Analysis of Early Retirement Incentive Program (ERIP)

for the Blue Hills Regional School Retirement System

October, 2004

Commonwealth of Massachusetts
Public Employee Retirement Administration Commission

TABLE OF CONTENTS

INTRODUCTION

The Public Employee Retirement Administration Commission (PERAC) is pleased to release our analysis of Section 116 of Chapter 46 of the Acts of 2003, *An Act Providing Relief and Flexibility to Municipal Officials* which established a local option to allow cities, towns, counties, authorities, and districts to offer an Early Retirement Incentive Program (ERIP). The ERIP was adopted by the Blue Hills Regional School. Subsection 8 of the law 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 board by December 31, 2004.

The law provides that retirement allowances of members who participated in the ERIP be determined by adding up to 5 years to the member's age and/or creditable service (any combination in full years up to a maximum of 5 years). A member's enhanced benefit cannot exceed 80% of the average rate of annual compensation used in his/her calculation. Members retiring under the program had effective dates of retirement between November 1, 2003 and December 31, 2003.

This study was based on active member data as of December 31, 2002, and additional data for retirees who were eligible for and elected the ERIP. All data was supplied by the board. We previously reviewed the December 31, 2002 data as part of the 2003 data submission process. We reviewed each member's data as both an active and retired member for reasonableness and consistency.

We used the recommended investment return assumption for the January 1, 2004 actuarial valuation currently in progress. For all other assumptions, we used the standard PERAC assumption set for performing actuarial valuations as of January 1, 2003. These assumptions are the same as the recommended assumptions being used in the January 1, 2004 actuarial valuation. 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 retirement system. This analysis 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.

Respectfully submitted,
Public Employee Retirement Administration Commission

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Dated: October 28, 2004

COST ANALYSIS BY GOVERNMENTAL UNIT

Methodology

The results of our analysis for each governmental unit that accepted the ERIP are presented on the following pages. Participating units had the option to limit the number of years and/or the number of members eligible to retire under the program. Such limitations are noted.

Our analysis of the cost of the ERIP consisted of measuring the change in both the actuarial accrued liability and normal cost before and after the application of the enhanced benefit. The amortization the increase in actuarial accrued liability and the normal cost form the basis of the impact of the ERIP on the plan's funding schedule. These items are discussed below.

Actuarial Accrued Liability

We measured the increase in actuarial accrued liability due to the incentive for each member who retired under the program. First, we valued the group as active members on January 1, 2003 (including any changes to reflect service adjustments made after January 1, 2003, such as service buy-backs). This calculation determines the liability attributable to the employees who elected the ERIP exclusive of the additional liability associated with the incentive program. These results were then brought forward on an actuarial basis to reflect the estimated accrued liability as December 31, 2003.

We then valued the same group as retirees after the application of the ERIP. These liabilities were determined as of December 31, 2003.

The accrued liability for the members as retirees including the ERIP less the accrued liability for the members as active employees excluding the ERIP represents the increase in accrued liability due to the ERIP. This increase will be amortized as part of the system's funding schedule and will be a component of the system's annual appropriation. We assumed the amortization of the increase in liability would begin with the FY06 appropriation.

Normal Cost

The increase in actuarial liability is somewhat offset by a decrease in normal cost. The normal cost, or actuarial cost for the current year for active members, is shown as of January 1, 2003. There is no normal cost for retired members. Any decrease in normal cost for a retiring member would only be expected to last for a few years (the period the member would have remained in active service if the ERIP were not implemented).

Blue Hills Regional School

Actives	
Number of Members	5
Average Service	19.9
Average Compensation	$44,503

Retirees	
Number of Members	5
Average Age	63.5
Average Annual Benefit	$22,826

	As Actives	As Retirees
Total Regular Compensation	$222,500	N/A
Total Normal Cost	$22,300	N/A
Employee Contributions	$13,200	N/A
Net Employer Normal Cost	$9,100	N/A
Actuarial Liability (as of December 31, 2003)	$980,400	$1,187,300

Increase in Actuarial Liability (as of December 31, 2003)	$206,900
Amortization of Increase for FY06 (assumed payment January 1)	
15-year level basis	$26,600
4.5% annual increasing basis to 2028	$15,100

The above results provide a measure of the increase in actuarial accrued liability and decrease in normal cost due to the ERIP. The actuarial liability and normal cost were determined as active members (before the implementation of the ERIP) and as retired members (with the enhanced ERIP benefit).

For active members, average service reflects service as of January 1, 2003 but excludes any enhanced service provided by the ERIP. For retired members, the averages are as of December 31, 2003.

EFFECT ON FUNDING SCHEDULE

Amortization of the Increase in Actuarial Accrued Liability

The bottom section of the cost page shows the amortization of the increase in actuarial accrued liability on two separate bases. The 15-year, level amortization basis requires an annual funding amount of $26,600 from FY06 through FY20. The 4.5% increasing basis until FY28 requires a funding amount of $15,100 for FY06 and increases 4.5% each year until FY28. The FY06 appropriation is summarized below. Future system appropriations will reflect the schedule chosen.

Governmental Unit	**Level, 15-year Effective FY06**	**4.5%increasing, 23-year Effective FY06**
Blue Hills Regional School	$26,600	$15,100
Total	**$26,600**	**$15,100**

The legislation did not specify how the increased cost should be amortized under the schedule. The Board needs to determine the funding basis for the ERIP as part of adopting a revised funding schedule using the January 1, 2004 valuation results.

Decrease in Normal Cost

There is a decrease in employer normal cost for all units of approximately $9,100 in FY04 for retiring members since normal cost accrues only for active members. This decrease is only expected to last a few years (the period the member would have remained in service if the ERIP were not implemented). This decrease will be partially offset by the normal cost for any members hired to replace retiring members. Any decrease in employer normal cost will be reflected in future actuarial valuations and corresponding funding schedules. We have not estimated the normal cost for new hires as part of this study.

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 (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 2 years. It is assumed that 55% of pre-retirement deaths are job-related for Group 1 and 2 members and 90% are job-related for Group 4 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	Group 1	Group 2	Group 4
0	7.00%	7.00%	8.00%
1	6.50%	6.50%	7.50%
2	6.50%	6.50%	7.00%
3	6.00%	6.00%	6.50%
4	6.00%	6.00%	6.00%
5	5.50%	5.50%	6.00%
6	5.50%	5.50%	5.50%
7	5.00%	5.00%	5.50%
8	5.00%	5.00%	5.25%
9	4.75%	5.00%	5.25%
10+	4.75%	5.00%	5.25%

ACTUARIAL ASSUMPTIONS *(continued)*

Retirement

	Groups 1 & 2		
Age	Male	Female	Group 4
45	0.000	0.000	0.010
46	0.000	0.000	0.010
47	0.000	0.000	0.010
48	0.000	0.000	0.010
49	0.000	0.000	0.010
50	0.010	0.015	0.020
51	0.010	0.015	0.020
52	0.010	0.020	0.020
53	0.010	0.025	0.050
54	0.020	0.025	0.075
55	0.020	0.055	0.150
56	0.025	0.065	0.100
57	0.025	0.065	0.100
58	0.050	0.065	0.100
59	0.065	0.065	0.150
60	0.120	0.050	0.200
61	0.200	0.130	0.200
62	0.300	0.150	0.250
63	0.250	0.125	0.250
64	0.220	0.180	0.300
65	0.400	0.150	1.000
66	0.250	0.200	1.000
67	0.250	0.200	1.000
68	0.300	0.250	1.000
69	0.300	0.200	1.000
70	1.000	1.000	1.000

Disability

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

Age	Groups 1 & 2	Group 4
20	0.00010	0.0010
30	0.00030	0.0030
40	0.00101	0.0030
50	0.00192	0.0125
60	0.00280	0.0085

Based on an analysis of past experience. It is also assumed that the percentage of job-related disabilities is 55% for Groups 1 & 2 and 90% for Group 4.

Withdrawal

Based on analysis of past experience. Annual rates are based on years of service. Sample annual rates for Groups 1 and 2 are shown below. For Group 4 members the rate is 0.015 each year for service up to and including 10 years. No withdrawal is assumed thereafter.

Groups 1 & 2

Service	Groups 1 & 2
0	0.150
5	0.076
10	0.054
15	0.033
20	0.020

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