

**REPORT ON THE ACTUARIAL VALUATION  
OF THE  
NORTH CAROLINA NATIONAL GUARD PENSION FUND  
PREPARED AS OF DECEMBER 31, 2008**



November 6, 2009

State Treasurer Janet Cowell  
Department of State Treasurer  
State of North Carolina  
325 North Salisbury Street  
Raleigh, NC 27603-1385

Dear Treasurer Cowell:

Chapter 127A of the General Statutes of North Carolina which governs the operation of the North Carolina National Guard Pension Fund requires that the actuary make an annual valuation of the assets and liabilities of the Fund.

An actuarial valuation of the Fund, prepared as of December 31, 2008, has now been completed and the results are presented in this report, together with our recommendations regarding contributions payable by the State.

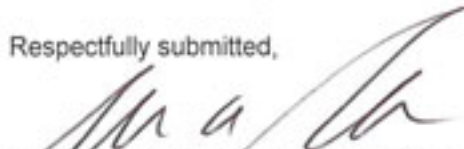
The valuation has been prepared in accordance with the parameters set forth in Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) of the employer under GASB for the 2010/2011 fiscal year is \$5,719,232, which will liquidate the unfunded accrued liability over a 9-year period.

The plan sponsor selected the assumptions used for the results in this report. I believe that these assumptions are reasonable and comply with the requirements of GASB Nos. 25 and 27. I prepared this report in accordance with the requirements of these standards.

I am an Enrolled Actuary, a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I 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 I am available to answer questions about it.

The Table of Contents, which immediately follows, outlines the material contained in this report.

Respectfully submitted,



Richard A. Mackesey, FSA, EA, MAAA  
Principal, Consulting Actuary

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**REPORT ON THE ANNUAL VALUATION OF THE  
NORTH CAROLINA NATIONAL GUARD PENSION FUND  
PREPARED AS OF DECEMBER 31, 2008**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. This report, prepared as of December 31, 2008, 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 I  
SUMMARY OF PRINCIPAL RESULTS**

VALUATION DATE	12/31/2008	12/31/2007
Number of active members included in valuation	5,586	5,315
Retired membership		
Number	3,415	3,130
Annual pensions	\$ 6,015,632	\$ 5,511,786
Former members entitled to deferred vested benefits		
Number	4,513	4,582
Deferred pensions	\$ 6,551,808	\$ 6,725,544
Assets		
Market related actuarial value	\$ 78,066,679	\$ 74,794,091
Market value	64,649,976	78,399,065
Unfunded accrued liability	\$ 34,679,840	\$ 34,637,354
<b>CONTRIBUTIONS FOR FISCAL YEAR ENDING</b>	<b>June 30, 2011</b>	<b>June 30, 2010</b>
<u>Recommended Employer Contributions</u>		
Normal	\$ 525,307	\$ 493,976
Accrued Liability	5,193,925	5,187,562
Total	<u>\$ 5,719,232</u>	<u>\$ 5,681,538</u>
Anticipated accrued liability payment period	9 years	9 years
<u>GASB 25/27</u>		
Annual required contribution (ARC) of employer		
Normal	\$ 525,307	\$ 493,976
Accrued Liability	5,193,925	5,187,562
Total	<u>\$ 5,719,232</u>	<u>\$ 5,681,538</u>
Liquidation period	9 years	9 years

2. The valuation balance sheet showing the results of the valuation is given in Section III.
3. Comments on the valuation results are given in Section IV and the contributions payable by the State are given in Section V.
4. Schedule B of this report outlines the full set of actuarial assumptions and methods employed. Schedule A presents the development of the actuarial value of assets.
5. Schedule C gives a summary of the provisions of the Fund.
6. The current valuation reflects actual members covered and the service of these members. However, complete census data was not provided for terminated members with deferred pensions. For those terminated members included in the December 31, 2007 valuation, but not reported in any status for the December 31, 2008 valuation, we have made estimates based on the data used for the December 31, 2007 valuation. Any deviations between the actual census data and the assumed census data could have a significant effect on these results.

## SECTION II - 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, 2008 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

**TABLE II**  
**MEMBERSHIP OF THE FUND AS OF DECEMBER 31, 2008**

	NUMBER	ANNUAL PENSIONS
Active Members	5,586	N/A
Retired Members, currently payable	3,415	\$ 6,015,632
Terminated Members, deferred pensions	4,513	\$ 6,551,808

### SECTION III - 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, 2008. Schedule A summarizes the development of the actuarial value of assets.

TABLE III

**VALUATION BALANCE SHEET  
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF  
THE NORTH CAROLINA NATIONAL GUARD PENSION FUND  
PREPARED AS OF DECEMBER 31, 2008**

<b>ASSETS</b>		
Present Assets		\$ 78,066,679
Present value of prospective contributions payable by State		
Normal contribution	\$ 2,583,428	
Accrued liability contribution	<u>34,679,840</u>	
Total prospective contributions by state		<u>37,263,268</u>
Total Assets		<u>\$ 115,329,947</u>
<b>LIABILITIES</b>		
Present value of pensions payable to retired members		\$ 48,017,402
Present value of deferred pensions payable to former members		44,900,984
Present value of prospective pensions to active members included in the valuation		22,411,561
Reserve for increases in retirement allowances		<u>0</u>
Total Liabilities		<u>\$ 115,329,947</u>

### SECTION IV - COMMENTS ON VALUATION

The valuation balance sheet (Table III) shows that the total present value of the prospective benefit payments as of December 31, 2008 amounts to \$115,329,947. Of this amount, \$48,017,402 represents the present value of future pension payments to current retired members, \$22,411,561 represents the present value of prospective pensions which will become payable to present active members and \$44,900,984 represents the present value of future pension payments to former members. Against these liabilities, the Fund has assets of \$78,066,679 leaving a balance of \$37,263,268 to be provided by future contributions of



the State. Of this amount, \$2,583,428 represents the present value of prospective normal contributions, and the balance of \$34,679,840 represents the present value of accrued liability contributions.

Since the previous valuation, the unfunded accrued liability increased from \$34.6 million to \$34.7 million. The significant items which affected the unfunded accrued liability include the expected decrease in the unfunded accrued liability of \$2.9 million due to its amortization over the liquidation period, the asset loss that increased the unfunded accrued liability by \$3.4 million and deviations in termination/retirement rates and other demographic changes from expectations that decreased the unfunded accrued liability by \$0.4 million.

#### **SECTION V - 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 \$94.04 multiplied by the number of active members. Based on 5,586 active members included in the valuation, the normal contribution is \$525,307.

The unfunded actuarial accrued liability is amortized over a 9-year period through an annual unfunded accrued liability contribution. Assuming that the unfunded accrued liability is amortized in level payments over a 9-year period, 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 \$5,193,925.

Based on the present membership, the following table shows the total annual contributions payable by the State on a 9-year funding basis.

**TABLE IV**  
**ANNUAL CONTRIBUTIONS PAYABLE BY THE STATE**

CONTRIBUTION	ANNUAL AMOUNT
Normal	525,307
Accrued Liability	<u>5,193,925</u>
Total	\$ 5,719,232

**SECTION VI - ACCOUNTING INFORMATION**

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of required supplementary information to be disclosed in the financial statements of the Fund and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS  
AS OF DECEMBER 31, 2008**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	3,415
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	4,513*
Active Participants	<u>5,586</u>
Total	13,514



2. Another such item is the schedule of funding progress as shown below.

**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)
12/31/2003	\$51,316,056	\$58,752,260	\$7,436,204	87.3%	N/A	N/A
12/31/2004	54,069,315	93,388,777	39,319,462	57.9	N/A	N/A
12/31/2005	59,203,885	81,802,989	22,599,104	72.4	N/A	N/A
12/31/2006	66,898,150	105,017,423	38,119,273	63.7	N/A	N/A
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

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2009.

**Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/2009**

(a)	Employer annual required contribution	\$ 6,248,157
(b)	Interest on net pension obligation	(62,895)
(c)	Adjustment to annual required contribution	<u>129,925</u>
(d)	Annual pension cost: (a) + (b) + (c)	\$ 6,315,187
(e)	Employer contributions made for fiscal year ending 6/30/2009	<u>5,891,793</u>
(f)	Increase (decrease) in net pension obligation: (d) - (e)	\$ 423,394
(g)	Net pension obligation beginning of fiscal year	<u>(867,512)</u>
(h)	Net pension obligation end of fiscal year: (f) + (g)	\$ (444,118)

**TREND INFORMATION**

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u>
June 30, 2007	\$7,361,576	95%	\$(99,680)
June 30, 2008	6,239,611	112	(867,512)
June 30, 2009	6,315,187	93	(444,118)

4. The annual required contribution (ARC) of the employer, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of \$34,679,840 over a 9-year period from the valuation date.

**2010/2011 FISCAL YEAR  
ANNUAL REQUIRED CONTRIBUTION (ARC)  
BASED ON THE VALUATION AS OF DECEMBER 31, 2008**

ANNUAL REQUIRED CONTRIBUTION (ARC)	AMOUNT
Normal	\$ 525,307
Accrued liability	<u>5,193,925</u>
Total	\$ 5,719,232

5. Additional information as of December 31, 2008 follows:

Valuation date	12/31/2008
Actuarial cost method	Entry Age
Amortization method	Level dollar open
Remaining amortization period	9 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases	N/A
*Includes inflation at	3.75%
Cost-of-living adjustments	N/A

**SCHEDULE A****DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS  
FOR THE YEAR ENDING DECEMBER 31, 2008**

1.	Actuarial Value of Assets as of December 31, 2007:	\$	74,794,091
2.	2008 Net Cash Flow		
	a. Contributions		7,007,443
	b. Disbursements		5,845,376
	c. Net Cash Flow: (a) - (b)		1,162,067
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]		5,464,697
4.	Expected Actuarial Value of Assets as of December 31, 2008: (1) + (2)c + (3)		81,420,855
5.	Market Value of Assets as of December 31, 2008:		64,649,976
6.	Excess of Market Value over Expected Actuarial Value: (5) - (4)		(16,770,879)
7.	20% Adjustment towards Market Value: (6) x .20		(3,354,176)
8.	Actuarial Value of Assets as of December 31, 2008: (4) + (7)		78,066,679

**SCHEDULE B****OUTLINE OF 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:

Age	Annual Rates of		
	Retirement		Disability*
	Under age 60 with 20 years of service	Age 60 with 20 years of service or 30 years of service	
25	.500		.0001
30	.500		.0004
35	.500		.0010
40	.500		.0029
45	.500		.0049
50	.500		.0084
55	.500	1.000	.0144
60	.500	1.000	.0240

- \* 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 BEFORE AND AFTER RETIREMENT: According to the 1994 Group Annuity Mortality Table set forward three years for males and two years for females.

MORTALITY PROJECTION: All mortality rates are projected from December 31, 2005 with Scale AA.

ADMINISTRATIVE EXPENSES: No provision made.

LOADING OR CONTINGENCY RESERVES: None.

VALUATION METHOD: Projected benefit method with entry age normal cost and open-end accrued liability. Gains and losses are reflected in the unfunded actuarial accrued liability.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule 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.

SCHEDULE C**SUMMARY OF MAIN BENEFIT AND CONTRIBUTION 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 \$95 per month for 20 years' creditable service with an additional \$9.50 per month for each additional year of such service, provided that the total pension shall not exceed \$190 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.

**SCHEDULE D****TABLE 1**

**THE NUMBER OF ACTIVE MEMBERS  
DISTRIBUTED BY AGE  
AS OF DECEMBER 31, 2008**

Age	Number
23	1
24	20
25	90
26	164
27	192
28	176
29	198
30	179
31	173
32	161
33	179
34	182
35	213
36	226
37	257
38	295
39	277
40	259
41	252
42	255
43	209
44	236
45	197
46	172
47	161
48	151
49	122
50	94
51	85
52	75
53	66
54	59
55	40
56	30
57	36
58	51
59	34
60	10
61	7
62	2
<b>Total</b>	<b>5,586</b>



**TABLE 2**  
**THE NUMBER OF ACTIVE MEMBERS**  
**DISTRIBUTED BY CREDITED SERVICE**  
**AS OF DECEMBER 31, 2008**

Years of Service	Number
7	506
8	427
9	362
10	321
11	296
12	272
13	267
14	252
15	250
16	268
17	272
18	234
19	287
20	234
21	215
22	191
23	128
24	127
25	112
26	122
27	92
28	78
29	61
30	35
31	37
32	33
33	23
34	19
35	13
36	7
37	16
38	17
39	10
41	2
<b>Total</b>	<b>5,586</b>

**TABLE 3**  
**THE NUMBER OF RETIRED MEMBERS**  
**DISTRIBUTED BY AGE**  
**AS OF DECEMBER 31, 2008**

Age	Number
60	137
61	318
62	342
63	238
64	227
65	216
66	199
67	147
68	106
69	129
70	139
71	116
72	128
73	102
74	114
75	93
76	95
77	91
78	89
79	88
80	84
81	45
82	35
83	25
84	17
85	17
86	15
87	14
88	14
89	8
90	8
91	5
92	5
93	2
94	2
95	1
96	1
100	1
103	1
104	1
<b>Total</b>	<b>3,415</b>