SOUTH CAROLINA NATIONAL GUARD SUPPLEMENTAL RETIREMENT PLAN (SCNG)

ACTUARIAL VALUATION REPORT
AS OF JULY 1, 2017

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December 18, 2017

Public Employee Benefit Authority
South Carolina Retirement Systems
P.O. Box 11960
Columbia, SC 29211-1960

Subject: Actuarial Valuation as of July 1, 2017

Dear Members of the Board:

This report describes the current actuarial condition of the South Carolina National Guard Supplemental Retirement Plan (SCNG), determines the calculated employer contribution requirement, and analyzes changes in the System's financial condition. In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of July 1, the first day of the plan year for SCNG. This report was prepared at the request of the Board of Directors of the South Carolina Public Employee Benefit Authority (Board) and is intended for use by the Public Employee Benefit Authority (PEBA) staff and those designated or approved by the Board.

Under South Carolina State statutes, the Board must certify the employer contribution annually. This amount is determined actuarially, based on the Board's funding policy. The contribution is determined by a given actuarial valuation and becomes effective twelve months after the valuation date. In other words, the contribution amount determined by this July 1, 2017 actuarial valuation will be used by the Board when certifying the employer contribution amount for the year beginning July 1, 2018. If new legislation is enacted between the valuation date and the date the contribution becomes effective, the Board may adjust the calculated amount before certifying them, in order to reflect this new legislation. Such adjustments are based on information supplied by the actuary.

Financing Objectives and Funding Policy

The principle objectives in the funding policy that is maintained by the Board include:

- Establish a contribution amount that remains relatively level over time.
- To set an amount so that the measures of the System's funding progress which include the unfunded actuarial accrued liability, funded ratio, and funding period will be maintained or improved.
- To set a contribution amount that will result in the unfunded actuarial accrued liability (UAAL) to be amortized over a period from the current valuation date that does not exceed 30 years (as of the valuation date there are 19-years remaining in the funding period of the experience gains and losses).

The contribution amounts are based on the Board's current funding policy, which is expected to completely amortize the unfunded actuarial accrued liability by June 30, 2036.

PROGRESS TOWARD 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. In the absence of benefit improvements, it should increase over time, until it reaches at least 100%.

The funded ratio of the System increased from 41.5% at July 1, 2016 to 41.8% as of July 1, 2017. If market value of assets had been used in the calculation instead of actuarial (smoothed) value of assets, the funded ratio for the System would have been increased from 36.2% to 39.1% in 2017. The increase in the funded ratio on a market value basis is primarily due to favorable investment experience during the last fiscal year and the State's contribution effort to finance the unfunded actuarial accrued liability. Specifically, the market value of assets earned a 11.9% return determined using the method specified by GASB 67 and reported in the financial statement of the South Carolina Retirement Systems for the year ending June 30, 2017. The 10.8% return documented in this report was determined on a dollar-weighted basis and is net of expenses and assumed mid-year cash flows.

ASSUMPTIONS AND METHODS

South Carolina State Code also requires that an experience analysis that reviews the economic and demographic assumptions be performed at least every five years. The last experience study was conducted for the five-year period ending June 30, 2015. The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code. The Retirement System Funding and Administration Act of 2017 decreased the assumed rate of return from 7.50% to 7.25% for the July 1, 2017 actuarial valuation. There were no other assumption changes since the prior actuarial valuation.

It is our opinion that the current assumptions are internally consistent and reasonably reflect the anticipated future experience of the System. 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, calculated contribution rate, and funding periods. The actuarial calculations are intended to provide information for rational decision making.

BENEFIT PROVISIONS

The benefit provisions reflected in this valuation are those which were in effect on July 1, 2017. There have been no changes in plan provisions since the preceding actuarial valuation.

DATA

Member data for retired, active and inactive members was supplied as of July 1, 2017, by the PEBA staff. The staff also supplied asset information as of July 1, 2017. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable for use in preparing the actuarial valuation. GRS is not responsible for the accuracy or completeness of the information provided to us by PEBA.

CERTIFICATION

We certify that the information presented herein is accurate and fairly portrays the actuarial position of SCNG as of July 1, 2017.

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

The undersigned are independent actuaries and consultants. Mr. Newton and Mr. White are Enrolled Actuaries and Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries. Both are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Co.

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

Daniel J. White, FSA, MAAA, EA
Senior Consultant

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SECTION A

EXECUTIVE SUMMARY

Executive Summary

(Dollar amounts expressed in thousands)

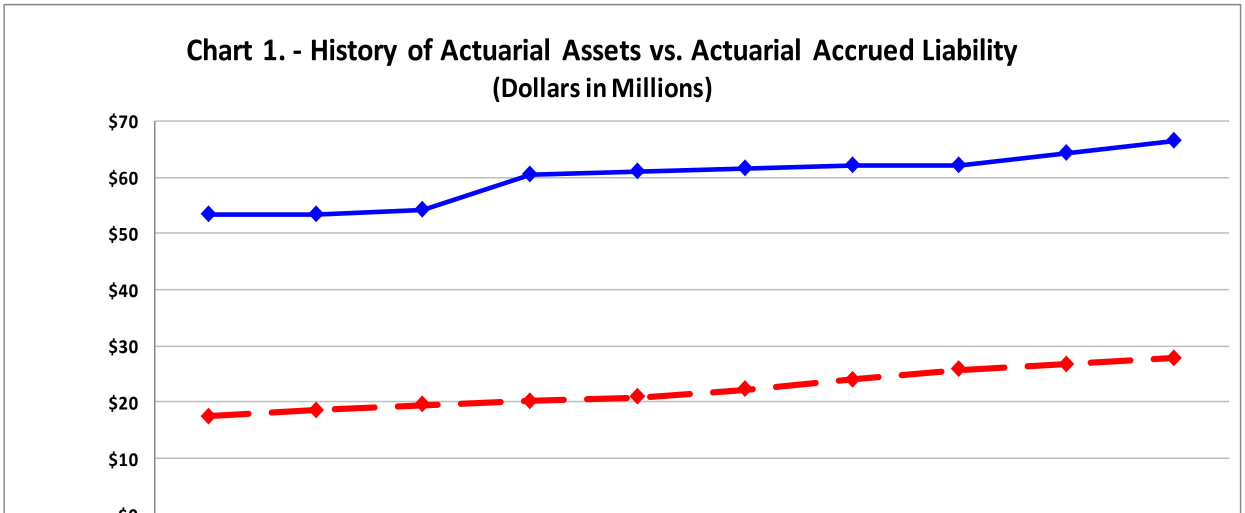
Valuation Date:	July 1, 2017	July 1, 2016
Membership		
• Number of		
- Active Members	12,116	12,253
- Retirees and Beneficiaries	4,789	4,709
- Inactive Members	1,901	1,969
- Total	18,806	18,931
Annual Required Contribution		
• Member	$0	$0
• Employer contribution[1]	$5,290	$4,814
Assets		
• Market value	$26,036	$23,350
• Actuarial value	27,807	26,751
• Return on market value	10.8%	-0.6%
• Return on actuarial value	3.4%	2.9%
• Ratio - actuarial value to market value	106.8%	114.6%
• External cash flow %	0.7%	1.2%
Actuarial Information		
• Normal cost	$819	$763
• Actuarial accrued liability (AAL)	66,506	64,445
• Unfunded actuarial accrued liability (UAAL)	38,699	37,694
• Funded ratio	41.8%	41.5%
• Amortization period[2]	19	17
Reconciliation of UAAL		
• Beginning of Year UAAL	$37,694	$36,414
- Interest on UAAL	2,827	2,731
- Amortization payment	(4,115)	(4,194)
- Assumption/method changes	1,829	2,276
- Asset experience	1,123	1,197
- Other liability experience	(659)	(730)
- Legislative changes	0	0
• End of Year UAAL	$38,699	$37,694

[1] The contribution amount determined by the actuarial valuation is effective for the following fiscal year.

[2] There are four years remaining in the amortization of the unfunded liability attributable to due to the 2006 legislation change and 19 years remaining in the amortization of the unfunded liability due to other plan experience. The 17 year amortization period disclosed for 2016 is a blended amortization period. The change in the disclosure method is to better communicate when the plan is expected to attain a 100% funded ratio.

Executive Summary (Continued)

The unfunded actuarial accrued liability increased by $1.0 million since the prior year's valuation to $38.7 million. The single largest source of this increase is due to a 0.25% reduction in the assumed rate of return to 7.25% followed by the recognition of investment losses that occurred in prior years. A portion of the increase in the unfunded actuarial accrued liability was offset by the State's contributions to the System. Below is a chart with the historical actuarial value of assets and actuarial accrued liability for SCNG.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AAL	53.5	53.4	54.2	60.4	60.9	61.6	62.1	62.1	64.4	66.5
AVA	17.4	18.6	19.5	20.1	20.8	22.2	24.0	25.7	26.8	27.8

There is $1.8 million in deferred investment losses as of the valuation date (i.e. the difference between the actuarial value of assets and the market value of assets as of July 1, 2017). Absent favorable investment experience, those losses will be reflected in the actuarial value of assets over the next three years. However, due to the Board's funding policy to finance the unfunded actuarial accrued liability over a closed funding period, we expect the unfunded actuarial liability for the System and the funded ratio to steadily improve in future years.

The recommended employer contribution increased by $0.476 million dollars to $5.290 million for the fiscal year ending June 30, 2018. Absent legislative changes or significantly favorable investment experience, we expect the contribution requirement to gradually increase over the next three years as existing deferred investment losses become recognized in the actuarial value of assets.

SECTION B

DISCUSSION

Discussion

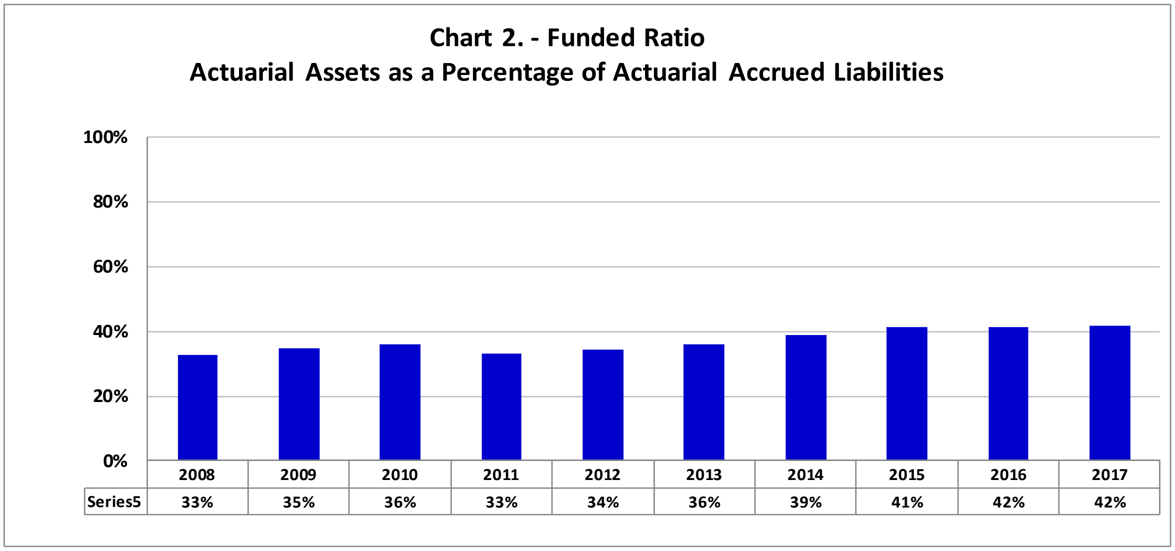
The results of the July 1, 2017 actuarial valuation of the South Carolina National Guard Supplemental Retirement Plan are presented in this report. The purposes of the valuation report are to depict the current financial condition of the System, determine the annual required contribution, and analyze changes in the System's financial condition. In addition, the report provides various summaries of the members participating in the plan.

This section discusses the determination of the current funding requirements and the System's funded status, as well as changes in financial condition of the retirement system.

All of the actuarial and financial tables referenced by the other sections of this report appear in Section C. Section D provides member data and statistical information. Appendices A and B provide summaries of the principle actuarial assumptions and methods and plan provisions. Finally, Appendix C provides a glossary of technical terms that are used throughout this report.

Funding Progress

The funded ratio slightly increased from 41.5% to 41.8% since the prior valuation and has generally trended slightly upward over the last several years as shown in the graph below. Table 10, Schedule of Funding Progress, in the following section of the report provides additional detail regarding the funding progress of the Retirement System.



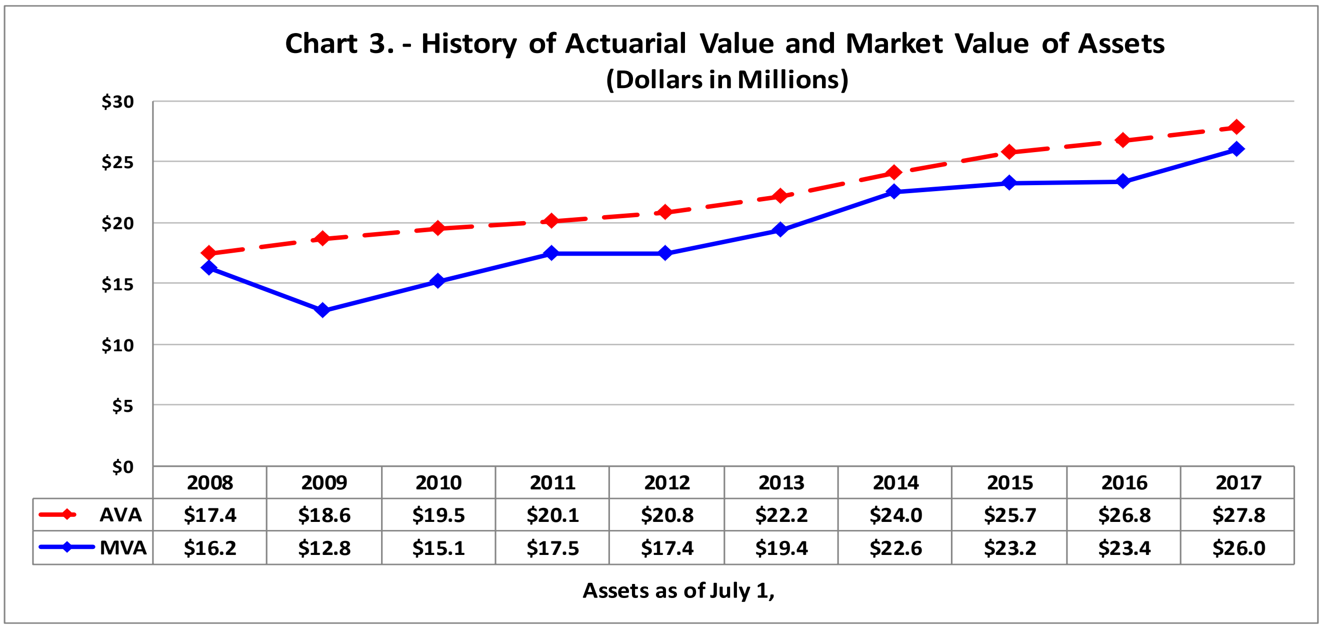
The contribution policy established by the Board is to fully amortize the unfunded actuarial accrued liability (UAAL) over a 30 year period from July 1, 2006. Under this funding policy, there are 19 years remaining in the funding period from the valuation date.

The State appropriation (i.e. employer contribution) is the dollar amount necessary to fund the annual normal cost and systematically amortize the UAAL. There is an amortization cost of $752,666 to amortize the outstanding balance of $1,966,246 that was established at July 1, 2006 due to a legislation change that allowed guardsmen who became members of the National Guard after June 30, 1993 to become eligible for membership in the System effective January 1, 2007. The remaining amortization period for this amount as of July 1, 2017 is four years. The UAAL from other sources of $36,732,933 is funded over a 30-year period beginning July 1, 2006. The remaining amortization period for this balance as of July 1, 2017 is 19 years. Therefore, the total State appropriation to be made for FY 2018 is $5,289,727.

Asset Gains/ (Losses)

The actuarial value of assets ("AVA") is based on a smoothed market value of assets, using a systematic approach to phase-in the difference between the actual and expected investment return on a market value of asset basis (adjusted for receipts and disbursements during the year). This is appropriate because it dampens the short-term volatility inherent in investment markets. The returns are computed net of investment expenses. The actuarial value of assets increased from $26.8 million to $27.8 million since the prior valuation. Table 8 in the following section of the report provides the development of the actuarial value of assets.

The rate of return on the mean market value of assets in 2016 was 10.8%, which is greater than the investment return assumption. However, because of the offset and recognition of deferred investment losses that occurred in prior years, the actuarial (smoothed) asset value returned is 3.3%. This difference in the estimated return on market value and actuarial value illustrates the smoothing effect of the asset valuation method. Also, the market value of assets is less than the actuarial value of assets, which signifies that the retirement system is in a position of deferred losses.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AVA	$17.4	$18.6	$19.5	$20.1	$20.8	$22.2	$24.0	$25.7	$26.8	$27.8
MVA	$16.2	$12.8	$15.1	$17.5	$17.4	$19.4	$22.6	$23.2	$23.4	$26.0

Tables 6 and 7 in the following section of this report provide asset information that was included in the annual financial statements of the System. Also, Table 9 shows the estimated yield on a market value basis and on the actuarial asset valuation method.

Actuarial Gains/ (Losses) and the Contribution Requirement

The annual actuarial valuation is a snapshot analysis of the benefit liabilities, assets and funded position of the System as of the first day of the plan year. In any one fiscal year, the experience can be better or worse from that which is assumed or expected. The actuarial assumptions do not necessarily attempt to model what the experience will be for any one given fiscal year, but instead try to model the overall experience on average over many years. The demographic experience for the last year is briefly summarized in the chart below.

The unfunded actuarial accrued liability (UAAL) has increased from $37.694 million in 2016 to $38.699 million in 2017. The table below shows the source of the gains and losses and the impact of those gains and losses on the UAAL.

Reconciliation of UAAL

(Dollars in thousands)

•	Beginning of Year UAAL	$37,694
	- Interest on UAAL	2,827
	- Amortization payment	(4,115)
	- Assumption / method change	1,829
	- Asset experience	1,123
	- Liability experience	(659)
	- Legislative changes	0
	- Total change	$1,005
•	End of Year UAAL	$38,699

The plan experienced a net $0.66 million gain due to demographic experience. This net gain is approximately 1.0% of the total actuarial accrued liability.

The following table provides a reconciliation of the change in the recommended contribution from the 2016 actuarial valuation to the 2017 actuarial. The assumption change, followed by the recognition of investment losses that occurred in prior years had the largest impact on the change in the recommended contribution.

Change in Recommended Contribution

•	Prior year valuation	$4,814
	- Expected change	(6)
	- Assumption / method change	444
	- Asset experience	113
	- Liability experience	(75)
	- Legislative changes	0
	- Total change	$476
•	Current year valuation	$5,290

This funding method and contribution policy is designed to result in relatively level contribution requirements from year to year. However, absent future experience gains, the contribution requirements are expected to increase as the $1.8 million in differed investment losses become recognized in the actuarial value of assets over the next three years.

Actuarial Assumptions and Methods

In determining costs and liabilities, actuaries use assumptions about the future, such as probabilities of retirement, termination, death and disability, and an annual investment return assumption. South Carolina State Code also requires that an experience analysis that reviews the economic and demographic assumptions be performed every five years and the last experience study was conducted for the five-year period ending June 30, 2015.

The investment return assumption is a prescribed assumption in Section 9-16-335 in South Carolina State Code and the Retirement System Funding and Administration Act of 2017 decreased the assumed rate of return from 7.50% to 7.25% for the July 1, 2017 actuarial valuation. There were no other assumption changes since the prior actuarial valuation.

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. It is our opinion that the assumptions are internally consistent, reasonable, and reflect anticipated future experience of the System. The next experience study will be conducted no later than as of June 30, 2020.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. This report does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

An actuarial valuation assumes that all assumptions will be met in future years, including a 7.25% return on the actuarial value of assets determined as of the actuarial valuation date. Establishing the contribution rates, funding period, and other financial metrics on an actuarial value of asset basis is consistent with applicable actuarial standards of practice, industry prevalence, and applicable provisions in South Carolina State Code.

Emerging experience due to liabilities or investments that is different than assumed (including the recognition of previously deferred investment losses) may result in a change in the required contribution rate that is different than expected based on the prior actuarial valuation. Also, separate projections provided outside of this report that may illustrate the financial effect of future gains or losses on actuarial basis in subsequent years may be useful for business making decisions, but such projections should not be misunderstood as documentation of satisfaction of the maximum amortization period that is specified in State Code.

Benefit Provisions

Appendix B of this report includes a summary of the benefit provisions for SCNG. There have been no changes in the benefit provisions since the prior valuation.

Summary of Retirement Provisions

- All members of the South Carolina National Guard are covered by the Supplemental Retirement Plan.
- The retirement benefit amount is equal to $50 per month for 20 years' creditable service with an additional $5 per month for each additional year of service. The total pension is limited to $100 per month.
- Members with 20 years of military service are eligible for retirement after they have (i) attained age 60, or (ii) completed 30 years of creditable service. Eligible member may commence benefits at age 60.
- Member contributions are not required or permitted.

SECTION C

ACTUARIAL TABLES

Actuarial Tables

Summary of Cost Items

(Dollar amounts expressed in thousands)

		July 1, 2017 (1)	July 1, 2016 (2)
1.	Normal Cost		
	a. Total normal cost	$ 819	$ 763
	b. Less: member contribution	0	0
	c. Employer normal cost	$ 819	$ 763
2.	Actuarial Accrued Liability for Active Members		
	a. Present value of future benefits	$ 27,320	$ 25,559
	b. Less: present value of future normal costs	7,456	6,830
	c. Actuarial accrued liability	$ 19,864	$ 18,729
3.	Total Actuarial Accrued Liability		
	a. Retirees and beneficiaries	$ 35,391	$ 34,562
	b. Inactive members	11,251	11,154
	c. Active members (Item 2.c.)	19,864	18,729
	d. Total	$ 66,506	$ 64,445
4.	Actuarial Value of Assets	$ 27,807	$ 26,751
5.	Unfunded Actuarial Accrued Liability (UAAL) (Item 3.d. - Item 4.)	$ 38,699	$ 37,694
6.	Annual Required Contribution		
	a. Normal cost	$ 819	$ 763
	b. Amortization of the UAAL	4,471	4,051
	c. Total contribution	$ 5,290	$ 4,814

Actuarial Present Value of Future Benefits
(Dollar amounts expressed in thousands)

		July 1, 2017 (1)	July 1, 2016 (2)
1.	Active members		
	a. Service retirement	$ 3,846	$ 3,653
	b. Deferred termination benefits[1]	23,474	21,906
	c. Survivor benefits	0	0
	d. Disability benefits	0	0
	e. Total	$ 27,320	$ 25,559
2.	Retired and Inactive members		
	a. Members in payment status	$ 35,391	$ 34,562
	b. Inactive vested members	11,251	11,154
	c. Total	$ 46,642	$ 45,716
3.	Total actuarial present value of future benefits	$ 73,962	$ 71,275

[1] Attributable to members who terminate after attaining 20 years of service and prior to age 60, the age when retirement benefits commence.

Analysis of Normal Cost
(Dollar amounts expressed in thousands)

		July 1, 2017 (1)	July 1, 2016 (2)
1.	Total normal cost		
	a. Retirement benefits	$ 100	$ 96
	b. Deferred termination benefits	704	652
	c. Survivor benefits	0	0
	d. Disability benefits	0	0
	e. Total	804	748
2.	Administrative expense	$ 15	15
3.	Less: member contributions	$ 0	$ 0
4.	Net employer normal cost	$ 819	$ 763

Results of July 1, 2017 Valuation
(Dollar amounts expressed in thousands)

			July 1, 2017
			(1)
1.	Actuarial Present Value of Future Benefits		
	a. Present Retired Members and Beneficiaries	$	35,391
	b. Present Active and Inactive Members		38,571
	c. Total Actuarial Present Value	$	73,962
2.	Present Value of Future Normal Contributions		
	a. Employee	$	0
	b. Employer		7,456
	c. Total Future Normal Contributions	$	7,456
3.	Actuarial Liability	$	66,506
4.	Current Actuarial Value of Assets	$	27,807
5.	Unfunded Actuarial Liability	$	38,699
6.	Unfunded Actuarial Liability Liquidation Period[1]		19 years

[1] There are four years remaining in the amortization of the unfunded liability attributable to due to the 2006 legislation change and 19 years remaining in the amortization of the unfunded liability due to other plan experience. The disclosure of a 19 year funding period is to better communicate when the system is expected to attain a 100% funded ratio.

Actuarial Balance Sheet

(Dollar amounts expressed in thousands)

	July 1, 2017 (1)	July 1, 2016 (2)
1. Assets		
a. Current assets (actuarial value)	$ 27,807	$ 26,751
b. Present value of future member contributions	0	0
c. Present value of future employer contributions		
i. Normal contributions	$ 7,456	$ 6,830
ii. Accrued liability contributions	38,699	37,694
iii. Total future employer contributions	$ 46,155	$ 44,524
d. Total assets	$ 73,962	$ 71,275
2. Liabilities		
a. Benefits to be paid to retired members	$ 35,391	$ 34,562
b. Benefits to be paid to former members entitled to deferred pensions	11,251	11,154
c. Benefits to be paid to current active members	27,320	25,559
d. Total liabilities	$ 73,962	$ 71,275

System Net Assets
Assets at Market or Fair Value
(Dollar amounts expressed in thousands)

Item	July 1, 2017	July 1, 2016
(1)	(2)	(3)
1. Cash and cash equivalents (operating cash)	$ 4,533	$ 5,259
2. Receivables	630	600
3. Investments		
a. Short-term securities	$ 512	$ 596
b. Fixed income (global)	5,005	4,404
c. Public equities (global)	7,782	5,424
d. Global tactical asset allocation	1,618	1,479
e. Alternative investments	7,003	6,769
f. Total investments	$ 21,920	$ 18,672
4. Securities lending cash collateral invested	$ 96	$ 42
5. Prepaid administrative expenses	3	3
6. Capital assets, net of accumulated depreciation	0	0
7. Total assets	$ 27,182	$ 24,576
8. Liabilities		
a. Due to other systems	$ 0	$ 0
b. Accounts payable	980	1,085
c. Investment fees payable	10	7
d. Obligations under securities lending	96	42
e. Deferred retirement benefits	0	0
f. Due to employee insurance program	0	0
g. Benefit payable	11	7
h. Other liabilities	49	85
i. Total liabilities	$ 1,146	$ 1,226
9. Total market value of assets available for benefits (Item 7. - Item 8.i.)	$ 26,036	$ 23,350
10. Asset allocation (investments)[1]		
a. Net Invested cash	17.8%	22.6%
b. Fixed income	19.2%	18.9%
c. Public equities	29.9%	23.2%
d. Global tactical asset allocation	6.2%	6.3%
e. Alternative investments	26.9%	29.0%
f. Total investments	100.0%	100.0%

[1] These asset allocations are calculated based on the dollar amounts shown in items 1. through 9. above and, due to cash flow and rebalancing timing, may be slightly different than the allocation percentages reported by the South Carolina Retirement System Investment Commission.

Reconciliation of System Net Assets

(Dollar amounts expressed in thousands)

	Year Ending	
	July 1, 2017	July 1, 2016
	(1)	(2)
1. Value of assets at beginning of year	$ 23,350	$ 23,202
2. Revenue for the year		
a. Contributions		
i. Member contributions	$ 0	$ 0
ii. Employer contributions	4,591	4,591
iii. Total	$ 4,591	$ 4,591
b. Income		
i. Interest, dividends, and other income	$ 395	$ 296
ii. Investment expenses	(246)	(197)
iii. Net	$ 149	$ 99
c. Net realized and unrealized gains (losses)	2,384	(220)
d. Total revenue	$ 7,124	$ 4,470
3. Expenditures for the year		
a. Disbursements		
i. Refunds	$ 0	$ 0
ii. Regular annuity benefits	4,425	4,310
iii. Other benefit payments	0	0
iv. Transfers to other Systems	0	0
v. Total	$ 4,425	$ 4,310
b. Administrative expenses and depreciation	13	12
c. Total expenditures	$ 4,438	$ 4,322
4. Increase in net assets (Item 2.d.- Item 3.c.)	$ 2,686	$ 148
5. Value of assets at end of year (Item 1. + Item 4.)	$ 26,036	$ 23,350
6. Net external cash flow		
a. Dollar amount	$ 166	$ 281
b. Percentage of market value	0.7%	1.2%

Development of Actuarial Value of Assets
(Dollar amounts expressed in thousands)

			Year Ending June 30, 2017
1.	Actuarial value of assets at beginning of year	$	26,751
2.	Market value of assets at beginning of year	$	23,350
3.	Net new investments		
	a. Contributions	$	4,591
	b. Disbursements		(4,438)
	c. Subtotal		153
4.	Market value of assets at end of year	$	26,036
5.	Net earnings (Item 4. - Item 2. - Item 3.c.)	$	2,533
6.	Assumed investment return rate for fiscal year		7.50%
7.	Expected return (Item 6. x (Item 2. + 1/2 Item 3.c))	$	1,757
8.	Excess return (Item 5. - Item 7.)	$	776

9. Excess return on assets as of June 30, 2017:

	Fiscal Year Ending June 30, (1)		Excess Return (2)	Percent Deferred (3)		Deferred Amount (4)
a.	2017	$	776	80%	$	621
b.	2016		(1,884)	60%		(1,130)
c.	2015		(3,156)	40%		(1,262)
d.	2014		N/A	20%		N/A
e.	2013		N/A	0%		N/A
f.	Total				$	(1,771)

10.	Actuarial value of assets as of June 30, 2017 (Item 4. - Item 9.f.)	$	27,807
11.	Expected actuarial value as of June 30, 2017	$	28,916
12.	Asset gain (loss) for year (Item 10. - Item 11.)	$	(1,109)
13.	Asset gain (loss) as % of the actuarial value of assets		-4.0%
14.	Ratio of actuarial value to market value		106.8%

Estimation of Yields
(Dollar amounts expressed in thousands)

		Year Ending July 1, 2017 (1)	Year Ending July 1, 2016 (2)
1.	Market value yield		
	a. Beginning of year market assets	$ 23,350	$ 23,202
	b. Contributions to fund during the year	4,591	4,591
	c. Disbursements	(4,438)	(4,310)
	d. Investment income (net of investment expenses)	2,533	(133)
	e. End of year market assets	$ 26,036	$ 23,350
	f. Estimated dollar weighted market value yield	10.8%	-0.6%
2.	Actuarial value yield		
	a. Beginning of year actuarial assets	$ 26,751	$ 25,727
	b. Contributions to fund during the year	4,591	4,591
	c. Disbursements	(4,438)	(4,310)
	d. Investment income (net of investment expenses)	903	743
	e. End of year actuarial assets	$ 27,807	$ 26,751
	f. Estimated actuarial value yield	3.4%	2.9%

Schedule of Funding Progress
(Dollar amounts expressed in thousands)

July 1,	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Covered Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2002	12,608	44,678	32,069	28.2%	N/A	N/A
2004	13,567	47,281	33,714	28.7%	N/A	N/A
2005	12,151	46,985	34,835	25.9%	N/A	N/A
2006	14,046	48,755	34,709	28.8%	N/A	N/A
2007	15,937	55,917	39,980	28.5%	N/A	N/A
2008	17,426	53,534	36,108	32.6%	N/A	N/A
2009	18,600	53,421	34,821	34.8%	N/A	N/A
2010	19,458	54,153	34,695	35.9%	N/A	N/A
2011	20,138	60,388	40,250	33.3%	N/A	N/A
2012	20,814	60,942	40,128	34.2%	N/A	N/A
2013	22,208	61,576	39,368	36.1%	N/A	N/A
2014	24,029	62,100	38,071	38.7%	N/A	N/A
2015	25,727	62,141	36,414	41.4%	N/A	N/A
2016	26,751	64,445	37,694	41.5%	N/A	N/A
2017	27,807	66,506	38,699	41.8%	N/A	N/A

Summary of Principle Assumptions and Methods

Below is a summary of the principle economic assumptions, cost method, and the method for financing the unfunded actuarial accrued liability:

Valuation date	July 1, 2017
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Amortization period for recommended contribution	19-year closed period[1]
Asset valuation method	5-Year Smoothing
Actuarial assumptions:	
Investment rate of return[2]	7.25%
Projected salary increases	None
Inflation	2.25%
Cost-of-living adjustments	0.00%
Retiree mortality	The 2016 Public Retirees of South Carolina Mortality Table projected at Scale AA from the year 2016. Male rates are multiplied by 125% and female rates are multiplied by 111%.

[1] The amortization period for financing the unfunded liability due to plan experience.

[2] This is a prescribed assumption in Section 9-16-335 of South Carolina State Code.

Solvency Test

(Dollar amounts expressed in thousands)

	Actuarial Accrued Liability				Portion of Aggregate Accrued Liabilities Covered by Assets		
July 1,	Active Member Contributions	Retirants & Beneficiaries	Active & Inactive Members (Employer Financed)	Valuation Assets	Active	Retirants	ER Financed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2002	0	17,597	27,081	12,608	N/A	71.6%	0.0%
2004	0	19,704	27,577	13,567	N/A	68.9%	0.0%
2005	0	20,804	26,181	12,151	N/A	58.4%	0.0%
2006	0	22,366	26,389	14,046	N/A	62.8%	0.0%
2007	0	24,627	31,290	15,937	N/A	64.7%	0.0%
2008	0	25,554	27,980	17,426	N/A	68.2%	0.0%
2009	0	27,558	25,863	18,600	N/A	67.5%	0.0%
2010	0	28,492	25,661	19,458	N/A	68.3%	0.0%
2011	0	32,038	28,350	20,138	N/A	62.9%	0.0%
2012	0	32,989	27,953	20,814	N/A	63.1%	0.0%
2013	0	33,590	27,986	22,208	N/A	66.1%	0.0%
2014	0	33,739	28,361	24,029	N/A	71.2%	0.0%
2015	0	33,521	28,620	25,727	N/A	76.7%	0.0%
2016	0	34,562	29,883	26,751	N/A	77.4%	0.0%
2017	0	35,391	31,115	27,807	N/A	78.6%	0.0%

SECTION D

MEMBERSHIP DATA

Membership Tables

Page

Summary of Membership Data

			July 1, 2017 (1)		July 1, 2016 (2)
1.	Active members				
	a. Males		9,813		9,998
	b. Females		2,303		2,255
	c. Total members		12,116		12,253
	d. Average age		32.3		32.2
	e. Average service		9.8		9.7
2.	Vested inactive members				
	a. Number		1,901		1,969
	b. Total annual deferred benefits	$	1,508,760	$	1,551,840
	c. Average annual deferred benefit	$	794	$	788
3.	Service retirees				
	a. Number		4,789		4,709
	b. Total annual benefits	$	4,357,440	$	4,296,660
	c. Average annual benefit	$	910	$	912
	d. Average age		70.8		70.6

Summary of Historical Active Membership

July 1,	Number of Employers	Number of Members	Annual Payroll	Average Pay	Percentage Increase in Average Pay	Average Age	Average Service
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2002	1	4,010	N/A	N/A	N/A	N/A	N/A
2004	1	3,425	N/A	N/A	N/A	N/A	N/A
2005	1	2,864	N/A	N/A	N/A	45	23
2006	1	2,502	N/A	N/A	N/A	45	23
2007	1	11,076	N/A	N/A	N/A	32	10
2008	1	12,559	N/A	N/A	N/A	31	8
2009	1	12,599	N/A	N/A	N/A	31.7	8.7
2010	1	12,445	N/A	N/A	N/A	31.9	9.0
2011	1	12,271	N/A	N/A	N/A	32.0	9.3
2012	1	12,041	N/A	N/A	N/A	31.8	9.2
2013	1	11,997	N/A	N/A	N/A	32.0	9.5
2014	1	12,221	N/A	N/A	N/A	32.1	9.7
2015	1	12,165	N/A	N/A	N/A	32.2	9.7
2016	1	12,253	N/A	N/A	N/A	32.2	9.7
2017	1	12,116	N/A	N/A	N/A	32.3	9.8

Distribution of Active Members by Age and by Years of Service

Attained	Years of Credited Service												
Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	Total
Under 20	448	189	28	0	0	0	0	0	0	0	0	0	665
20-24	422	571	661	538	408	327	0	0	0	0	0	0	2,927
25-29	143	142	172	224	306	1,478	139	0	0	0	0	0	2,604
30-34	71	50	41	62	78	592	638	134	0	0	0	0	1,666
35-39	18	23	25	20	18	172	309	507	85	0	0	0	1,177
40-44	5	5	4	3	8	77	129	274	332	32	0	0	869
45-49	3	1	1	3	1	43	107	172	305	338	30	0	1,004
50-54	2	2	1	1	0	15	29	96	131	224	203	29	733
55-59	1	1	0	1	0	1	9	30	63	98	139	91	434
60-64	2	0	0	0	0	1	0	2	6	1	10	13	35
65 & Over	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	1,115	984	933	852	820	2,706	1,360	1,215	922	693	383	133	12,116

Distribution of Annuitants by Age
as of July 1, 2017

Age	Number of Annuitants	Total Annual Benefits	Average Annual Bene
(1)	(2)	(3)	(4)
Under 50	0	$ 0	N/A
50 - 54	0	0	N/A
55 - 59	0	0	N/A
60 - 64	951	$ 839	$ 882
65 - 69	1,517	1,352	891
70 - 74	1,205	1,094	908
75 - 79	544	504	926
80 & Over	572	568	993
Total	4,789	$ 4,357	$ 910

Dollar amounts, except averages, are expressed in thousands.

Schedule of Retirants Added to And Removed from Rolls

(Dollar amounts except average allowance expressed in thousands)

	Added to Rolls		Removed from Rolls		Rolls End of the Year		% Increase in Annual Benefit	Average Annual Benefit
July 1,	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2002	N/A	N/A	N/A	N/A	2,213	2,160	10.9%	976
2004	N/A	N/A	N/A	N/A	2,535	2,439	12.9%	962
2005	244	$ 214	89	$ 81	2,690	2,572	5.5%	956
2006	303	276	90	91	2,903	2,757	7.2%	950
2007	362	329	61	58	3,204	3,028	9.8%	945
2008	364	331	76	75	3,492	3,284	8.5%	940
2009	378	335	85	83	3,785	3,536	7.7%	934
2010	267	237	101	99	3,951	3,674	3.9%	930
2011	399	351	98	93	4,252	3,932	7.0%	925
2012	259	228	92	87	4,419	4,073	3.6%	922
2013	244	211	122	116	4,541	4,168	2.3%	918
2014	195	165	108	103	4,628	4,230	1.5%	914
2015	155	142	136	122	4,647	4,250	0.5%	915
2016	195	172	133	125	4,709	4,297	1.1%	912
2017	222	197	142	137	4,789	4,357	1.4%	910

APPENDIX A

ACTUARIAL ASSUMPTIONS AND METHODS

Summary of Actuarial Assumptions and Methods

The following presents a summary of the actuarial assumptions and methods used in the valuation of the South Carolina National Guard Supplemental Retirement Plan.

Investment Rate of Return

Assumed annual rate of 7.25% net of investment expenses composed of a 2.25% inflation component and a 5.00% real rate of return, net of investment expenses. This is a prescribed assumption set by another party in Section 9-16-335 of the South Carolina State Code.

Rates of Annual Salary Increase

No increases in salary are assumed. The benefit is not related to pay.

Active Member Decrement Rates

a. Assumed rates of service retirement are shown in the following table. Members who retire prior to age 60 are assumed to defer retirement benefits until age 60.

Age and Service Based Retirement Rates			
Age	Years of Service		
	20 - 24	25 - 29	30+
Age < 60	2.5%	5.0%	100.0%
Age > 59	100.0%	100.0%	100.0%

Members who reach age 60 with less than 20 years of service are assumed to retire at age 60 without a benefit from the plan.

b. An abbreviated table with the assumed rates of disability and mortality while employed is shown below. There is no active employment withdrawal assumption.

	Disability Rates		Pre-Retirement Mortality	
Age	Males	Females	Males	Females
25	0.1740%	0.1740%	0.0460%	0.0164%
30	0.2320%	0.2320%	0.0429%	0.0207%
35	0.4350%	0.4350%	0.0497%	0.0272%
40	0.5800%	0.5800%	0.0597%	0.0376%
45	0.8700%	0.8700%	0.0924%	0.0624%
50	1.0875%	1.0875%	0.1602%	0.1047%
55	0.0000%	0.0000%	0.2649%	0.1589%
60	0.0000%	0.0000%	0.4454%	0.2320%
Multiplier	145.0%	145.0%	95.0%	95.0%

Note: The multiplier has been applied to the decrement in the illustrative table.

Post Retirement Mortality

Retirees and beneficiaries – The 2016 Public Retirees of South Carolina Mortality Table for Males and the 2016 Public Retirees of South Carolina Mortality Table for Females projected using Scale AA projection table from the year 2016 and multipliers based on plan experience. The following are sample rates:

Annuitant Mortality Rates Before Projection		
Age	**Males**	**Females**
50	0.2548%	0.1454%
55	0.4006%	0.2465%
60	0.7329%	0.4265%
65	1.2748%	0.5924%
70	1.9648%	0.9640%
75	3.3994%	1.8534%
80	6.3116%	3.7276%
85	11.4493%	7.0538%
90	19.8803%	12.3489%
Multiplier	125%	111%

The following table provides the life expectancy for individuals retiring in future years based on the assumption with full generational projection:

Life Expectancy for an Age 65 Retiree in Years				
	Year of Retirement			
Gender	**2020**	**2025**	**2030**	**2035**
Male	18.9	19.3	19.7	20.0
Female	22.7	22.8	23.0	23.2

Asset Valuation Method

The actuarial value of assets is equal to the market value, adjusted for the five-year phase in of the actual investment return in excess of (or less than) the expected investment return on a market value of asset basis. This five-year phase in begins with the investment experience for the fiscal year ending June 30, 2016. The actual return is calculated net of investment expenses, and the expected investment return is equal to the assumed investment return rate multiplied by the prior year's market value of assets, adjusted for contributions, benefits paid, and refunds.

Actuarial Cost Method

The Entry Age Normal actuarial cost method allocates the System's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level dollar amount necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability, on an actuarial value of asset basis, with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

Note, the principle financial measurement calculations in this actuarial valuation, which include the unfunded actuarial accrued liability, funded ratio, contributions rates, and funding period, are based on an actuarial value of assets (smoothed value) basis. The actuarial value of assets is a calculated asset value which may be greater than or less than the market value of assets and is used to dampen some of the volatility in the market value of assets. As a result, many of these measures would be different if they were determined on a market value of asset basis.

Future Cost-of-Living Increases

No increases are assumed.

Payroll Growth Rate

None assumed.

Other Assumptions

1. The normal cost includes $15,000 for plan incurred administrative expenses.

2. There is not a marriage assumption.

2. Decrement timing: Decrements of all types are assumed to occur mid-year.

2. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Participant Data

Participant data was securely supplied in electronic text files. There were separate files for (i) active, and (ii) members and beneficiaries receiving benefits.

The data for active members included birth date, gender, total military service and total South Carolina National Guard service. For retired members and beneficiaries, the data included date of birth, gender, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and form of payment code.

Assumptions were made to correct for missing or inconsistent data. These had no material impact on the results presented.

APPENDIX B

BENEFIT PROVISIONS

Summary of Benefit Provisions for South Carolina National Guard Supplemental Retirement Plan (SCNG)

Effective Date: July 1, 1975

Administration: The South Carolina Public Employee Benefit Authority, is responsible for the general administrative operations and day to day management of the Plan.

Eligibility: All members of the South Carolina National Guard who became members on or before June 30, 1993 are covered by the System. Effective January 1, 2007, eligibility for membership has been extended to those guardsmen who became members of the South Carolina National Guard after June 30, 1993.

Employee Contributions: Contributions from members are not permitted.

Service Retirement*:*

a. Eligibility: Members who are honorably discharged after attaining age 60 with at least 20 years of creditable military service, which include at least 15 years, 10 of which immediately preceding retirement, with the National Guard of South Carolina.
b. Monthly Benefit: $50 per month for 20 years of creditable service with an additional $5 per month for each additional year of service, subject to a maximum monthly benefit of $100 per month.
c. Payment Form: Life annuity.

Disability Retirement*:* None

Deferred Termination Benefit:

a. Eligibility: Members who are honorably discharged prior to attaining age 60 with at least 20 years of creditable military service, which include at least 15 years, 10 of which immediately preceding retirement, with the National Guard of South Carolina.
b. Monthly Benefit: Upon attaining age 60, the member will receive $50 per month for 20 years of creditable service with an additional $5 per month for each additional year of service, subject to a maximum monthly benefit of $100 per month.
c. Payment Form: Life annuity.

Active Member Death Benefit: None.

Postretirement Benefit Increases: None.

APPENDIX C

GLOSSARY

Glossary

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or ***Funding Method:*** A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ADC.

Actuarial Gain or ***Actuarial 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. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.)
b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations that provide the financial information of the plan, such as the funded ratio, unfunded actuarial accrued liability and the ADC.

Actuarial Value of Assets or ***Valuation Assets:*** The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Actuarially Determined Contribution (ADC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and the Amortization Payment.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Closed Amortization Period: A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or ***Amortization Period:*** The term "Funding Period" is used two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ADC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 67 and ***GASB 68***: Governmental Accounting Standards Board Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting and reporting rules for public retirement systems and the employers that sponsor, participate in, or contribute to them. Statement No. 67 sets the accounting rules for the financial reporting of the retirement systems, while Statement No. 68 sets the rules for the employers that sponsor, participate in, or contribute to public retirement systems.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but may not decrease by exactly one year in the subsequent year's actuarial valuation. In some instances, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In other instances, the amortization period may "float" from year to year, meaning it could increase, decrease, or remain relatively unchanged from the amortization period in the prior year's valuation.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.