# REPORT ON THE <br> ACTUARIAL VALUATION <br> OF THE POST RETIREMENT BENEFITS <br> OF THE VERMONT STATE EMPLOYEES' <br> RETIREMENT SYSTEM <br> PREPARED AS OF JUNE 30, 2009 

November 2009
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## INTRODUCTION

The Board of Trustees of the Vermont State Employees’ Retirement System has engaged Buck to prepare an actuarial valuation of their post-retirement benefits program as of June 30, 2009. The State Treasurer's Office provided the employee data and premium information used in the completion of this study.

The purposes of the valuation are to measure the current liabilities of the System for its post-retirement benefits program, to determine the level of contributions necessary to assure sound funding of such benefits and to provide reporting and disclosure information for financial statements, governmental agencies and other interested parties. This valuation report contains information that is required for compliance with the Governmental Accounting Standards Board's Statements 43 and 45, which relate to accounting and financial reporting for post-employment benefits other than pensions.

We performed the calculations assuming that the System would continue its current practice of paying for the benefits on a pay-as-you-go basis, and contributing the Medicare Part D refunds into the trust fund. This approach qualifies as partial prefunding under Governmental Accounting Standards, and it was determined that a $4.25 \%$ discount rate is reasonable for this purpose. As requested, we have also provided results under alternative scenarios that assume that the System's post-retirement medical benefits other than pensions are funded in a manner similar to that used for pensions and on a pure pay-as-you-go basis. Section II provides a summary of the principal valuation results. Section VI provides a projection of expense and funding amounts.

David Driscoll is a Fellow of the Society of Actuaries and Daniel Sherman is an Associate of the Society of Actuaries. We are Members of the American Academy of Actuaries. We meet the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

Respectfully Submitted,
BUCK CONSULTANTS, LLC


November 6, 2009
Daniel W. Sherman, ASA, MAAA, EA
Director and Consulting Actuary
Davie Drinale

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Principal and Consulting Actuary
November 6, 2009
Date

## SECTION I - OVERVIEW

The plan experienced a net actuarial gain in its accrued liability over the past year. The net increase in liability was less than expected, primarily due to an adjustment to our calculation of estimated per capita claims that reflected additional claims information provided this year. The additional information improved the accuracy of our allocation of expected claims between pre- and post-65 age groups.

Offsetting the gain was an increase in the overall headcount from 11,815 to 12,028 , which reflects the addition of 346 Defined Contribution participants. These previously unreported participants added about $\$ 13$ million to the liabilities computed using an $8.25 \%$ discount rate. The asset return was about $2 \%$, resulting in an actuarial loss. The net result was an increase in the unfunded liability slightly greater than expected.

All assumptions, including the assumed discount rate and healthcare trend rates, were the same as those used in 2008. All plan provisions were the same as those reflected in the 2008 valuation except for a cost-sharing amendment applicable to Group F and Defined Contribution employees hired on or after July 1, 2008. In this year's report, we added results based on partial prefunding on assumption that Medicare Part D refunds will continue to be deposited into the trust.

GASB Staff Technical Bulletin No. 2006-1, Accounting and Financial Reporting by Employers for Payments from the Federal Government Pursuant to the Retiree Drug Subsidy Provisions of Medicare Part D, provides that GASB OPEB calculations cannot reflect offsets for future Medicare Part D subsidy payments. Instead, the payments are to be reflected when the drug subsidy is actually earned (i.e., when the drug benefit costs for which the subsidy is due have been incurred by the participants.) Thus, our calculations do not reflect the value of future Retiree Drug Subsidy amounts.

## SECTION II - REQUIRED INFORMATION



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## SECTION II - REQUIRED INFORMATION

## Actuarial Accrued Liability in \$ millions



## SECTION III - MEMBERSHIP DATA AND MEDICAL PREMIUM

Number of participants included in valuation
Total
Active
Group A16
Group C ..... 427
Group D ..... 51
Group F ..... 7,601
Defined Contribution ..... 346
Total ..... 8,441
Retired ..... 3,587
Total ..... 12,028

## Participants



## SECTION III - MEMBERSHIP DATA AND MEDICAL PREMIUM

Monthly State Premium Costs (including expenses) Effective January 1, 2009

## Total Choice <br> Retiree under 65 <br> 2 Person under 65 <br> Family Retiree under 65 <br> Retiree under 65 and 1 over 65 <br> 65 <br> Retiree over 65 <br> 2 Person over 65 <br> Retiree over 65 and 1 under 65 <br> Retiree over 65 and 2 or more under 65 <br> Retiree over 65 and 2 or more dependents, 1 Medicare eligible <br> SelectCare POS <br> Retiree under 65 <br> 2 Person under 65 <br> Family (Retiree under 65)

3 Person, Retiree and 1 under 65 and 1 over

SafetyNet
Retiree under 65 \$310.18
2 Person under 65
Family (Retiree under 65)
\$528.98
\$1,057.97
\$1,454.71
\$748.74
\$984.78
\$219.76
\$439.52
\$748.74
\$984.78
\$645.19
\$442.72
\$885.44
\$1,217.48
\$620.35
\$852.98

State Share

Other
Total

Retirees
Dependents
184
0 134
21
72

3
1456
772
204
11
8
8

## 772

204
11

0
313
50
299
313

0
3
0

0

0
3,587
1,588

TABLE 1
THE NUMBER OF
ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE
AS OF JUNE 30, 2009

|  | 0 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AGE | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Under 20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 20 to 24 | 152 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154 |
| 25 to 29 | 416 | 77 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 495 |
| 30 to 34 | 400 | 275 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 722 |
| 35 to 39 | 346 | 307 | 202 | 85 | 11 | 0 | 0 | 0 | 0 | 951 |
| 40 to 44 | 289 | 279 | 212 | 183 | 154 | 6 | 0 | 0 | 0 | 1,123 |
| 45 to 49 | 279 | 276 | 185 | 156 | 244 | 136 | 17 | 0 | 0 | 1,293 |
| 50 to 54 | 270 | 288 | 188 | 157 | 215 | 177 | 108 | 10 | 0 | 1,413 |
| 55 to 59 | 184 | 238 | 134 | 134 | 217 | 172 | 171 | 78 | 1 | 1,329 |
| 60 to 64 | 93 | 115 | 86 | 76 | 98 | 112 | 77 | 80 | 31 | 768 |
| 65 to 69 | 16 | 32 | 24 | 20 | 24 | 10 | 14 | 8 | 11 | 159 |
| 70 \& up | 3 | 9 | 4 | 2 | 3 | 2 | 0 | 3 | 6 | 32 |
| TOTAL | 2,450 | 1,898 | 1,084 | 813 | 966 | 615 | 387 | 179 | 49 | 8,441 |

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Post Retirement Medical Plan Analysis
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## SECTION IV - REQUIRED SUPPLEMENTARY INFORMATION

The Schedule of Funding Progress is required to be included in the State's Financial Statements.

## SCHEDULE OF FUNDING PROGRESS WITH ASSUMPTIONS <br> BASED ON CURRENT POLICY ON FUNDING

(dollar amounts in thousands)

| Actuarial <br> Valuation <br> Date | Actuarial <br> Value of <br> Assets <br> (a) | Actuarial <br> Accrued <br> Liability (AAL) <br> (b) | Unfunded <br> AAL <br> (UAAL) <br> (b)-(a) | Funded <br> Ratio | Covered <br> Payroll | UAAL as a <br> (bercentage of <br> Covered Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 30, 2009 | $\$ 5,749$ | $\$ 780,748$ | $\$ 775,000$ | $0.7 \%$ | $\$ 426,827$ | (b) <br> (b)-(a)]/(c) |
| June 30, 2008 | $\$ 3,664$ | $\$ 754,690$ | $\$ 751,027$ | $0.5 \%$ | $\$ 404,937$ | $185.5 \%$ |
| June 30, 2007 | $\$ 2,211$ | $\$ 606,499$ | $\$ 604,288$ | $0.4 \%$ | $\$ 386,917$ | $156.2 \%$ |
| June 30, 2006 | $\$ 0$ | $\$ 552,152$ | $\$ 552,152$ | $0.0 \%$ | $\$ 369,310$ | $149.5 \%$ |
| June 30, 2005 | $\$ 0$ | $\$ 529,027$ | $\$ 529,027$ | $0.0 \%$ | $\$ 349,258$ | $151.5 \%$ |

These results are based on a discount rate of $3.75 \%$ for $2005-2007,4.00 \%$ for $2007-2008$ and $4.25 \%$ for 2009.

If the State were to change its funding policy to pre-fund the entire calculated Annual Required Contribution, prospectively, the Schedule of Funding Progress would look as follows:

## SCHEDULE OF FUNDING PROGRESS WITH ASSUMPTIONS

## BASED ON POLICY OF PRE-FUNDING

(dollar amounts in thousands)

| Actuarial <br> Valuation <br> Date | Actuarial <br> Value of <br> Assets <br> (a) | Actuarial <br> Accrued <br> Liability (AAL) <br> (b) | Unfunded <br> AAL <br> (UAAL) <br> (b)-(a) | Funded <br> Ratio | Covered <br> Payroll | UAAL as a <br> Percentage of <br> (b) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 30, 2009 | $\$ 5,749$ | $\$ 454,211$ | $\$ 448,462$ | $1.3 \%$ | $\$ 426,827$ | (c) <br> [(b)-(a) $) /(c)$ |
| June 30, 2008 | $\$ 3,664$ | $\$ 754,690$ | $\$ 751,027$ | $0.5 \%$ | $\$ 404,937$ | $185.5 \%$ |
| June 30, 2007 | $\$ 2,211$ | $\$ 606,499$ | $\$ 604,288$ | $0.4 \%$ | $\$ 386,917$ | $156.2 \%$ |
| June 30, 2006 | $\$ 0$ | $\$ 552,152$ | $\$ 552,152$ | $0.0 \%$ | $\$ 369,310$ | $149.5 \%$ |
| June 30, 2005 | $\$ 0$ | $\$ 529,027$ | $\$ 529,027$ | $0.0 \%$ | $\$ 349,258$ | $151.5 \%$ |

These results are based on a discount rate of $3.75 \%$ for $2005-2007,4.00 \%$ for $2007-2008$ and $8.25 \%$ for 2009.

## SECTION V - NET OPEB OBLIGATION

GASB Statement No. 45 requires the development of Annual OPEB Cost and Net OPEB Obligation (NOO). This development is shown in the following table.

DEVELOPMENT OF OPEB COST AND NET OPEB OBLIGATION (NOO)

|  | Annual Required Contribution | Interest on NOO | Amortization <br> of NOO | Annual OPEB Cost (1)+(2)-(3) | Actual <br> Contribution | Change in NOO <br> (4)-(5) | NOO Balance |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 2008 | 47,284,903 | 0 | 0 | 47,284,903 | 17,776,355 | 29,508,548 | 29,508,548 |
| 2009 | 58,666,959 | 1,180,342 | 853,250 | 58,994,051 | 19,893,129 | 39,100,922 | 68,609,470 |
| 2010 | 57,998,078 | 2,915,902 | 2,057,241 | 58,856,739 |  |  |  |

## SECTION VI - FORECASTS

The Government Accounting Standards Board's Statements 43 and 45, which cover accounting and financial reporting for post-employment benefits other than pensions, outline various requirements of a funding schedule that will amortize the unfunded actuarial liability and cover normal costs. Amortization of the unfunded actuarial liability is to be based on a schedule that extends no longer than 30 years. The contribution towards the amortization of the unfunded actuarial liability may be made in level payments or in payments increasing at the same rate as assumed salary increases.

In the amortization schedule shown on the following pages, the amortization of the unfunded accrued liability is made in installments that increase annually by 5\%. The normal cost is expected to increase at a rate that reflects both the assumed ultimate health care trend rate and the fact that employees hired after June 30, 2008, will be covered under a less generous plan. The contributions were computed assuming that the contribution is paid on July 1 (i.e., at the beginning of the fiscal year). Below is a comparison of the forecasted Annual Required Contributions, computed under discount rates of 8.25\%, 4.25\% and 4.00\%.

Also included is a forecast of the pay-as-you-go amount. If the State chooses to not fund the obligation, the difference between the pay-as-you-go amount and the Annual Required Contribution (ARC) will be recorded as a liability on the financial statements. The liability will grow with interest and new net differences in successive years. The amount shown for the $4 \%$ and $4.25 \%$ scenarios reflect the difference between pay-as-you-go and the ARC as additional liability, which is reflected in the amortization of the Unfunded Actuarial Liability. Any future additional partial pre-funding, such as contribution of Medicare Part D Retiree Drug Subsidy received in the future, would serve to reduce the shown amortization.

## SECTION VI - FORECASTS

FORECAST OF FUNDING AND GASB ARC UNDER A DISCOUNT RATE OF 8.25\%

| Fiscal Year Ending in | Normal Cost | Amortization of the Unfunded Actuarial Liability | Total <br> State <br> ARC | Pay-as-you-go | Difference |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2010 | 15,091,245 | 22,467,374 | 37,558,619 | 25,191,706 | 12,366,913 |
| 2011 | 15,845,807 | 23,590,743 | 39,436,550 | 28,010,367 | 11,426,183 |
| 2012 | 16,638,097 | 24,770,280 | 41,408,377 | 30,450,971 | 10,957,406 |
| 2013 | 17,470,002 | 26,008,794 | 43,478,796 | 32,689,326 | 10,789,470 |
| 2014 | 18,343,502 | 27,309,233 | 45,652,735 | 34,665,210 | 10,987,525 |
| 2015 | 19,260,677 | 28,674,695 | 47,935,372 | 36,924,963 | 11,010,409 |
| 2016 | 20,223,711 | 30,108,430 | 50,332,141 | 38,747,833 | 11,584,308 |
| 2017 | 21,234,897 | 31,613,851 | 52,848,748 | 40,602,331 | 12,246,417 |
| 2018 | 22,296,642 | 33,194,544 | 55,491,186 | 42,684,139 | 12,807,047 |
| 2019 | 23,411,474 | 34,854,271 | 58,265,745 | 44,472,224 | 13,793,521 |
| 2020 | 24,582,048 | 36,596,985 | 61,179,033 | 46,459,714 | 14,719,319 |
| 2021 | 25,811,150 | 38,426,834 | 64,237,984 | 48,450,364 | 15,787,620 |
| 2022 | 27,101,708 | 40,348,176 | 67,449,884 | 50,628,777 | 16,821,107 |
| 2023 | 28,456,793 | 42,365,584 | 70,822,377 | 52,587,735 | 18,234,642 |
| 2024 | 29,879,633 | 44,483,864 | 74,363,497 | 54,514,516 | 19,848,981 |
| 2025 | 31,373,615 | 46,708,057 | 78,081,672 | 56,782,557 | 21,299,115 |
| 2026 | 32,942,296 | 49,043,460 | 81,985,756 | 58,885,504 | 23,100,252 |
| 2027 | 34,589,411 | 51,495,633 | 86,085,044 | 61,240,942 | 24,844,102 |
| 2028 | 36,318,882 | 54,070,414 | 90,389,296 | 63,554,497 | 26,834,799 |
| 2029 | 38,134,826 | 56,773,935 | 94,908,761 | 65,395,378 | 29,513,383 |
| 2030 | 40,041,567 | 59,612,632 | 99,654,199 | 67,234,976 | 32,419,223 |
| 2031 | 42,043,645 | 62,593,263 | 104,636,908 | 68,976,642 | 35,660,266 |
| 2032 | 44,145,827 | 65,722,926 | 109,868,753 | 70,670,892 | 39,197,861 |
| 2033 | 46,353,118 | 69,009,073 | 115,362,191 | 72,089,902 | 43,272,289 |
| 2034 | 48,670,774 | 72,459,526 | 121,130,300 | 73,300,546 | 47,829,754 |
| 2035 | 51,104,313 | 76,082,503 | 127,186,816 | 74,187,845 | 52,998,971 |
| 2036 | 53,659,529 | 79,886,628 | 133,546,157 | 74,022,803 | 59,523,354 |
| 2037 | 56,342,505 | 83,880,959 | 140,223,464 | 74,377,502 | 65,845,962 |
| 2038 | 59,159,630 | 88,075,007 | 147,234,637 | 74,375,308 | 72,859,329 |
| 2039 | 62,117,612 | 92,478,758 | 154,596,370 | 73,917,621 | 80,678,749 |
| 2040 | 65,223,493 | 0 | 65,223,493 | 73,800,503 | -8,577,010 |

## SECTION VI - FORECASTS

FORECAST OF FUNDING AND GASB ARC UNDER A DISCOUNT RATE OF 4.25\%

| Fiscal Year Ending in | Normal Cost | Amortization of the <br> Unfunded Actuarial Liability | $\begin{aligned} & \hline \hline \text { Total } \\ & \text { State } \\ & \text { ARC } \\ & \hline \end{aligned}$ | Pay-as-you-go | Difference |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2010 | 34,759,864 | 23,238,214 | 57,998,078 | 25,191,692 | 32,806,386 |
| 2011 | 36,497,857 | 24,541,149 | 61,039,006 | 28,010,367 | 33,028,639 |
| 2012 | 38,322,749 | 25,867,493 | 64,190,242 | 30,450,971 | 33,739,271 |
| 2013 | 40,238,886 | 27,232,531 | 67,471,418 | 32,689,326 | 34,782,092 |
| 2014 | 42,250,831 | 28,646,952 | 70,897,783 | 34,665,210 | 36,232,573 |
| 2015 | 44,363,372 | 30,123,886 | 74,487,257 | 36,924,963 | 37,562,294 |
| 2016 | 46,581,541 | 31,660,442 | 78,241,982 | 38,747,833 | 39,494,149 |
| 2017 | 48,910,619 | 33,275,832 | 82,186,450 | 40,602,331 | 41,584,119 |
| 2018 | 51,356,150 | 34,975,905 | 86,332,055 | 42,684,139 | 43,647,916 |
| 2019 | 53,923,957 | 36,760,941 | 90,684,898 | 44,472,224 | 46,212,674 |
| 2020 | 56,620,156 | 38,647,365 | 95,267,521 | 46,459,714 | 48,807,807 |
| 2021 | 59,451,163 | 40,637,396 | 100,088,559 | 48,450,364 | 51,638,195 |
| 2022 | 62,423,722 | 42,739,554 | 105,163,276 | 50,628,777 | 54,534,499 |
| 2023 | 65,544,907 | 44,957,280 | 110,502,188 | 52,587,735 | 57,914,453 |
| 2024 | 68,822,153 | 47,306,851 | 116,129,005 | 54,514,516 | 61,614,489 |
| 2025 | 72,263,262 | 49,799,734 | 122,062,996 | 56,782,557 | 65,280,439 |
| 2026 | 75,876,426 | 52,436,693 | 128,313,119 | 58,885,504 | 69,427,615 |
| 2027 | 79,670,247 | 55,234,286 | 134,904,533 | 61,240,942 | 73,663,591 |
| 2028 | 83,653,761 | 58,197,255 | 141,851,015 | 63,554,497 | 78,296,518 |
| 2029 | 87,836,449 | 61,339,841 | 149,176,289 | 65,395,378 | 83,780,911 |
| 2030 | 92,228,270 | 64,690,375 | 156,918,645 | 67,234,976 | 89,683,669 |
| 2031 | 96,839,683 | 68,264,272 | 165,103,955 | 68,976,642 | 96,127,313 |
| 2032 | 101,681,667 | 72,080,886 | 173,762,553 | 70,670,892 | 103,091,661 |
| 2033 | 106,765,749 | 76,159,193 | 182,924,942 | 72,089,902 | 110,835,040 |
| 2034 | 112,104,037 | 80,526,308 | 192,630,345 | 73,300,546 | 119,329,799 |
| 2035 | 117,709,239 | 85,208,832 | 202,918,071 | 74,187,845 | 128,730,226 |
| 2036 | 123,594,702 | 90,238,412 | 213,833,114 | 74,022,803 | 139,810,311 |
| 2037 | 129,774,436 | 95,670,777 | 225,445,213 | 74,377,502 | 151,067,711 |
| 2038 | 136,263,157 | 101,516,331 | 237,779,488 | 74,375,308 | 163,404,180 |
| 2039 | 143,076,316 | 107,813,220 | 250,889,537 | 73,917,621 | 176,971,916 |
| 2040 | 150,230,133 | 114,604,713 | 264,834,846 | 73,800,503 | 191,034,343 |

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## SECTION VI - FORECASTS

## FORECAST OF FUNDING AND GASB ARC UNDER A DISCOUNT RATE OF 4\%

| Fiscal Year Ending in | Normal Cost | Amortization of the Unfunded Actuarial Liability | Total State ARC | Pay-as-you-go | Difference |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2010 | 36,913,222 | 23,341,591 | 60,254,813 | 25,191,692 | 35,063,121 |
| 2011 | 38,758,882 | 24,642,456 | 63,401,338 | 28,010,367 | 35,390,971 |
| 2012 | 40,696,826 | 25,967,741 | 66,664,566 | 30,450,971 | 36,213,595 |
| 2013 | 42,731,667 | 27,332,346 | 70,064,013 | 32,689,326 | 37,374,687 |
| 2014 | 44,868,251 | 28,746,723 | 73,614,973 | 34,665,210 | 38,949,763 |
| 2015 | 47,111,663 | 30,223,661 | 77,335,324 | 36,924,963 | 40,410,361 |
| 2016 | 49,467,246 | 31,760,505 | 81,227,751 | 38,747,833 | 42,479,918 |
| 2017 | 51,940,610 | 33,375,907 | 85,316,517 | 40,602,331 | 44,714,186 |
| 2018 | 54,537,641 | 35,075,618 | 89,613,259 | 42,684,139 | 46,929,120 |
| 2019 | 57,264,522 | 36,860,028 | 94,124,550 | 44,472,224 | 49,652,326 |
| 2020 | 60,127,749 | 38,745,090 | 98,872,839 | 46,459,714 | 52,413,125 |
| 2021 | 63,134,136 | 40,733,049 | 103,867,185 | 48,450,364 | 55,416,821 |
| 2022 | 66,290,844 | 42,832,235 | 109,123,079 | 50,628,777 | 58,494,302 |
| 2023 | 69,605,385 | 45,046,080 | 114,651,465 | 52,587,735 | 62,063,730 |
| 2024 | 73,085,655 | 47,390,388 | 120,476,043 | 54,514,516 | 65,961,527 |
| 2025 | 76,739,939 | 49,876,309 | 126,616,248 | 56,782,557 | 69,833,691 |
| 2026 | 80,576,936 | 52,504,679 | 133,081,616 | 58,885,504 | 74,196,112 |
| 2027 | 84,605,783 | 55,291,559 | 139,897,342 | 61,240,942 | 78,656,400 |
| 2028 | 88,836,074 | 58,241,611 | 147,077,685 | 63,554,497 | 83,523,188 |
| 2029 | 93,277,877 | 61,368,657 | 154,646,534 | 65,395,378 | 89,251,156 |
| 2030 | 97,941,770 | 64,700,075 | 162,641,845 | 67,234,976 | 95,406,869 |
| 2031 | 102,838,858 | 68,250,755 | 171,089,613 | 68,976,642 | 102,112,971 |
| 2032 | 107,980,800 | 72,039,370 | 180,020,170 | 70,670,892 | 109,349,278 |
| 2033 | 113,379,839 | 76,084,198 | 189,464,037 | 72,089,902 | 117,374,135 |
| 2034 | 119,048,832 | 80,411,334 | 199,460,166 | 73,300,546 | 126,159,620 |
| 2035 | 125,001,274 | 85,046,335 | 210,047,609 | 74,187,845 | 135,859,764 |
| 2036 | 131,251,339 | 90,019,573 | 221,270,911 | 74,022,803 | 147,248,108 |
| 2037 | 137,813,904 | 95,384,558 | 233,198,463 | 74,377,502 | 158,820,961 |
| 2038 | 144,704,599 | 101,151,033 | 245,855,632 | 74,375,308 | 171,480,324 |
| 2039 | 151,939,830 | 107,355,449 | 259,295,279 | 73,917,621 | 185,377,658 |
| 2040 | 159,536,823 | 114,039,115 | 273,575,938 | 73,800,503 | 199,775,435 |

# SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS 

## VERMONT STATE EMPLOYEES - ALL GROUPS

## Assumed investment return

## Actuarial cost method:

## Medical care and state share inflation:

| Fiscal Year <br> Ending | Medical <br> Inflation Rate |
| :---: | :---: |
|  |  |
| 2010 | 8.0 |
| 2011 | 7.0 |
| 2012 | 6.0 |
| 2013 \& After | 5.0 |

## Amortization period:

## Retirement eligibility:

4.25\% per year for a partially-funded plan based on a blend of $8.25 \%$ per year, net of investment expenses, the assumed rate of return on assets accumulated in the System's trust for benefit payments; and $4.00 \%$ per year, the assumed rate of return on general assets of the employer. In addition, two alternative scenarios are presented, using $8.25 \%$ for a pre-funded plan, and 4.00\% for a non-funded plan.

Projected Unit Credit with benefits attributed from date of hire until reaching age 55 with at least 10 years of service.

Closed basis for full prefunding; open basis for partial prefunding and pay-as-you-go. Thirty-year amortization starting in the fiscal year starting in 2010 with payments increasing by 5\% annually.

At termination of employment, employee must be eligible for retirement as prescribed by the terms of the State Employees’ Retirement System of Vermont to receive medical coverage:

Group A: Earlier of (a) age 55 with 5 years of service, and (b) 30 years of service.

Group C: Earlier of (a) age 55, (b) age 50 with 20 years of service, and (c) 30 years of service.

Group D: Age 55 with 5 years of service.
Group F and Defined Contribution: Earlier of (a) age 55 with 5 years of service, and (b) 30 years of service.

## SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS

Health plans:

## Pre-age 65 retirees:

Retirees without Medicare may select from four plans: Total Choice, Health Guard PPO, SelectCare POS and SafteyNet. Retirees with Medicare may select from two plans: Total Choice and Health Guard. Employees in Group F or in the Defined Contribution group who are hired on or after July 1, 2008 pay a percentage of the premium costs based on service ( $100 \%$ for less than 10 years of service, $60 \%$ for service from 10 to 14 years, $40 \%$ for service from 15 and 19 years, $20 \%$ for 20 or more years of service). For all other groups, the retirees pay $20 \%$ of the premium costs.

Current retirees who are under age 65 are assumed to remain in their current medical plan until age 65, at which time they enter the average plan provided to current post-65 retirees.

Contributions for current active employees who are assumed to retire prior to age 65 are valued with a weighted-average premium. This weighted-average premium is based on the medical plan coverage of current retirees under age 65.

At age 65, all participants are assumed to participate in post-65 plans in the same proportions as current retirees over age 65.

Retirees and beneficiaries remain in their current medical plan until death. If a retiree predeceases his/her beneficiary, the beneficiary will continue to have coverage until his or her death. However, the State does not cover any of the costs of coverage, except for the implicit subsidy inherent in the premium rates. We assumed that $\mathrm{xx} \%$ of beneficiaries of deceased retirees continued pre-65 coverage after the death of the retiree.

Post-age 65 retirees: Current retirees over age 65 remain in their current medical plan until death. Beneficiaries remain in their current medical plan until death. Therefore, if the retiree predeceases the beneficiary, the beneficiary will continue to have coverage until his or her death. However, the State does not cover any of the costs of coverage except for the implicit subsidy inherent in the premium rates. We assumed that 100\% of beneficiaries of deceased retirees continued post-65 coverage after the death of the retiree.

## SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS

## Coverage:

## Administrative expenses:

## Medical plan costs:

## Age-based morbidity:

[^1]
## SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS

Groups A, D, F, and Defined Contribution

Separations from service:
Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

| Age | Withdrawal and Vested Retirement ${ }^{1}$ | Disability | Death |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Men | Women |
| 25 | 3.15\% | .03\% | .03\% | .02\% |
| 30 | 2.52 | . 04 | . 04 | . 02 |
| 35 | 2.10 | . 05 | . 07 | . 04 |
| 40 | 1.95 | . 08 | . 10 | . 06 |
| 45 | 1.73 | . 13 | . 13 | . 09 |
| 50 | 1.44 | . 21 | . 18 | . 14 |
| 55 | 2.52 | . 35 | . 25 | . 23 |
| 59 | 2.52 | . 52 | . 37 | . 34 |
| 60 | 2.50 | . 57 | . 41 | . 37 |
| 61 | 2.49 | . 62 | . 46 | . 41 |

${ }^{1}$ Increased during first 10 years of service.

| Retirement $^{2}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Rate | Age | Rate | Age | Rate |  |
| 55 | $5.0 \%$ | 60 | $7.0 \%$ | 65 | $25.0 \%$ |  |
| 56 | 4.2 | 61 | 14.0 | 66 | 15.0 |  |
| 57 | 5.6 | 62 | 28.0 | 67 | 17.5 |  |
| 58 | 6.3 | 63 | 17.5 | 68 | 17.5 |  |
| 59 | 7.0 | 64 | 17.5 | 69 | 20.0 |  |
|  |  |  |  | 70 | 100.0 |  |

${ }^{2}$ All Group A and D members are assumed to retire when first eligible.

Deaths after retirement:
According to the RP-2000 Mortality Tables for Healthy Annuitants for retirees and beneficiaries.

## SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS

Groups A, D, F, and Defined Contribution

Spouse's age:
Covered spouses:

Husbands are assumed to be 3 years older than their wives.
75.4\% (71.4\% for Group F and Defined Contribution) of male members and $64.0 \%$ (63.1\% for Group $F$ and Defined Contribution) of female members are assumed to be covering spouses.

## SECTION VII - ACTUARIAL ASSUMPTIONS AND METHODS

## Group C

Separations before retirement:
Representative values of the assumed annual rates of withdrawal, vested retirement, disability and death are as follows:

|  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Age | Withdrawal <br> and Vested <br> Retirement |  | Death |  |
|  | Disability | Men | Women |  |  |
| 25 | $3.60 \%$ | $.15 \%$ | $.03 \%$ | $.02 \%$ |  |
| 30 | 3.60 | .20 | .04 | .02 |  |
| 35 | 3.60 | .27 | .07 | .04 |  |
| 40 |  | .40 | .10 | .06 |  |
| 45 |  | .65 | .13 | .09 |  |
| 50 |  | 1.09 | .18 | .14 |  |
| 55 |  | 1.82 | .25 | .23 |  |
| 60 |  | 2.93 | .41 | .37 |  |

${ }^{1}$ Increased during first 5 years of service.

Early and normal retirement rates:
Deaths after retirement:

## Future expenses:

Spouse's age:
Covered spouses:

All members are assumed to retire when first eligible.
According to the RP-2000 Mortality Tables for Healthy Annuitants for retirees and beneficiaries.

No provision made; expenses of the System are paid by the State outside of the plan.

Husbands are assumed to be 3 years older than their wives.
$75.4 \%$ of male members and $64.0 \%$ of female members are assumed to be covering spouses.

## SECTION VIII - GLOSSARY OF TERMS

## Actuarial accrued liability

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of OPEB benefits and expenses which is not provided for by future Normal Costs and therefore is the value of benefits already earned.

## Actuarial assumptions

Assumptions as to the occurrence of future events affecting OPEB costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided OPEB benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.

## Actuarial cost method

A procedure for determining the Actuarial Present Value of OPEB benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.

## Actuarial experience gain or loss

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

## Amortization (of unfunded actuarial accrued liability)

That portion of the OPEB plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability or the Unfunded Frozen Actuarial Accrued Liability.

## Annual OPEB cost

An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.

## Annual required contributions of the employer (ARC)

The employer's periodic expense to a defined benefit OPEB plan, calculated in accordance with the parameters. It is the value of the cash contributions for a funded plan and the starting point in the calculations of the expense entry in the profit and loss section of the financial statements.

## Closed amortization period (closed basis)

A specific number of years that is counted from one date and, therefore, declines to zero with the passage of time. For example, if the amortization period initially is thirty years on a closed basis, twenty-nine years remain after the first year, twenty-eight years after the second year, and so forth. In contrast, an open amortization period (open basis) is one that begins again or is recalculated at each actuarial valuation date. Within a maximum number of years specified by law or policy (for example, thirty years), the period may increase, decrease, or remain stable.

## SECTION VIII - GLOSSARY OF TERMS

## Covered payroll

Annual compensation paid to active employees covered by an OPEB plan. If employees also are covered by a pension plan, the covered payroll should include all elements included in compensation on which contributions to the pension plan are based. For example, if pension contributions are calculated on base pay including overtime, covered payroll includes overtime compensation.

## Defined benefit OPEB plan

An OPEB plan having terms that specify the benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

## Funded ratio

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

## Funding policy

The program for the amounts and timing of contributions to be made by plan members, employer(s), and other contributing entities (for example, state government contributions to a local government plan) to provide the benefits specified by an OPEB plan.

## Healthcare cost trend rate

The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

## Investment return assumption (discount rate)

The rate used to adjust a series of future payments to reflect the time value of money.

## Level dollar amortization method

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment on a building). Because payroll can be expected to increase as a result of inflation, level dollar payments generally represent a decreasing percentage of payroll; in dollars adjusted for inflation, the payments can be expected to decrease over time.

## Level percentage of projected payroll amortization method

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level.

## SECTION VIII - GLOSSARY OF TERMS

## Net OPEB obligation (NOO)

The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEBrelated debt. It will be included as a balance sheet entry on the financial statements.

## Normal cost

That portion of the Actuarial Present Value of OPEB benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. It is the value of benefits to be accrued in the valuation year by active employees.

## OPEB-related debt

All long-term liabilities of an employer to an OPEB plan, the payment of which is not included in the annual required contributions of a sole or agent employer (ARC) or the actuarially determined required contributions of a cost-sharing employer. Payments generally are made in accordance with installment contracts that usually include interest. Examples include contractually deferred contributions and amounts assessed to an employer upon joining a multiple-employer plan.

## Other postemployment benefits

Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

## Pay-as-you-go

A method of financing a OPEB plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

## Required supplementary information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.


[^0]:    * Payment is assumed to be made at the beginning of the fiscal year.

[^1]:    Vermont State Employees’ Retirement System Post Retirement Medical Plan Analysis June 30, 2009

