular Compensation		
Active	$160,083	N/A
Terminated Vested	$1,158	N/A
Total	$161,241	N/A
Total Normal Cost	$16,471	N/A
Employee Contributions	$10,109	N/A
Net Employer Normal Cost	$6,361	N/A
Actuarial Liability (as of January 1, 2004)	$786,312	$1,011,075

* includes 4 members who were not included in the State data on January 1, 2003

EFFECT ON COMMONWEALTH SCHEDULE

Increase in Actuarial Liability (as of January 1, 2004)	$224,763
Amortization of Increase for FY03 (assumed payment January 1)	
15 year level basis	$26,661
4.5% increasing basis to 2023 (current schedule)	$17,264

Note that the above figure does not include members who retired under Section 115 of Chapter 46 of the Acts of 2003. If those 31 members are included, the increase in actuarial liability would be approximately $228 million.

The Commonwealth funding schedule includes liabilities for the State Retirement System, the State Teachers' Retirement System, Boston Teachers, and COLA reimbursements to local systems. The cost of the ERIP will affect this schedule. The schedule adopted earlier this year amortizes the Commonwealth unfunded liability ($13.4 billion on 1/1/03) until FY2023 on a 4.5% increasing basis.

We have shown the amortization of the increase in actuarial accrued liability on two separate bases. The 15-year level amortization would require an annual funding amount of approximately $26.7 million from FY05 through FY19. The 4.5% increasing basis until FY23 would require a funding amount of approximately $17.3 million for FY05 and increasing 4.5% each year until FY23. The amortization payment under this schedule would be approximately $21.5 million in FY10, $26.8 million in FY15, $33.4 million in FY20, and $38.1 million in FY23.

The legislation did not specify how the increased cost should be amortized under the schedule. We prefer a level 15-year schedule for several reasons. The 15-year schedule is a more conservative measure and the bulk of the cost is paid during the retirees' lifetimes. The 1992 early retirement incentive amortized the increased cost on a 15-year level basis. The 2002 ERIP amortized the cost on the same basis as the remaining unfunded liability. Since the ERIP is small compared to the overall cost of the retirement plan, an increasing schedule is not an unreasonable approach.

There is a decrease in employer normal cost of approximately $6.4 million in FY05 for retiring members since normal cost accrues only for active members. This decrease will be partially offset by the normal cost for any members who are hired to replace retiring members. Through FY05 there is a limit on the amount of payroll allowable for members hired to replace those who retire under the ERIP. This limit is 20% of actual pay had the retiring members remained in service. We have not estimated the normal cost for these hires as part of this study, but any such hires will be included in the January 1, 2004 or January 1, 2005 actuarial valuations of the State Retirement System and the Commonwealth.

ACTIVE MEMBER DATA

The following data reflects data as of January 1, 2003. Some members eligible for the ERIP were coded as vested terminations in the January 1, 2003 data.

	Actives	Vested Terminations
Number of Members	3,018	26
Average Age	58.7	59.2
Average Service	24.3	17.6
Average Salary	$53,043	$44,535
Average Annuity Savings Fund Balance	$63,495	$46,320

Distribution of Active Members

Present Age	0 - 4	5 -9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total
0 - 24								
25 - 29								
30 - 34								
35 - 39								
40 - 44				3	11	3		17
45 - 49				12	35	26	5	78
50 - 54		6	25	66	135	116	173	521
55 - 59		28	125	194	171	237	519	1,274
60 - 64		41	142	223	183	166	86	841
65+		29	68	81	59	48	2	287
Total		104	360	579	594	596	785	3,018

Salary by Age Distribution of Active Members

Present Age	Number of Members	Total Salary	Average Salary
40 - 44	17	$699,642	$41,155
45 - 49	78	$3,797,199	$48,682
50 - 54	521	$27,635,550	$53,043
55 - 59	1,274	$70,153,704	$55,066
60 - 64	841	$44,352,653	$52,738
65+	287	$13,443,877	$46,843
Total	3,018	$160,082,625	$53,043

RETIREE DATA

The following data reflects information as of the date of retirement.

	Total
Number of Members	3,048
Average Age	59.8
Average Annual Benefit	$29,805
Annuity	$16,056,727
Pension	$74,787,499
Total Current Payable	$90,844,226

Benefit by Age Distribution

Present Age	Number of Members	Total Benefits	Average Benefits
40 - 44	9	$75,204	$8,356
45 - 49	60	$877,662	$14,628
50 - 54	330	$8,399,894	$25,454
55 - 59	1,244	$39,631,853	$31,858
60 - 64	1,004	$30,734,451	$30,612
65 - 69	309	$8,789,551	$28,445
70 - 74	71	$1,913,614	$26,952
75 - 79	16	$317,199	$19,825
80 - 84	3	$76,167	$25,389
85 - 89	2	$28,632	$14,316
Totals	3,048	$90,844,226	$29,805

ACTUARIAL ASSUMPTIONS

Actuarial Cost Method
Entry Age Normal

Investment Return
8.25% per year

Interest Rate credited to the Annuity Savings Fund
3.5% per year

Assumed rate of Cost of Living Increases (COLA)
3% per year

Mortality
RP-2000 Healthy Annuitant table projected 10 years with scale AA (gender distinct). This is applicable to both pre-retirement and post-retirement benefits. For disabled members, the mortality rate is assumed to be in accordance with the RP-2000 Table (gender distinct) set forward 3 years for males. It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members. For members retired under an Accidental Disability, 40% of deaths are assumed to be from the same cause as the disability.

Salary Increase
Based on an analysis of past experience. Annual rates are shown below.

Service	
0	8.50%
1	8.00%
2	7.50%
3	7.00%
4	6.50%
5	6.00%
6	5.50%
7	5.00%
8	4.75%
9	4.75%
10	4.75%
11	4.75%
12	4.75%
13	4.75%
14-24	4.75%
25+	4.75%

Retirement

	Group 1		Group 2
Age	Male	Female	
45	0.000	0.000	0.000
46	0.000	0.000	0.000
47	0.000	0.000	0.000
48	0.000	0.000	0.000
49	0.000	0.000	0.000
50	0.015	0.030	0.020
51	0.010	0.030	0.020
52	0.010	0.030	0.020
53	0.015	0.025	0.040
54	0.020	0.035	0.050
55	0.040	0.050	0.100
56	0.035	0.060	0.100
57	0.040	0.055	0.100
58	0.045	0.070	0.100
59	0.050	0.090	0.130
60	0.080	0.080	0.150
61	0.100	0.100	0.150
62	0.160	0.160	0.150
63	0.160	0.160	0.150
64	0.160	0.160	0.200
65	0.250	0.250	0.200
66	0.250	0.250	0.200
67	0.250	0.250	0.200
68	0.250	0.250	0.200
69	0.250	0.250	0.200
70	1.000	1.000	1.000

Disability

Based on an analysis of past experience. Sample annual rates are shown below.

Age	Group 1	Group 2
20	0.00030	0.00060
30	0.00033	0.00080
40	0.00091	0.00166
50	0.00168	0.00260
60	0.00250	0.00350

It is also assumed that 55% of disabilities will be job-related for Group 1 and 2 members.

Withdrawal

Based on an analysis of past experience. For Groups 1 and 2, rates are both age and service based for service up to 10 years. After 10 years of service rates are age based. Sample annual rates are shown below.

Groups 1 & 2

Age		Service	
	0	5	10+
20	0.180	0.000	0.000
30	0.150	0.090	0.041
40	0.125	0.070	0.031
50	0.100	0.048	0.021

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Published by PERAC, 2004. Printed on recycled paper.