

North Carolina National Guard Pension Fund

Report on the Actuarial Valuation
Prepared as of December 31, 2013

October 2014



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October 6, 2014

Board of Trustees
Teachers' and State Employees'
Retirement System of North Carolina
325 North Salisbury Street
Raleigh, NC 27603

Members of the Board:

We submit herewith our report on the actuarial valuation of the National Guard Pension Fund of North Carolina (referred to as "the Fund") prepared as of December 31, 2013. The report has been prepared in accordance with Chapter 127A of the North Carolina General Statutes.

The primary purpose of the valuation report is to determine the required employer contribution rates, to describe the current financial condition of the Fund, and to analyze changes in such condition. In addition, the report provides information that the Office of the State Controller (OSC) requires for its Comprehensive Annual Financial Report (CAFR) and it summarizes census data. Use of this report for any other purposes or by anyone other than OSC and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover letter. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' written consent.


The valuation is based upon membership data and financial information as furnished by the Retirement Systems Division and the Financial Operations Division and as summarized in this report. Although reviewed for reasonableness and consistency with the prior valuation, these elements have not been audited by Buck and we cannot certify as to the accuracy and completeness of the data supplied. The valuation is also based on benefit and contribution provisions as presented in this report. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial report prior to relying on this information.

The valuation is further based on the actuarial valuation assumptions, approved by the Board of Trustees, as presented in this report. We believe that these assumptions are reasonable and comply with the requirements of GASB Nos. 25, 27, and 67. We prepared this report in accordance with the requirements of these standards.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, Buck performed no analysis of the potential range of such future differences.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about it.

Respectfully submitted,


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Principal, Consulting Actuary


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Section 1: Summary of Principal Results

1. This report, prepared as of December 31, 2013, presents the results of the actuarial valuation of the Fund. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below.

Table 1: Summary of Principal Results

Valuation Date	December 31, 2013	December 31, 2012
Number of active members	5,535	5,365
Retired members and survivors of deceased members currently receiving benefits		
Number	4,354	4,282
Annual pensions	\$ 7,741,246	\$ 7,293,009
Terminated members and survivors of deceased members entitled to but not yet receiving benefits		
Number	5,117	5,032
Deferred pensions	\$ 8,148,730	\$ 7,663,422
Assets		
Actuarial value (AVA)	\$ 103,299,516	\$ 96,597,464
Market value	104,026,294	93,342,864
Actuarial accrued liability (AAL)	\$ 140,021,617	\$ 131,722,319
Unfunded actuarial accrued liability (AAL-AVA)	36,722,101	35,124,855
Funded ratio (AVA/AAL)	73.8%	73.3%
Contributions for Fiscal Year Ending	June 30, 2016	June 30, 2015
Recommended Employer Contributions		
Normal cost	\$ 530,751	\$ 494,707
Accrued liability	5,342,184	4,764,839
Total	\$ 5,872,935	\$ 5,259,546
Anticipated accrued liability payment period	12 years	12 years
GASB 25/27 Annual required contribution (ARC) of employer		
Normal cost	\$ 530,751	\$ 494,707
Accrued liability	5,342,184	4,764,839
Total	\$ 5,872,935	\$ 5,259,546
Impact of legislative changes	N/A	779,728
Final ARC of employer	\$ N/A	\$ 6,039,274
Liquidation period	12 years	12 years

Section 1: Summary of Principal Results

2. The following table shows a reconciliation of the change in the annual required contribution computed to be \$5,259,546 based on the December 31, 2012 valuation and \$5,872,935 based on the December 31, 2013 valuation.

Table 2: Reconciliation of Change in Annual Required Contribution

Fiscal Year Ending June 30, 2015 Preliminary ARC (based on 12/31/12 valuation)	\$ 5,259,546
Impact of Legislative Changes	<u>779,728</u>
Fiscal Year Ending June 30, 2015 Final ARC	\$ 6,039,274
Change Due to Demographic (Gain)/Loss	71,014
Change Due to Investment (Gain)/Loss	(24,862)
Change Due to Contributions Greater Than ARC	<u>(212,491)</u>
Fiscal Year Ending June 30, 2016 Preliminary ARC (based on 12/31/13 valuation)	\$ 5,872,935

3. Tables summarizing the membership of the Fund as of the valuation date are shown in Section 2.
4. The valuation balance sheet showing the assets and liabilities of the Fund as of the current and previous valuation dates is provided in Section 3.
5. An allocation of investments by category is shown in Section 4.
6. Comments on the experience and actuarial gains during the valuation year are provided in Section 5.
7. Comments on the contributions payable by the State are provided in Section 6.
8. Accounting information to be disclosed in the financial statements of the System and the employer is provided in Section 7.
9. Appendix A of this report presents the development of the actuarial value of assets.
10. Appendix B of this report presents the development of the amortization of the unfunded accrued liability.
11. Appendix C of this report outlines the full set of actuarial assumptions and methods employed.
12. Appendix D gives a summary of the benefit and contribution provisions of the system.
13. Appendix E provides the projection of cash flows used to determine the discount rate under GASB Statement No. 67.
14. Appendix F provides detailed tabulations of the membership of the system as of the valuation date.

Section 2: Membership Data

Data regarding the membership of the Fund for use as a basis for the valuation were furnished by the Retirement Systems Division. The following table summarizes the membership of the Fund as of December 31, 2013 upon which the valuation was based. Detailed tabulations of the data are given in Appendix F.

Table 3: Membership of the Fund as of December 31, 2013

Group	Number	Average Age	Average Service	Annual Pensions
Active Members	5,535	38.4	15.9	N/A
Retired Members and survivors of deceased members currently receiving benefits	4,354	69.6	N/A	\$ 7,741,246
Terminated Members and survivors of deceased members entitled to benefits but not yet receiving benefits	5,117	56.1	N/A	\$ 8,148,730

Section 3: Valuation Balance Sheet

The following valuation balance sheet shows the assets and liabilities of the Retirement Fund as of the current valuation date of December 31, 2013. Appendix A summarizes the development of the actuarial value of assets.

Table 4: Valuation Balance Sheet Showing the Present and Prospective Assets and Liabilities of the North Carolina National Guard Pension Fund Prepared as of December 31, 2013

Assets	
Present Assets	\$ 103,299,516
Present value of prospective contributions payable by State	
Normal contribution	\$ 2,618,020
Accrued liability contribution	<u>36,722,101</u>
Total prospective contributions by state	<u>39,340,121</u>
Total Assets	<u>\$ 142,639,637</u>
Liabilities	
Present value of pensions payable to retired members and survivors of deceased members currently receiving benefits	\$ 62,286,377
Present value of deferred pensions payable to terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	55,843,092
Present value of prospective pensions to active members included in the valuation	24,510,168
Reserve for increases in retirement allowances	<u>0</u>
Total Liabilities	<u>\$ 142,639,637</u>

The valuation balance sheet shows that the total present value of the prospective benefit payments as of December 31, 2013 amounts to \$142,639,637. Of this amount, \$62,286,377 represents the present value of future pension payments to retired members and survivors of deceased members currently receiving benefits, \$24,510,168 represents the present value of prospective pensions which will become payable to present active members and \$55,843,092 represents the present value of future pension payments to terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits. Against these liabilities, the Fund has assets of \$103,299,516 leaving a balance of \$39,340,121 to be provided by future contributions of the State. Of this amount, \$2,618,020 represents the present value of prospective normal contributions, and the balance of \$36,722,101 represents the present value of accrued liability contributions.

Section 4: Asset Allocation

The following table shows an allocation of investments by category as of December 31, 2013.

Table 5: Allocation of Investments by Category for the National Guard Pension Fund as of December 31, 2013

Cash and Receivables	2.1%
Fixed Income (LTIF)	30.2
Public Equity	47.5
Other*	<u>20.2</u>
Total	100.0%

* Real Estate, Alternatives, Inflation and Credit.

Section 5: Comments on Experience and Gains

The following table shows a detailed reconciliation of the change in unfunded accrued liability since the prior valuation.

Table 6: Reconciliation of Change in Unfunded Accrued Liability Since the Prior Valuation
(in millions)

Unfunded accrued liability as of 12/31/12	\$ 35.1
Normal cost during 2013	0.5
Reduction due to actual contributions during 2013	(7.0)
Interest on unfunded accrued liability, normal cost and contributions	2.3
Asset (gain)/loss	(0.2)
Accrued liability (gain)/loss	0.3
Impact of Legislative Changes	<u>5.7</u>
Unfunded accrued liability as of 12/31/13	\$ 36.7

Section 6: Contributions Payable by the State

The normal contribution covers the cost of benefits based on current service. The valuation indicates that the annual normal contribution payable by the State is equal to \$95.89 multiplied by the number of active members. Based on 5,535 active members included in the valuation, the normal contribution is \$530,751.

The unfunded actuarial accrued liability is amortized within a 12-year period through an annual unfunded accrued liability contribution. Assuming that the unfunded accrued liability is amortized based on the amortization schedule shown in Appendix B, with the payments covering both the principal amount and the accruing interest thereon at the rate of 7.25% per annum, the annual unfunded actuarial accrued liability contribution would be \$5,342,184.

Based on the present membership and the amortization schedule described above, the following table shows the total annual contributions payable by the State for the fiscal year ending June 30, 2016.

Table 7: Annual Contributions Payable by the State

Contribution	Annual Amount
Normal Cost	\$ 530,751
Accrued Liability	<u>5,342,184</u>
Total	\$ 5,872,935

Section 7: Accounting Information

The section contains the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 25, 27 and 67 for fiscal year ending June 30, 2014 based on a valuation date of December 31, 2013.

Please note that GASB Statement No. 25 (*Financial Reporting for Defined Benefit Pension Plans*) is applicable for fiscal years ending prior to 2014 and has been replaced by GASB Statement No. 67 (*Financial Reporting for Pension Plans*) for fiscal years ending 2014 and later. Similarly, GASB Statement No. 27 (*Accounting for Pensions by State and Local Governmental Employers*) is applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (*Accounting and Financial Reporting for Pensions*) for fiscal years ending 2015 and later.

GASB Statement Nos. 25 and 27 set forth certain items of information to be disclosed in the financial statements of the Plan. The tables below provide a distribution of the number of employees by type of membership, and the schedule of funding progress.

**Table 8: Number of Active and Retired Participants
as of December 31, 2013**

Group	Number
Retired members and survivors of deceased members currently receiving benefits	4,354
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	5,117
Active participants	<u>5,535</u>
Total	15,006

Table 9: Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2007	\$74,794,091	\$109,431,445	\$34,637,354	68.3%	N/A	N/A
12/31/2008	78,066,679	112,746,519	34,679,840	69.2	N/A	N/A
12/31/2009	81,371,110	121,854,794	40,483,684	66.8	N/A	N/A
12/31/2010	86,558,984	127,065,982	40,506,998	68.1	N/A	N/A
12/31/2011	91,108,186	129,499,579	38,391,393	70.4	N/A	N/A
12/31/2012	96,597,464	131,722,319	35,124,855	73.3	N/A	N/A
12/31/2013	103,299,516	140,021,617	36,722,101	73.8	N/A	N/A

Section 7: Accounting Information

The tables below provide a reconciliation of the preliminary employer annual required contribution rate to the final employer annual required contribution, the calculation of the annual pension cost and net pension obligation, and a three-year trend of the net pension obligation.

Table 10: Reconciliation of the Annual Required Contribution Rate

	Fiscal Year Ending June 30, 2014
Preliminary Annual Required Contribution	
Normal Cost	\$ 513,667
Accrued Liability	<u>4,835,425</u>
Total	\$ 5,349,092
Impact of Legislative Changes	<u>0</u>
Final Annual Required Contribution	\$ 5,349,092

Table 11: Annual Pension Cost and Net Pension Obligation

Fiscal Year Ending	June 30, 2014
(a) Employer annual required contribution	\$ 5,349,092
(b) Interest on net pension obligation	(342,071)
(c) Adjustment to annual required contribution	<u>645,606</u>
(d) Annual pension cost: (a) + (b) + (c)	\$ 5,652,627
(e) Employer contributions made for fiscal year ending 6/30/2014	<u>7,007,443</u>
(f) Increase (decrease) in net pension obligation: (d) – (e)	\$ (1,354,816)
(g) Net pension obligation beginning of fiscal year	<u>(4,718,215)</u>
(h) Net pension obligation end of fiscal year: (f) + (g)	\$ (6,073,031)

Table 12: Trend Information for the Net Pension Obligation

Fiscal Year Ending	Annual Pension Cost (APC)	Percentage of APC Contributed	Net Pension Obligation
June 30, 2012	\$6,258,683	112.0%	\$(3,609,754)
June 30, 2013	5,898,982	118.8	(4,718,215)
June 30, 2014	5,652,627	124.0	(6,073,031)

Section 7: Accounting Information

The tables below provide the annual required contribution (ARC) of the employer (determined in accordance with the parameters of GASB 25/27) and additional information as of the valuation date. The accrued liability rate of the ARC is based on the amortization schedule found in Appendix B.

**Table 13: Annual Required Contribution (ARC)
Based on the Valuation as of December 31, 2013**

Fiscal Year Ending	June 30, 2016
Normal Cost	\$ 530,751
Accrued Liability	<u>5,342,184</u>
Total	\$ 5,872,935

Table 14: Additional Information for GASB Statement Nos. 25 and 27

Valuation Date	December 31, 2013
Actuarial cost method	Entry Age
Amortization method	Level dollar closed
Amortization period	12 years
Asset valuation method	20% of market value plus 80% of expected actuarial value (not greater than 120% of market value and not less than 80% of market value)
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases	N/A
* Includes inflation of	3.00%
Cost-of-living adjustments	N/A

Section 7: Accounting Information

GASB Statement No. 67 set forth certain items of information to be disclosed in the financial statements of the Plan. The tables below provide the schedule of changes in Net Pension Liability (Asset).

Table 15: Schedule of Changes in Net Pension Liability (Asset)

Calculation as of	June 30, 2014
Total Pension Liability	
Service Cost	\$ 512,000
Interest	9,330,000
Changes of Benefit Terms	5,752,000
Difference between Expected and Actual Experience	192,000
Change in Assumptions	0
Benefit Payments, including Refund of Member Contributions	<u>(7,502,000)</u>
Net Change in Total Pension Liability	\$ 8,284,000
Total Pension Liability – Beginning of Year	\$131,922,000
Total Pension Liability – End of Year	\$140,206,000
Plan Fiduciary Net Position	
Employer Contributions	\$ 7,007,000
Member Contributions	0
Net Investment Income	14,942,000
Benefit Payments, including Refund of Member Contributions	<u>(7,502,000)</u>
Administrative Expenses	<u>(73,000)</u>
Other	<u>1,000</u>
Net Change in Plan Fiduciary Net Position	\$ 14,375,000
Plan Fiduciary Net Position - Beginning of Year	\$ 95,655,000
Plan Fiduciary Net Position - End of Year	\$110,030,000

Table 16: Net Pension Liability (Asset)

Calculation as of	June 30, 2014	June 30, 2013
Total Pension Liability	\$140,206,000	\$131,922,000
Plan Fiduciary Net Position	<u>110,030,000</u>	<u>95,655,000</u>
Net Pension Liability (Asset)	\$ 30,176,000	\$ 36,267,000
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	78.48%	72.51%

Section 7: Accounting Information

The table below is the sensitivity of the net pension liability to changes in the discount rate.

Table 17: Sensitivity of the Net Pension Liability at June 30, 2014 to Changes in the Discount Rate

	1% Decrease	Current	1% Increase
Discount Rate	6.25%	7.25%	8.25%
Net Pension Liability (Asset)	46,567,000	30,176,000	16,578,000

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Please see Appendix E for additional detail.

Appendix A: Development of Actuarial Value of Assets

1.	Actuarial Value of Assets as of December 31, 2012	\$ 96,597,464
2.	2013 Net Cash Flow	
a.	Contributions	7,007,443
b.	Disbursements	<u>7,473,507</u>
c.	Net Cash Flow: (a) - (b)	(466,064)
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	6,986,421
4.	Expected Actuarial Value of Assets as of December 31, 2013: (1) + (2)c + (3)	103,117,821
5.	Market Value of Assets as of December 31, 2013	104,026,294
6.	Excess of Market Value over Expected Actuarial Value of Assets: (5) - (4)	908,473
7.	20% Adjustment towards Market Value: (6) x .20	181,695
8.	Preliminary Actuarial Value of Assets as of December 31, 2013: (4) + (7)	103,299,516
9.	Final Actuarial Value of Assets as of December 31, 2013 [(8) not less than 80% of (5) and not greater than 120% of (5)]	103,299,516
10.	Rate of investment return on actuarial value	7.44%
11.	Rate of investment return on market value	11.97%

Appendix B: Amortization Schedule for Unfunded Actuarial Accrued Liability

Date Established	Outstanding Balances		Annual Payment
	Inception	December 31, 2013	
December 31, 2009	\$ 40,483,684	\$ 38,431,886	\$ 5,539,494
December 31, 2010	(2,911,753)	(2,962,045)	(398,423)
December 31, 2011	(2,233,723)	(2,413,833)	(305,646)
December 31, 2012	(515,855)	(553,254)	(70,586)
December 31, 2013	4,219,347	<u>4,219,347</u>	<u>577,345</u>
Total		\$ 36,722,101	\$ 5,342,184

Appendix C: Actuarial Assumptions and Methods

Interest Rate: 7.25% per annum, compounded annually.

Separations From Active Service: Representative values of the assumed annual rates of separation from active service are as follows:

Annual Rates of					
Retirement					
Age	Under age 60 with 20 years of service	Age 60 with 20 years of service or 30 years of service	Base Mortality*		Disability**
			Male	Female	
25	.500		.0004	.0002	.0001
30	.500		.0006	.0003	.0004
35	.500		.0009	.0005	.0010
40	.500		.0012	.0007	.0029
45	.500		.0017	.0011	.0049
50	.500		.0024	.0017	.0084
55	.500	1.000	.0036	.0025	.0144
60		1.000	.0059	.0039	.0240

* Base mortality rates as of December 31, 2003.

** Applied only to members with less than 20 years of service.

No rates of withdrawal are assumed since the valuation excludes all active members with less than 7 years of service.

Deaths After Retirement: Representative values of the assumed post-retirement mortality rates as of December 31, 2003 prior to any mortality improvements are as follows:

Annual Rates of death after retirement						
Age	Male Retirees (Healthy at Retirement)	Female Retirees (Healthy at Retirement)	Male Survivors of Deceased Members	Female Survivors of Deceased Members	Male Retirees (Disabled at Retirement)	Female Retirees (Disabled at Retirement)
55	.0064	.0035	.0061	.0044	.0277	.0176
60	.0099	.0062	.0090	.0077	.0342	.0229
65	.0165	.0104	.0149	.0125	.0407	.0296
70	.0273	.0167	.0246	.0207	.0483	.0401
75	.0469	.0281	.0422	.0341	.0596	.0558
80	.0805	.0459	.0720	.0563	.0775	.0771

Appendix C: Actuarial Assumptions and Methods

Mortality Improvements: Representative values of the assumed mortality improvement rates (applied to pre-retirement mortality rates for active members and post-retirement mortality rates for retirees healthy at retirement and survivors of deceased members after such tables have been set back or set forward) are as follows:

<u>Age</u>	<u>Male Projection Scale</u>	<u>Female Projection Scale</u>
25	0.010	0.014
30	0.005	0.010
35	0.005	0.011
40	0.008	0.015
45	0.013	0.016
50	0.018	0.017
55	0.019	0.008
60	0.016	0.005
65	0.014	0.005
70	0.015	0.005
75	0.014	0.008
80	0.010	0.007

Deaths After Retirement (Non-Disabled): According to the RP-2000 Mortality tables for retirees. These tables are set forward two years for males and unadjusted for females. These tables are also set forward one year for male survivors of deceased members and set forward two years for female survivors of deceased members. The base retiree RP-2000 tables have no rates prior to age 50. The active employee rates of RP-2000 are used for ages less than 50 prior to any adjustments for set back or set forward

Death After Disability: According to the RP-2000 Mortality tables for disabled annuitants set back six years for males and set forward one year for females.

Deaths Prior to Retirement: According to the RP-2000 Mortality tables for active employees. These tables are set forward two years for males and unadjusted for females. The base RP-2000 tables for active employees have no rates after age 70. The rates from ages 71 to 79 are smoothed based on the active rates at age 70 and the retiree rate at age 80. Retiree rates are used for ages 80 and beyond.

Mortality Projection (Non-Disabled): All mortality rates are projected from December 31, 2003 using generational improvement with Scale AA.

Timing of Assumptions: All deaths, disabilities and retirements are assumed to occur on July 1 of each year.

Administrative Expenses: No provision made.

Actuarial Cost Method: Entry age normal cost method. Entry age is established on an individual basis. Gains and losses are reflected in the unfunded actuarial accrued liability.

Appendix C: Actuarial Assumptions and Methods

Asset Valuation Method: Actuarial value, as developed in Appendix A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value. The actuarial value of assets is not allowed to be greater than 120% of the market value of assets or less than 80% of the market value of assets.

Changes Since Prior Valuation: None.

Appendix D: Summary of Main Plan Provisions

Membership

All members of the North Carolina National Guard with seven years of service are eligible to be members of the Fund.

Benefits

Service Retirement Pension

Condition for Pension	A member who retires after he has attained age 60 and has credit for 20 years of military service, including at least 15 years of North Carolina national guard duty, both reserve and active, and who has received an honorable discharge, is entitled to a monthly pension.
Amount of Pension	The amount of the pension is equal to \$99 per month for 20 years of creditable service with an additional \$9.90 per month for each additional year of such service, provided that the total pension shall not exceed \$198 per month.

Deferred Early Retirement Pension

Condition for Pension	A member whose service is terminated after he has credit for 20 years of military service, including at least 15 years of North Carolina national guard duty, both reserve and active, and who has received an honorable discharge, is eligible to receive a deferred retirement pension commencing at age 60.
Amount of Pension	The amount is the same as that for a service retirement.
Normal Form	Life Annuity.
Optional Form	None.

Contributions

The State makes annual contributions sufficient to meet the cost of the benefits under the Fund.

Changes Since Prior Valuation	The monthly pension was increased from \$95 per month for 20 years of creditable service with an additional \$9.50 per month for each additional year of such service to \$99 per month for 20 years of creditable service with an additional \$9.90 per month for each additional year of such service.
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Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-1: Projection of Fiduciary Net Positions
(in thousands)

Year	Beginning Fiduciary Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Investment Earnings	Ending Fiduciary Position
12/31/2013	\$ 104,026	\$ 0	\$ 5,350	\$ 9,979	\$ 61	\$ 7,439	\$ 106,775
12/31/2014	106,775	0	5,478	10,054	50	7,624	109,773
12/31/2015	109,773	0	5,681	10,111	45	7,846	113,144
12/31/2016	113,144	0	5,627	10,201	41	8,081	116,610
12/31/2017	116,610	0	5,582	10,274	38	8,325	120,205
12/31/2018	120,205	0	5,542	10,343	36	8,580	123,948
12/31/2019	123,948	0	5,504	10,513	33	8,841	127,747
12/31/2020	127,747	0	5,467	10,690	30	9,106	131,600
12/31/2021	131,600	0	5,430	10,885	27	9,374	135,492
12/31/2022	135,492	0	2,620	11,092	24	9,594	136,590
12/31/2023	136,590	0	10	11,264	20	9,519	134,835
12/31/2024	134,835	0	324	11,430	16	9,393	133,106
12/31/2025	133,106	0	477	11,493	13	9,270	131,347
12/31/2026	131,347	0	214	11,556	9	9,132	129,128
12/31/2027	129,128	0	0	11,569	5	8,955	126,509
12/31/2028	126,509	0	0	11,558	2	8,762	123,711
12/31/2029	123,711	0	0	11,542	1	8,559	120,727
12/31/2030	120,727	0	0	11,486	1	8,345	117,585
12/31/2031	117,585	0	0	11,344	0	8,121	114,362
12/31/2032	114,362	0	0	11,138	0	7,895	111,119
12/31/2033	111,119	0	0	10,923	0	7,667	107,863
12/31/2034	107,863	0	0	10,681	0	7,440	104,622
12/31/2035	104,622	0	0	10,407	0	7,215	101,430
12/31/2036	101,430	0	0	10,136	0	6,993	98,287
12/31/2037	98,287	0	0	9,909	0	6,773	95,151
12/31/2038	95,151	0	0	9,676	0	6,554	92,029
12/31/2039	92,029	0	0	9,473	0	6,335	88,891
12/31/2040	88,891	0	0	9,290	0	6,114	85,715
12/31/2041	85,715	0	0	9,132	0	5,889	82,472
12/31/2042	82,472	0	0	9,015	0	5,658	79,115
12/31/2043	79,115	0	0	8,856	0	5,421	75,680
12/31/2044	75,680	0	0	8,707	0	5,177	72,150
12/31/2045	72,150	0	0	8,510	0	4,928	68,568
12/31/2046	68,568	0	0	8,328	0	4,675	64,915
12/31/2047	64,915	0	0	8,151	0	4,416	61,180
12/31/2048	61,180	0	0	7,867	0	4,156	57,469
12/31/2049	57,469	0	0	7,484	0	3,900	53,885
12/31/2050	53,885	0	0	7,076	0	3,655	50,464
12/31/2051	50,464	0	0	6,676	0	3,421	47,209
12/31/2052	47,209	0	0	6,285	0	3,199	44,123
12/31/2053	44,123	0	0	5,905	0	2,989	41,207
12/31/2054	41,207	0	0	5,537	0	2,791	38,461
12/31/2055	38,461	0	0	5,182	0	2,605	35,884
12/31/2056	35,884	0	0	4,840	0	2,430	33,474
12/31/2057	33,474	0	0	4,512	0	2,267	31,229
12/31/2058	31,229	0	0	4,198	0	2,115	29,146
12/31/2059	29,146	0	0	3,898	0	1,975	27,223
12/31/2060	27,223	0	0	3,612	0	1,846	25,457
12/31/2061	25,457	0	0	3,339	0	1,728	23,846
12/31/2062	23,846	0	0	3,079	0	1,620	22,387

Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-1: Projection of Fiduciary Net Positions (continued)
(in thousands)

Year	Beginning Fiduciary Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Investment Earnings	Ending Fiduciary Position
12/31/2063	\$ 22,387	\$ 0	\$ 0	\$ 2,831	\$ 0	\$ 1,523	\$ 21,079
12/31/2064	21,079	0	0	2,594	0	1,437	19,922
12/31/2065	19,922	0	0	2,367	0	1,361	18,916
12/31/2066	18,916	0	0	2,151	0	1,296	18,061
12/31/2067	18,061	0	0	1,944	0	1,241	17,358
12/31/2068	17,358	0	0	1,746	0	1,198	16,810
12/31/2069	16,810	0	0	1,558	0	1,165	16,417
12/31/2070	16,417	0	0	1,379	0	1,143	16,181
12/31/2071	16,181	0	0	1,211	0	1,131	16,101
12/31/2072	16,101	0	0	1,053	0	1,131	16,179
12/31/2073	16,179	0	0	905	0	1,142	16,416
12/31/2074	16,416	0	0	770	0	1,165	16,811
12/31/2075	16,811	0	0	646	0	1,198	17,363
12/31/2076	17,363	0	0	535	0	1,242	18,070
12/31/2077	18,070	0	0	437	0	1,297	18,930
12/31/2078	18,930	0	0	351	0	1,362	19,941
12/31/2079	19,941	0	0	278	0	1,438	21,101
12/31/2080	21,101	0	0	217	0	1,524	22,408
12/31/2081	22,408	0	0	167	0	1,621	23,862
12/31/2082	23,862	0	0	126	0	1,728	25,464
12/31/2083	25,464	0	0	94	0	1,846	27,216
12/31/2084	27,216	0	0	69	0	1,974	29,121
12/31/2085	29,121	0	0	50	0	2,113	31,184
12/31/2086	31,184	0	0	35	0	2,263	33,412
12/31/2087	33,412	0	0	25	0	2,425	35,812
12/31/2088	35,812	0	0	17	0	2,599	38,394
12/31/2089	38,394	0	0	12	0	2,787	41,169
12/31/2090	41,169	0	0	8	0	2,989	44,150
12/31/2091	44,150	0	0	5	0	3,205	47,350
12/31/2092	47,350	0	0	4	0	3,438	50,784
12/31/2093	50,784	0	0	2	0	3,687	54,469
12/31/2094	54,469	0	0	2	0	3,954	58,421
12/31/2095	58,421	0	0	1	0	4,241	62,661
12/31/2096	62,661	0	0	1	0	4,549	67,209
12/31/2097	67,209	0	0	0	0	4,879	72,088
12/31/2098	72,088	0	0	0	0	5,233	77,321
12/31/2099	77,321	0	0	0	0	5,613	82,934
12/31/2100	82,934	0	0	0	0	6,021	88,955
12/31/2101	88,955	0	0	0	0	6,458	95,413
12/31/2102	95,413	0	0	0	0	6,926	102,339
12/31/2103	102,339	0	0	0	0	7,429	109,768
12/31/2104	109,768	0	0	0	0	7,969	117,737
12/31/2105	117,737	0	0	0	0	8,547	126,284
12/31/2106	126,284	0	0	0	0	9,167	135,451
12/31/2107	135,451	0	0	0	0	9,833	145,284
12/31/2108	145,284	0	0	0	0	10,547	155,831
12/31/2109	155,831	0	0	0	0	11,312	167,143
12/31/2110	167,143	0	0	0	0	12,133	179,276
12/31/2111	179,276	0	0	0	0	13,014	192,290
12/31/2112	192,290	0	0	0	0	13,959	206,249

Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-2: Actuarial Present Value of Projected Benefit Payments
(in thousands)

Year	Beginning Fiduciary Position	Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Present Value of Benefit Payments		
					Funded Payments at 7.25%	Unfunded Payments at 3.66%	Using Single Discount Rate of 7.25%
12/31/2013	\$ 104,026	\$ 9,979	\$ 9,979	\$ 0	\$ 9,636	\$ 0	\$ 9,636
12/31/2014	106,775	10,054	10,054	0	9,052	0	9,052
12/31/2015	109,773	10,111	10,111	0	8,488	0	8,488
12/31/2016	113,144	10,201	10,201	0	7,985	0	7,985
12/31/2017	116,610	10,274	10,274	0	7,498	0	7,498
12/31/2018	120,205	10,343	10,343	0	7,038	0	7,038
12/31/2019	123,948	10,513	10,513	0	6,670	0	6,670
12/31/2020	127,747	10,690	10,690	0	6,324	0	6,324
12/31/2021	131,600	10,885	10,885	0	6,004	0	6,004
12/31/2022	135,492	11,092	11,092	0	5,705	0	5,705
12/31/2023	136,590	11,264	11,264	0	5,402	0	5,402
12/31/2024	134,835	11,430	11,430	0	5,111	0	5,111
12/31/2025	133,106	11,493	11,493	0	4,791	0	4,791
12/31/2026	131,347	11,556	11,556	0	4,492	0	4,492
12/31/2027	129,128	11,569	11,569	0	4,193	0	4,193
12/31/2028	126,509	11,558	11,558	0	3,906	0	3,906
12/31/2029	123,711	11,542	11,542	0	3,637	0	3,637
12/31/2030	120,727	11,486	11,486	0	3,375	0	3,375
12/31/2031	117,585	11,344	11,344	0	3,108	0	3,108
12/31/2032	114,362	11,138	11,138	0	2,845	0	2,845
12/31/2033	111,119	10,923	10,923	0	2,601	0	2,601
12/31/2034	107,863	10,681	10,681	0	2,372	0	2,372
12/31/2035	104,622	10,407	10,407	0	2,155	0	2,155
12/31/2036	101,430	10,136	10,136	0	1,957	0	1,957
12/31/2037	98,287	9,909	9,909	0	1,784	0	1,784
12/31/2038	95,151	9,676	9,676	0	1,624	0	1,624
12/31/2039	92,029	9,473	9,473	0	1,482	0	1,482
12/31/2040	88,891	9,290	9,290	0	1,355	0	1,355
12/31/2041	85,715	9,132	9,132	0	1,242	0	1,242
12/31/2042	82,472	9,015	9,015	0	1,144	0	1,144
12/31/2043	79,115	8,856	8,856	0	1,047	0	1,047
12/31/2044	75,680	8,707	8,707	0	960	0	960
12/31/2045	72,150	8,510	8,510	0	875	0	875
12/31/2046	68,568	8,328	8,328	0	798	0	798
12/31/2047	64,915	8,151	8,151	0	729	0	729
12/31/2048	61,180	7,867	7,867	0	656	0	656
12/31/2049	57,469	7,484	7,484	0	582	0	582
12/31/2050	53,885	7,076	7,076	0	513	0	513
12/31/2051	50,464	6,676	6,676	0	451	0	451
12/31/2052	47,209	6,285	6,285	0	396	0	396
12/31/2053	44,123	5,905	5,905	0	347	0	347
12/31/2054	41,207	5,537	5,537	0	303	0	303
12/31/2055	38,461	5,182	5,182	0	265	0	265
12/31/2056	35,884	4,840	4,840	0	230	0	230
12/31/2057	33,474	4,512	4,512	0	200	0	200
12/31/2058	31,229	4,198	4,198	0	174	0	174
12/31/2059	29,146	3,898	3,898	0	150	0	150
12/31/2060	27,223	3,612	3,612	0	130	0	130
12/31/2061	25,457	3,339	3,339	0	112	0	112
12/31/2062	23,846	3,079	3,079	0	96	0	96

Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-2: Actuarial Present Value of Projected Benefit Payments (continued)
(in thousands)

Year	Beginning Fiduciary Position	Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Present Value of Benefit Payments		
					Funded Payments at 7.25%	Unfunded Payments at 3.66%	Using Single Discount Rate of 7.25%
12/31/2063	\$ 22,387	\$ 2,831	\$ 2,831	\$ 0	\$ 83	\$ 0	\$ 83
12/31/2064	21,079	2,594	2,594	0	71	0	71
12/31/2065	19,922	2,367	2,367	0	60	0	60
12/31/2066	18,916	2,151	2,151	0	51	0	51
12/31/2067	18,061	1,944	1,944	0	43	0	43
12/31/2068	17,358	1,746	1,746	0	36	0	36
12/31/2069	16,810	1,558	1,558	0	30	0	30
12/31/2070	16,417	1,379	1,379	0	25	0	25
12/31/2071	16,181	1,211	1,211	0	20	0	20
12/31/2072	16,101	1,053	1,053	0	16	0	16
12/31/2073	16,179	905	905	0	13	0	13
12/31/2074	16,416	770	770	0	10	0	10
12/31/2075	16,811	646	646	0	8	0	8
12/31/2076	17,363	535	535	0	6	0	6
12/31/2077	18,070	437	437	0	5	0	5
12/31/2078	18,930	351	351	0	4	0	4
12/31/2079	19,941	278	278	0	3	0	3
12/31/2080	21,101	217	217	0	2	0	2
12/31/2081	22,408	167	167	0	1	0	1
12/31/2082	23,862	126	126	0	1	0	1
12/31/2083	25,464	94	94	0	1	0	1
12/31/2084	27,216	69	69	0	0	0	0
12/31/2085	29,121	50	50	0	0	0	0
12/31/2086	31,184	35	35	0	0	0	0
12/31/2087	33,412	25	25	0	0	0	0
12/31/2088	35,812	17	17	0	0	0	0
12/31/2089	38,394	12	12	0	0	0	0
12/31/2090	41,169	8	8	0	0	0	0
12/31/2091	44,150	5	5	0	0	0	0
12/31/2092	47,350	4	4	0	0	0	0
12/31/2093	50,784	2	2	0	0	0	0
12/31/2094	54,469	2	2	0	0	0	0
12/31/2095	58,421	1	1	0	0	0	0
12/31/2096	62,661	1	1	0	0	0	0
12/31/2097	67,209	0	0	0	0	0	0
12/31/2098	72,088	0	0	0	0	0	0
12/31/2099	77,321	0	0	0	0	0	0
12/31/2100	82,934	0	0	0	0	0	0
12/31/2101	88,955	0	0	0	0	0	0
12/31/2102	95,413	0	0	0	0	0	0
12/31/2103	102,339	0	0	0	0	0	0
12/31/2104	109,768	0	0	0	0	0	0
12/31/2105	117,737	0	0	0	0	0	0
12/31/2106	126,284	0	0	0	0	0	0
12/31/2107	135,451	0	0	0	0	0	0
12/31/2108	145,284	0	0	0	0	0	0
12/31/2109	155,831	0	0	0	0	0	0
12/31/2110	167,143	0	0	0	0	0	0
12/31/2111	179,276	0	0	0	0	0	0
12/31/2112	192,290	0	0	0	0	0	0

Appendix F: Detailed Tabulations of Member Data

Table F-1: The Number of Active Members Distributed by Age and Service as of December 31, 2013

Age	Years of Service										Total
	Under 1	1 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	
Under 25	0	0	25	0	0	0	0	0	0	0	25
25 to 29	0	0	740	182	0	0	0	0	0	0	922
30 to 34	0	0	267	806	108	0	0	0	0	0	1,181
35 to 39	0	0	113	287	478	69	0	0	0	0	947
40 to 44	0	0	60	180	288	438	58	0	0	0	1,024
45 to 49	0	0	28	109	149	201	289	35	0	0	811
50 to 54	0	0	1	26	58	72	133	143	6	0	439
55 to 59	0	0	0	1	25	29	27	51	36	3	172
60 to 64	0	0	0	0	2	2	1	2	5	1	13
65 to 69	0	0	0	0	0	0	0	0	0	1	1
70 & Up	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1,234	1,591	1,108	811	508	231	47	5	5,535

Appendix F: Detailed Tabulations of Member Data

Table F-2: The Number of Active Members Distributed by Age as of December 31, 2013

Age	Number
24	25
25	108
26	196
27	196
28	190
29	232
30	229
31	267
32	241
33	227
34	217
35	198
36	207
37	176
38	174
39	192
40	197
41	187
42	188
43	226
44	226
45	190
46	172
47	166
48	145
49	138
50	114
51	89
52	97
53	77
54	62
55	50
56	41
57	32
58	26
59	23
60	6
61	3
62	3
64	1
66	1
Total	5,535

Appendix F: Detailed Tabulations of Member Data

Table F-3: The Number of Active Members Distributed by Service as of December 31, 2013

Service	Number
7	528
8	387
9	319
10	310
11	357
12	364
13	298
14	262
15	246
16	236
17	203
18	220
19	203
20	198
21	171
22	165
23	140
24	137
25	122
26	129
27	106
28	74
29	77
30	76
31	49
32	35
33	43
34	28
35	17
36	12
37	9
38	7
39	2
40	3
43	2
Total	5,535

Appendix F: Detailed Tabulations of Member Data

Table F-4: The Number and Deferred Annual Retirement Allowances of Terminated Vested Members Distributed by Age as of December 31, 2013

Age	Number	Allowances
38	1	\$ 1,307
39	10	11,999
40	22	27,799
41	31	40,154
42	68	92,070
43	86	117,018
44	105	145,055
45	125	176,418
46	145	214,196
47	165	249,124
48	187	283,457
49	244	386,575
50	260	403,445
51	293	479,714
52	270	435,521
53	266	429,581
54	279	450,014
55	224	355,093
56	226	363,292
57	237	386,219
58	208	354,974
59	223	371,250
60	166	273,002
61	72	108,346
62	85	130,799
63	76	128,066
64	114	183,784
65	114	180,576
66	111	173,092
67	109	176,418
68	81	131,155
69	90	147,906
70	52	85,061
71	63	106,088
72	45	72,706
73	40	68,429
74	30	52,272
75	26	43,362
76	17	26,492
77	26	45,738

Appendix F: Detailed Tabulations of Member Data

Table F-4: The Number and Deferred Annual Retirement Allowances of Terminated Vested Members Distributed by Age as of December 31, 2013 (continued)

Age	Number	Allowances	
78	20	\$	39,560
79	18		32,195
80	9		18,058
81	17		33,026
82	19		38,372
83	18		34,571
84	17		30,056
85	4		9,504
86	2		3,445
87	1		2,376
Total	5,117	\$	8,148,730

Appendix F: Detailed Tabulations of Member Data

Table F-5: The Number and Annual Retirement Allowances of Retired Members Distributed by Age as of December 31, 2013

Age	Number	Allowances
60	74	\$ 134,363
61	205	348,559
62	269	455,717
63	287	490,288
64	303	518,918
65	340	578,794
66	340	577,130
67	334	562,637
68	227	399,881
69	220	382,061
70	210	372,555
71	183	330,858
72	135	229,165
73	96	173,448
74	107	202,198
75	127	238,075
76	106	197,921
77	102	195,426
78	91	175,943
79	91	182,002
80	74	149,094
81	72	134,957
82	64	121,176
83	67	135,076
84	61	114,167
85	57	107,752
86	33	67,716
87	19	42,530
88	15	33,620
89	6	10,336
90	11	24,116
91	5	9,029
92	9	17,464
93	6	12,593
94	3	4,158
95	1	2,376
96	3	6,890
97	1	2,257
Total	4,354	\$ 7,741,246