

February 2, 2017

Retirement Board
50 Service Avenue, 2nd Floor
Warwick, RI 02886-1021

Re: Actuarial Valuation for State Police Hired Before July 1, 1987 as of June 30, 2016

Dear Members of the Board:

This is the June 30, 2016 actuarial valuation of the State police hired before July 1, 1987 and who have all retired from employment by the State of Rhode Island. This report provides disclosure information the State can use to prepare its June 30, 2017 financial statements, as well as the calculation of the Actuarial Determined Contribution for fiscal year beginning July 1, 2018 according to 42-28-22.2 of the Rhode Island General Laws.

Financing Objectives

Currently, State police who do not participate in the State Police Retirement Benefits Trust (SPRBT) whose benefits are financed by annual contributions equal to the annual benefit payment of current retirees, also known as pay-as-you-go. Recent legislation stipulated actuarially appropriate contribution amount based on an eighteen (18) year funding period beginning July 1, 2015, plus an initial supplemental contribution from the State to start the Trust. It is our understanding the initial supplemental contribution was \$15 million, but occurred after the June 30, 2016 valuation date.

Progress Towards Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. There has not been previous advanced funding for this closed group of 269 retirees, so the funded ratio as of June 30, 2016 is 0.00% and the unfunded actuarial accrued liability for this group as of June 30, 2016, is \$176,546,337.

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial valuation of assets), it is expected that:

1. The employer contribution for fiscal years 2018 and beyond will remain level as a dollar amount,
2. The unfunded actuarial accrued liability will be fully amortized by 2033, and
3. In the absence of benefit improvements, the funded ratio should increase over time, until it reaches 100%.

The Actuarial Determined Contribution for fiscal year beginning July 1, 2018 is \$16,546,020. This assumes that the initial supplemental contribution of \$15 million will be made at the beginning of fiscal year 2017 and a contribution amount of \$16,387,092 will be made during fiscal years ending 2017 and 2018. See Exhibit 1 for a projection of expected benefit payments and contributions.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on June 30, 2016. The benefit provisions are summarized in Appendix B in the June 30, 2016 actuarial valuation of the SPRBT dated January 31, 2017.

Assumptions and methods

The assumptions used in this valuation, including the 7.5% discount rate, are the same as those summarized in Appendix A in the June 30, 2016 actuarial valuation of the SPRBT dated January 31, 2017. We believe the assumptions are internally consistent and are reasonable.

The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities and the calculated contribution rates.

Data

Data for the 269 retirees as of June 30, 2016 for this valuation was by the Staff at the Employees Retirement System of Rhode Island. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the data from the SPRBT valuation.

Certification

All of our work conforms with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Rhode Island state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

The undersigned are independent actuaries. All are Members of the American Academy of Actuaries. They all meet the Qualification Standards of the American Academy of Actuaries, and they are experienced in performing valuations for large public retirement systems.

Board of Trustees
February 2, 2017
Page 3

Respectfully submitted,



Joseph P. Newton, FSA, MAAA, EA
Senior Consultant



Paul T. Wood, ASA, MAAA, FCA
Consultant

Exhibit 1

Rhode Island State Police Retirement Benefits Pay-as-you-go Retirees

Year	Net Payment			
Ending June 30,	Pay-as-you-go Cost	Contribution from State	to/ (from) trust	Trust Balance (EOY)
2016	0	15,000,000	15,000,000	15,000,000
2017	17,201,978	16,387,092	(814,886)	15,333,772
2018	16,984,255	16,387,092	(597,163)	15,917,638
2019	16,701,959	16,546,020	(155,938)	17,001,884
2020	16,393,494	16,546,020	152,526	18,486,309
2021	16,091,703	16,546,020	454,317	20,394,029
2022	15,883,987	16,546,020	662,034	22,659,544
2023	15,541,231	16,546,020	1,004,789	25,449,280
2024	15,165,760	16,546,020	1,380,261	28,836,372
2025	14,799,522	16,546,020	1,746,499	32,856,077
2026	14,524,160	16,546,020	2,021,861	37,461,903
2027	14,137,136	16,546,020	2,408,884	42,813,232
2028	13,825,322	16,546,020	2,720,698	48,888,234
2029	13,508,547	16,546,020	3,037,473	55,746,312
2030	13,173,612	16,546,020	3,372,408	63,464,969
2031	12,821,507	16,546,020	3,724,513	72,126,497
2032	12,453,230	16,546,020	4,092,790	81,818,329
2033	12,069,952	16,546,020	4,476,068	92,633,244
2034	11,672,612	0	(11,672,612)	87,514,729
2035	11,262,184	0	(11,262,184)	82,436,587
2036	10,839,287	0	(10,839,287)	77,414,733
2037	10,405,155	0	(10,405,155)	72,465,004
2038	9,962,049	0	(9,962,049)	67,602,084
2039	9,510,958	0	(9,510,958)	62,840,740
2040	9,052,901	0	(9,052,901)	58,195,790
2041	8,590,036	0	(8,590,036)	53,680,932
2042	8,124,224	0	(8,124,224)	49,308,972
2043	7,656,833	0	(7,656,833)	45,092,257
2044	7,189,724	0	(7,189,724)	41,042,141
2045	6,725,451	0	(6,725,451)	37,168,187
2046	6,265,875	0	(6,265,875)	33,478,750
2047	5,812,275	0	(5,812,275)	29,981,494
2048	5,365,975	0	(5,365,975)	26,683,284
2049	4,927,796	0	(4,927,796)	23,590,656
2050	4,499,316	0	(4,499,316)	20,709,001
2051	4,081,875	0	(4,081,875)	18,042,731
2052	3,677,070	0	(3,677,070)	15,594,940
2053	3,286,967	0	(3,286,967)	13,366,815
2054	2,913,929	0	(2,913,929)	11,357,191
2055	2,559,928	0	(2,559,928)	9,562,776
2056	2,227,701	0	(2,227,701)	7,977,203
2057	1,919,581	0	(1,919,581)	6,591,218
2058	1,636,871	0	(1,636,871)	5,393,521
2059	1,380,989	0	(1,380,989)	4,370,504
2060	1,152,624	0	(1,152,624)	3,506,821
2061	951,648	0	(951,648)	2,786,112
2062	777,333	0	(777,333)	2,191,539
2063	628,128	0	(628,128)	1,706,606
2064	502,142	0	(502,142)	1,315,536
2065	397,177	0	(397,177)	1,003,638
2066	310,766	0	(310,766)	757,671
2067	240,628	0	(240,628)	565,759
2068	184,469	0	(184,469)	417,504
2069	139,890	0	(139,890)	304,213
2070	104,738	0	(104,738)	218,761
2071	77,402	0	(77,402)	155,157
2072	56,410	0	(56,410)	108,483
2073	40,521	0	(40,521)	74,732
2074	28,663	0	(28,663)	50,708
2075	19,946	0	(19,946)	33,893
2076	13,657	0	(13,657)	22,318
2077	9,199	0	(9,199)	14,483
2078	6,107	0	(6,107)	9,256
2079	3,989	0	(3,989)	5,827
2080	2,576	0	(2,576)	3,602
2081	1,636	0	(1,636)	2,181
2082	1,019	0	(1,019)	1,291
2083	624	0	(624)	743
2084	378	0	(378)	407
2085	221	0	(221)	209
2086	122	0	(122)	99
2087	66	0	(66)	38
2088	31	0	(31)	9
2089	7	0	(7)	2
2090	2	0	(2)	(0)

Rate of Return on Assets 7.50%

Period to Pre-Fund (1st Pmt. In FY 2017) 17

Initial Deposit 15,000,000

Present Value as of July 1, 2016 176,546,337

Annual Payment - FYE 2019 and Beyond 16,546,020

If the State contributes \$15 million at the end of fiscal year 2016, \$16.4 million in fiscal years ending 2017 and 2018, and then \$16.5 million for the next 15 years, realizes an annual rate of return on the contributions of 7.50%, and life expectancy is consistent with the most recent actuarial valuation for the State Police Benefits Trust, the liability for the pay-as-you-go retirement benefits for the State Police Officers hired before July 1, 1987 will be advance funded.