### JUNE 30, 2004 POST RETIREMENT BENEFITS ANALYSIS OF THE VERMONT STATE EMPLOYEES' RETIREMENT SYSTEM

December 2004

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#### **SECTION I - OVERVIEW**

The Board of Trustees of the Vermont State Employees' Retirement System has engaged Mellon to prepare an actuarial valuation of their post-retirement benefits program as of June 30, 2004. 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 postretirement 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 will be required in future fiscal years for compliance with the Government 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 presented in this study on two bases. Under one, it is assumed that the System's post-retirement medical benefits other than pensions are funded on a basis similar to that used for pensions. Under the second, it is assumed that there is no pre-funding of such benefits. Section II provides a summary of the principal valuation results. Section V provides a projection of expense and funding amounts.

Respectfully Submitted,

Daniel W. Therrow

Daniel W. Sherman, ASA, MAAA, EA Director and Consulting Actuary

David Drince

David L. Driscoll, FSA, MAAA, EA Principal and Consulting Actuary December 23, 2004

Date

December 23, 2004

Date

# SECTION II – REQUIRED INFORMATION

a)	Assumed discount rate		8%		2%
b)	Actuarial value of assets	\$	0	\$	0
c)	Actuarial accrued liability Active Participants Retired Participants Total	\$ \$	256,250,900 <u>136,462,598</u> 392,713,498	\$ \$	860,314,127 <u>243,571,664</u> 1,103,885,791
d)	Unfunded actuarial liability (c. – b.)	\$	392,713,498	\$	1,103,885,791
e)	Funded ratio		0%		0%
f)	Annual covered payroll	\$	336,615,171	\$	336,615,171
g)	Unfunded actuarial liability as a percentage of covered payroll		116.7%		327.9%
h)	Normal Cost for the 2005 fiscal year	\$	17,922,551		72,705,377
i)	Amortization of unfunded actuarial liability For the 2005 fiscal year (30-year)	\$	<u>20,651,129</u>		23,893,312
j)	Annual Required Contribution (ARC) For the 2005 fiscal year (h. + i.)	\$	38,573,680	\$	96,598,689
k)	Expected benefit payments	\$	13,695,117	\$	13,695,117
1)	Increase in annual cost to fund the Plan $(j k.)$	\$	24,878,563	\$	82,903,572

### SECTION II – REQUIRED INFORMATION

#### 1,200 244 1,000 800 Liability for Retirees 600 860 Liability for Active 400 136 Members 200 256 0 8% discount 2% discount rate rate

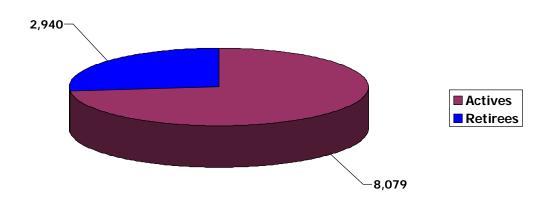
### **Actuarial Accrued Liability in \$ millions**

#### SECTION III - MEMBERSHIP DATA AND MEDICAL PREMIUM

### Number of participants included in valuation



## **Participants**



### SECTION III - MEMBERSHIP DATA AND MEDICAL PREMIUM

# Monthly Premiums Effective January 1, 2004

	State Share
Total Choice	
Retiree under 65	\$383.86
2 Person under 65	\$767.73
Family Retiree under 65	\$1,055.62
Retiree under 65 and 1 over 65	\$543.34
3 Person, Retiree and 1 under 65 and 1	
over 65	\$714.62
Retiree over 65	\$159.47
2 Person over 65	\$318.94
Retiree over 65 and 1 under 65	\$543.34
Retiree over 65 and 2 or more under 65	\$714.62
Retiree over 65 and 2 or more	
dependents, 1 Medicare eligible	\$468.18
Health Guard PPO	
Retiree under 65	\$344.16
2 Person under 65	\$688.32
Family Retiree under 65	\$946.44
Retiree under 65 and 1 over 65	\$494.76
3 Person, Retiree and 1 under 65 and 1	<i> </i>
over 65	\$646.74
Retiree over 65	\$150.60
2 Person over 65	\$301.20
Retiree over 65 and 1 under 65	\$494.76
Retiree over 65 and 2 or more under 65	\$646.74
Retiree over 65 and 2 or more	\$010.71
dependents, 1 Medicare eligible	\$440.71
dependents, i medicare engine	ψ++0.71
SelectCare POS	
Retiree under 65	\$318.10
2 Person under 65	\$636.21
Family Retiree under 65	\$874.78
SafetyNet	
Retiree under 65	\$223.03
2 Person under 65	\$446.06
Family Retiree under 65	\$613.34
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## SECTION IV – REQUIRED SUPPLEMENTARY INFORMATION

# SCHEDULE OF FUNDING PROGRESS WITH ASSUMPTIONS BASED ON A POLICY OF PRE-FUNDING

(dollar amounts in thousands)						
Actuarial Valuation Date	Actuarial Value of Assets <u>(a)</u>	Actuarial Accrued Liability (AAL) <u>(b)</u>	Unfunded AAL (UAAL) <u>(b)-(a)</u>	Funded Ratio (a)/(b)	Covered Payroll <u>(c)</u>	UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c)
June 30, 2004	\$0	\$392,713	\$392,713	0%	\$336,615	116.7%

(dollar amounts in thousands)

These results are based on the use of a discount rate of 8%.

## SCHEDULE OF FUNDING PROGRESS WITH ASSUMPTIONS

### BASED ON POLICY OF PAY-AS-YOU-GO FUNDING

	-	(uonai ani	Sums in mous	undb)	-	
Actuarial	Actuarial Value of	Actuarial	Unfunded	Funded	Covered	UAAL as a
Valuation		Accrued	AAL	Ratio	Payroll	Percentage of
	Assets	Liability (AAL)	(UAAL)			Covered Payroll
Date	<u>(a)</u>	<u>(b)</u>	<u>(b)-(a)</u>	<u>(a)/(b)</u>	<u>(c)</u>	<u>[(b)-(a)]/(c)</u>
June 30, 2004	\$0	\$1,103,886	\$1,103,886	0%	\$336,615	327.9%

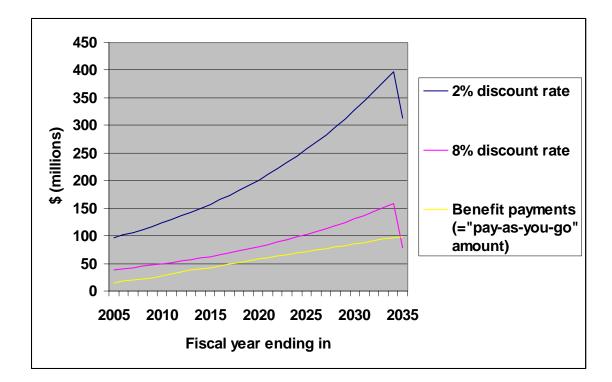
(dollar amounts in thousands)

These results are based on the use of a discount rate of 2%.

#### **SECTION V – 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 schedules 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 the same rate as the assumed ultimate health care trend rate. The annual required contributions were computed assuming that they are paid on June 30 (i.e., at the end of each fiscal year). Below is a comparison of the forecasted annual required contributions computed under discount rates of 8% and 2% to the pay-as-you-go amounts.



### **SECTION V – FORECASTS**

## FORECAST OF FUNDING AND GASB EXPENSE UNDER A DISCOUNT RATE OF 8%

	Normal	Amortization of the	Annual Required		
Fiscal Year	Cost	Unfunded Actuarial	Contribution	Pay-as-you-go cost	
Ending in	(Service Cost)	Liability	(Expense)	(projected benefits)	Difference
2005	\$17,922,551	\$20,651,129	\$38,573,680	\$13,695,117	\$24,878,563
2006	18,818,679	21,683,685	40,502,364	17,908,149	22,594,215
2007	19,759,613	22,767,870	42,527,483	19,925,148	22,602,335
2008	20,747,594	23,906,263	44,653,857	21,801,367	22,852,490
2009	21,784,974	25,101,576	46,886,550	24,199,409	22,687,141
2010	22,874,223	26,356,655	49,230,878	27,567,094	21,663,784
2011	24,017,934	27,674,488	51,692,422	31,411,629	20,280,792
2012	25,218,831	29,058,212	54,277,043	34,984,539	19,292,504
2013	26,479,773	30,511,123	56,990,896	38,053,230	18,937,665
2014	27,803,762	32,036,679	59,840,441	40,415,110	19,425,331
2015	29,193,950	33,638,513	62,832,463	42,796,123	20,036,340
2016	30,653,648	35,320,439	65,974,087	45,559,724	20,414,363
2017	32,186,330	37,086,461	69,272,791	48,532,939	20,739,852
2018	33,795,647	38,940,784	72,736,431	51,767,603	20,968,828
2019	35,485,429	40,887,823	76,373,252	55,106,621	21,266,631
2020	37,259,700	42,932,214	80,191,914	58,119,923	22,071,991
2021	39,122,685	45,078,825	84,201,510	60,954,459	23,247,051
2022	41,078,819	47,332,766	88,411,585	63,488,260	24,923,325
2023	43,132,760	49,699,404	92,832,164	66,090,978	26,741,186
2024	45,289,398	52,184,374	97,473,772	68,982,977	28,490,795
2025	47,553,868	54,793,593	102,347,461	71,653,384	30,694,077
2026	49,931,561	57,533,273	107,464,834	74,621,467	32,843,366
2027	52,428,139	60,409,936	112,838,075	77,345,125	35,492,951
2028	55,049,546	63,430,433	118,479,979	80,026,869	38,453,110
2029	57,802,023	66,601,955	124,403,978	82,518,471	41,885,507
2030	60,692,124	69,932,052	130,624,176	84,979,744	45,644,432
2031	63,726,730	73,428,655	137,155,385	87,825,195	49,330,190
2032	66,913,067	77,100,088	144,013,155	90,968,805	53,044,350
2033	70,258,720	80,955,092	151,213,812	93,838,326	57,375,487
2034	73,771,656	85,002,847	158,774,503	96,446,008	62,328,495
2035	77,460,239	0	77,460,239	99,053,690	(21,593,451)

### **SECTION V – FORECASTS**

## FORECAST OF FUNDING AND GASB EXPENSE UNDER A DISCOUNT RATE OF 2%

	Normal	Amortization of the	Annual Required		
Fiscal Year	Cost	Unfunded Actuarial	Contribution	Pay-as-you-go cost	
Ending in	(Service Cost)	Liability	(Expense)	(projected benefits)	Difference
2005	\$72,705,377	\$23,893,312	\$96,598,689	\$13,695,117	\$82,903,572
2006	76,340,646	25,087,977	101,428,623	17,908,149	83,520,474
2007	80,157,678	26,342,376	106,500,054	19,925,148	86,574,906
2008	84,165,562	27,659,495	111,825,057	21,801,367	90,023,690
2009	88,373,840	29,042,470	117,416,310	24,199,409	93,216,901
2010	92,792,532	30,494,593	123,287,125	27,567,094	95,720,031
2011	97,432,159	32,019,323	129,451,482	31,411,629	98,039,852
2012	102,303,767	33,620,289	135,924,056	34,984,539	100,939,517
2013	107,418,955	35,301,303	142,720,258	38,053,230	104,667,028
2014	112,789,903	37,066,369	149,856,272	40,415,110	109,441,161
2015	118,429,398	38,919,687	157,349,085	42,796,123	114,552,962
2016	124,350,868	40,865,671	165,216,539	45,559,724	119,656,815
2017	130,568,411	42,908,955	173,477,366	48,532,939	124,944,427
2018	137,096,832	45,054,403	182,151,235	51,767,603	130,383,632
2019	143,951,674	47,307,123	191,258,797	55,106,621	136,152,176
2020	151,149,258	49,672,479	200,821,737	58,119,923	142,701,814
2021	158,706,721	52,156,103	210,862,824	60,954,459	149,908,365
2022	166,642,057	54,763,908	221,405,965	63,488,260	157,917,705
2023	174,974,160	57,502,104	232,476,264	66,090,978	166,385,285
2024	183,722,868	60,377,209	244,100,077	68,982,977	175,117,100
2025	192,909,011	63,396,069	256,305,080	71,653,384	184,651,697
2026	202,554,462	66,565,873	269,120,335	74,621,467	194,498,868
2027	212,682,185	69,894,166	282,576,351	77,345,125	205,231,227
2028	223,316,294	73,388,875	296,705,169	80,026,869	216,678,300
2029	234,482,109	77,058,318	311,540,427	82,518,471	229,021,956
2030	246,206,214	80,911,234	327,117,448	84,979,744	242,137,704
2031	258,516,525	84,956,796	343,473,321	87,825,195	255,648,126
2032	271,442,351	89,204,636	360,646,987	90,968,805	269,678,181
2033	285,014,469	93,664,868	378,679,337	93,838,326	284,841,011
2034	299,265,192	98,348,111	397,613,303	96,446,008	301,167,295
2035	314,228,452	0	314,228,452	99,053,690	215,174,762

#### SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

#### **VERMONT STATE EMPLOYEES – ALL GROUPS**

Assumed investment return

8.0% per year, net of investment expenses, is the assumed rate of return on assets accumulated in the System's trust for benefit payments.

Actuarial Cost Method:

Projected Unit Credit

Medical Care and State Share Inflation:

Fiscal Year Ending	Inflation Rate
2005	9.0%
2006	8.0
2007	7.0
2008	6.0
2009 & After	5.0

Amortization period:	Closed basis. Thirty-year amortization starting in the fiscal year ending in 2005 with payments increasing by 5% annually.
Retirement Eligibility:	As prescribed by the terms of the State Employees' Retirement System of Vermont.
Marital status:	Active participants are assumed to keep their current marital status upon retirement.

#### SCHEDULE A - ACTUARIAL ASSUMPTIONS AND METHODS

#### Groups A, D and F

Separations from Service:

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

			Death	
Age	Withdrawal and Vested Retirement <sup>1</sup>	Disability	Men	Women
25	5.24	.06%	.04%	.02%
30	4.20	.08	.04	.03
35	3.51	.10	.08	.05
40	3.25	.15	.11	.07
45	2.88	.25	.15	.11
50	2.40	.42	.21	.17
55	1.96	.71	.30	.25
59	1.93	1.03	.44	.36
60	1.92	1.14	.49	.39
61	1.92	1.25	.54	.43

<sup>1</sup> Increased during first 10 years of service.

	Retirement <sup>2</sup>						
Age	Rate	Age	Rate	Age	Rate		
55	5%	60	10%	65	25%		
55 56	6	61	20	66	30		
57	8	62	20	67	35		
58	9	63	25	68	35		
59	10	64	25	69	40		
				70	100		

<sup>2</sup> 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, and according to the RP-2000 Mortality Tables for Disabled Lives for disabled retirees.

Administrative Expenses:

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

Spouse's Age:

**Percent Married:** 

Husbands are assumed to be 3 years older than their wives.

75.4% (71.4% for Group F) of male members and 64.0% (63.1% for Group F) of female members are assumed to be married.

### SCHEDULE A - 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:

			De	ath <sup>2</sup>
Age	Withdrawal and Vested Retirement <sup>1</sup>	Disability <sup>1</sup>	Men	Women
25 30 35 40 45 50 55 60	3.00% 3.00% 3.00%	.15% .20 .27 .40 .65 1.09 1.82 2.93	.04% .04 .08 .11 .15 .21 .30 .49	.02% .03 .05 .07 .11 .17 .25 .39

<sup>1</sup> Increased during first 5 years of service.
<sup>2</sup> 20% of disabilities and 30% of deaths assumed to be accidental.

Early and Normal Retirement Rates:	All members are assumed to retire when first eligible, but not earlier than age 55 for male members and age 53 for female members.
Deaths After Retirement:	According to the RP-2000 Mortality Tables for Healthy Annuitants for retirees and beneficiaries, and according to the RP-2000 Mortality Tables for Disabled Lives for disabled retirees.
Future Expenses:	No provision made; expenses of the System are paid by the State.
Spouse's Age:	Husbands are assumed to be 3 years older than their wives.
Percent Married:	73.3% of male members and 61.0% of female members are assumed to be married.

### SCHEDULE B - SUMMARY OF PROGRAM PROVISIONS

#### Health Plans

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.

#### Pre-Age 65 Retirees

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.

Current active employees who are assumed to retire prior to age 65 are valued with a weightedaverage 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.

#### Post-Age 65 Retirees

Current retirees over age 65 remain in their current medical plan until death.

#### Coverage

For purposes of this valuation, active employees are assumed to keep their current coverage level (family or individual) after they retire.