

**REPORT ON THE ACTUARIAL VALUATION OF THE
DISABILITY INCOME PLAN OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2008**



October 1, 2009

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

Members of the Board:

This report presents the results of the valuation of the Disability Income Plan of North Carolina, prepared as of December 31, 2008.

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. 43 and 45. 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

RAM:km
\\NC\\VAL\\2008\\DISABILITY.DOC

Table of Contents

Section	Item	Page
I	Introduction	1
II	Summary of Principal Results	1
III	Membership Data	3
IV	Assets	3
V	Condition of the Plan	4
VI	Experience	5
VII	Accounting Information	7
Schedule		
A	Number and Covered Compensation of Active Members Distributed by Age as of December 31, 2008	10
B	Number and Annual Amount of Long Term Disability Benefits Payable	11
C	Development of Actuarial Value of Assets	12
D	Statement of Actuarial Assumptions and Methods	13
E	Summary of Main Benefit Provisions as Interpreted for Valuation Purposes	18

**REPORT ON THE ACTUARIAL VALUATION OF THE
DISABILITY INCOME PLAN OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2008**

SECTION I- INTRODUCTION

1. This report presents the results of the actuarial valuation of the Disability Income Plan of North Carolina, prepared as of December 31, 2008. The purpose of the valuation is to determine the present value of future payments to disabled members as of December 31, 2008, to determine the expected cost of new claims for 2009, and to provide the Annual Required Contribution under GASB Statements 43 and 45 for postemployment benefits
2. The valuation was based on provisions of the Plan as amended through December 31, 2008. A summary of the main Plan provisions used for valuation purposes appears in Schedule E.
2. Schedule C of this report presents the development of the actuarial value of assets. Schedule D outlines the full set of actuarial assumptions and methods employed.

SECTION II - SUMMARY OF PRINCIPAL RESULTS

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized on the following page.

TABLE I
SUMMARY OF PRINCIPAL RESULTS

	12/31/2008	12/31/2007
Valuation Data		
Number of active members		
Teachers' and State Employees'		
Retirement System	325,618	338,490
Optional Retirement Program	<u>13,333</u>	<u>13,641</u>
Total	338,951	352,131
Reported compensation		
Teachers' and State Employees'		
Retirement System	\$ 13,267,554,255	\$ 12,701,016,741
Optional Retirement Program	<u>1,225,511,773</u>	<u>1,149,968,062</u>
Total	\$ 14,493,066,028	\$ 13,850,984,803
Valuation compensation		
Teachers' and State Employees'		
Retirement System	\$ 14,187,881,569	\$ 13,743,185,124
Optional Retirement Program	<u>1,280,694,403</u>	<u>1,202,692,579</u>
Total	\$ 15,468,575,972	\$ 14,945,877,703
Number of disabled members receiving		
Long term disability benefits	6,214	5,983
Annual reported benefits	\$ 79,155,058	\$ 73,062,376
Assets and Liabilities		
Assets		
Actuarial Value	\$ 350,145,153	\$ 326,674,352
Market Value	341,487,657	316,435,153
Liability for currently disabled members	\$ 357,201,848	\$ 345,753,959
Deficit	\$ 7,056,695	\$ 19,079,607
GASB 43/45		
Annual required contribution (ARC)		
Normal cost	0.46%	0.49%
Accrued liability	-	-
Total	<u>0.46%</u>	<u>0.49%</u>

SECTION III - MEMBERSHIP DATA

1. Data for 325,618 active members of the Teachers' and State Employees' Retirement System with reported compensation of \$13,267,554,255 and 13,333 members of the Optional Retirement Program with reported compensation of \$1,225,511,773 were furnished by the Director as of December 31, 2008. The reported compensation includes annual longevity payments. The number and reported compensation of active members, distributed by age, as of December 31, 2008 are shown in Schedule A.
2. The membership service requirement for short term disability benefits under the Plan is one year and the membership service requirement for long term disability benefits under the Plan is five years.
3. The Director also supplied data for 6,214 disabled employees in receipt of annual long-term disability benefits totaling \$79,155,058 as of the valuation date. Of this number, 199 disabled employees are grandfathered under all provisions of the old Disability Salary Continuation Plan and 6,015 are receiving long-term disability benefits under the provisions of this Plan. Schedule B presents a comparison of the number and annual amount of benefits payable as of the current and previous valuation dates.

SECTION IV - ASSETS

1. Asset information taken into account in this valuation is based principally on information reported by the Director. The market value of assets was \$341,487,657 as of December 31, 2008.
2. For valuation purposes, the assets were valued at market related actuarial value. The market related actuarial value as of the valuation date was \$350,145,153. The development of this amount is shown in Schedule C.

SECTION V - CONDITION OF THE PLAN

1. The following table shows the assets and liabilities of the Plan as of the current valuation date of December 31, 2008. The items shown in the table, other than the current assets, are present values actuarially determined as of the valuation date.

**TABLE II
STATEMENT OF CONDITION OF THE PLAN
AS OF DECEMBER 31, 2008**

Present value of prospective benefits payable to all disabled members on LTD as of the valuation date for:

LTD approved claims	\$ 281,718,636
LTD incurred but not reported claims	64,446,274
STD incurred but not reported claims	11,036,938
Total claim liability	\$ 357,201,848
Valuation assets	350,145,153
Deficit	\$ 7,056,695
Prospective present value of benefits for current active members	\$ 621,859,294
Present value of benefits not covered by current assets	\$ 628,915,989
Present value of compensation for active members	\$139,538,805,100
Level contribution as a percentage of compensation to fund present value of benefits not covered by current assets	0.46%

2. Claim liabilities are equal to the present value of future claim payments the Plan is obligated to make to members disabled as of the valuation date. The claim liabilities are separated into three classifications, which reflect the status of each claim as of the valuation date.
 - (a) Approved claim liabilities are for long term disabilities which have occurred, have been approved, and are in long term payment status as of the valuation date.

- (b) LTD incurred but not reported liabilities are for disabilities which have occurred but are not in payment status as of the valuation date. These liabilities are estimated based on the number of expected disabilities for prior years.
- (c) STD incurred but not reported liabilities are for disabilities which have occurred but are not in payment status as of the valuation date. These liabilities are estimated based on the number of expected disabilities for prior years.

The method of determining claim liabilities and the assumptions used are described in Schedule D.

3. The total claim liability as of December 31, 2008 was \$357,201,848 of which \$281,718,636 was on account of claimants receiving benefits, and \$75,483,212 was on account of claimants assumed to be in the waiting period or receiving short-term payments. Against these liabilities the Plan had assets of \$350,145,153. The difference between the total claim liability and the assets represents a deficit as of the valuation date of \$7,056,695. This compares with a deficit of \$19,079,607 as of the previous valuation date.
4. Statements 43 and 45 of the Governmental Accounting Standards Board (GASB) require that an annual required contribution be calculated that will fund any deficit and the present value of prospective benefits for active members. The present value of prospective benefits for active members is \$621,859,294. After adding the deficit of \$7,056,695, the present value of benefits not covered by current assets is \$628,915,989. The present value of compensation for active members is \$139,538,805,100. The normal cost is equal to the present value of benefits not covered by current assets divided by the present value of compensation for active members, or 0.46% of compensation.

SECTION VI - EXPERIENCE

1. Section V shows that the deficit under the Plan has decreased by \$12,022,912 from \$19,079,607 to \$7,056,695 since the previous valuation date.

2. The items that caused an increase in the deficit were \$1,383,272 due to interest accruing on the deficit since the previous valuation, \$11,036,938 for the addition of the short term disability incurred but not reported liability, \$9,134,240 due to unfavorable experience of disabled members and \$2,164,374 due to the 2008 adjustment towards market value of assets. The items that caused a decrease in the deficit were \$25,224,699 due to contributions more than the assumed amount of new LTD claim, and \$10,517,037 due to short term reimbursements to employers less than the amounts anticipated.
3. The causes for the increase in the deficit are summarized in the table below.

TABLE III

DEVELOPMENT OF THE INCREASE IN DEFICIT AS OF DECEMBER 31, 2008

Deficit as of December 31, 2007	\$ 19,079,607
Items which caused:	
Increase:	
Interest on previous deficit	\$ 1,383,272
STD incurred but not reported	11,036,938
2008 adjustment towards market value of assets	2,164,374
Decrease:	
Contributions greater than new LTD claims	(25,224,699)
STD and LTD experience	<u>(1,382,797)</u>
Total	\$ (12,022,912)
Deficit as of December 31, 2008	\$ 7,056,695

SECTION VII - ACCOUNTING INFORMATION

- Statement Nos. 43 and 45 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System 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
Disabled members receiving long term disability benefits	6,214
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	0
Active participants	<u>338,951</u>
Total	345,165

- 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)
12/31/05	\$279,285,517	\$438,185,536	\$158,900,019	63.7%	\$11,928,557,821	1.33%
12/31/06	302,631,878	459,284,494	156,652,616	65.9	12,736,914,993	1.23
12/31/07	326,674,352	474,614,167	147,939,815	68.8	13,849,158,462	1.07
12/31/08	350,145,153	477,574,565	127,429,412	73.3	14,493,066,028	0.88

The aggregate cost method does not identify or separately amortize unfunded liabilities. Information about the plan's funded status and funding progress have been prepared using the entry age actuarial cost method as an approximation and as required by GASB Statements 43 and 45.

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

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

(a) Employer annual required contribution	\$ 78,314,048
(b) Interest on net OPEB obligation	(200,313)
(c) Adjustment to annual required contribution	306,267
(d) Annual OPEB cost: (a) + (b) + (c)	\$ 78,420,002
(e) Employer contributions made for fiscal year ending 6/30/2009	79,849,618
(f) Increase (decrease) in net OPEB obligation: (d) – (e)	\$ (1,429,616)
(g) Net OPEB obligation beginning of fiscal year	(2,762,934)
(h) Net OPEB obligation end of fiscal year: (f) + (g)	\$ (4,192,550)

TREND INFORMATION

<u>Year Ending</u>	<u>Annual OPEB Cost (AOC)</u>	<u>Percentage of Annual OPEB Cost Contributed</u>	<u>Net OPEB Obligation</u>
June 30, 2007	\$70,115,547	102.0%	\$(1,374,815)
June 30, 2008	73,522,282	101.9	(2,762,934)
June 30, 2009	78,420,002	101.8	(4,192,550)

4. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 43/45, is shown below.

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

<u>ANNUAL REQUIRED CONTRIBUTION (ARC)</u>	<u>RATE</u>
Normal	0.46%
Accrued liability	-
Total	0.46%

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

Valuation date	12/31/08
Actuarial cost method	Aggregate
Amortization method	Level percent
Remaining amortization period	The aggregate cost method does not identify or separately amortize unfunded liabilities.
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases*	4.50% - 16.10%
*Includes inflation at	3.75%
Cost-of-living adjustments	5.75% for gross long term disability benefits

SCHEDULE A

**NUMBER AND REPORTED COMPENSATION OF ACTIVE MEMBERS
DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2008**

MALES			
AGE	NUMBER OF MEMBERS	REPORTED COMPENSATION	AVERAGE REPORTED COMPENSATION
Under 25	2,656	\$ 58,643,594	\$ 22,080
25 - 29	8,863	282,326,214	31,854
30 - 34	10,974	438,465,805	39,955
35 - 39	13,860	637,016,382	45,961
40 - 44	14,138	691,625,961	48,920
45 - 49	15,432	782,899,143	50,732
50 - 54	15,381	820,433,462	53,341
55 - 59	14,087	788,951,575	56,006
60 - 64	9,069	537,060,963	59,219
65 & Above	3,334	<u>214,574,284</u>	64,359
Total	107,794	\$ 5,251,997,383	

FEMALES			
AGE	NUMBER OF MEMBERS	REPORTED COMPENSATION	AVERAGE REPORTED COMPENSATION
Under 25	6,860	\$ 151,664,556	\$ 22,109
25 - 29	22,708	721,286,257	31,764
30 - 34	24,234	894,079,885	36,894
35 - 39	29,116	1,133,626,836	38,935
40 - 44	30,422	1,191,086,866	39,152
45 - 49	34,318	1,383,647,014	40,318
50 - 54	35,109	1,547,892,739	44,088
55 - 59	29,307	1,348,783,167	46,023
60 - 64	15,407	710,078,936	46,088
65 & Above	3,676	<u>158,922,389</u>	43,232
Total	231,157	\$ 9,241,068,645	

SCHEDULE B**NUMBER AND ANNUAL AMOUNT OF
LONG TERM DISABILITY BENEFITS PAYABLE**

GROUP	As of December 31, 2008		As of December 31, 2007	
	NUMBER	ANNUAL BENEFITS PAYABLE	NUMBER	ANNUAL BENEFITS PAYABLE
Disabled prior to January 1, 1988	199	\$ 367,460	220	\$ 395,495
Disabled after January 1, 1988	<u>6,015</u>	<u>78,787,598</u>	<u>5,763</u>	<u>72,666,881</u>
Total	6,214	\$ 79,155,058	5,983	\$ 73,062,376

SCHEDULE C

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

1.	Actuarial Value of Assets as of December 31, 2007	\$ 326,674,352
2.	2008 Net Cash Flow	
	a. Contributions	78,258,993
	b. Disbursements	<u>76,375,968</u>
	c. Net Cash Flow: (a) - (b)	1,883,025
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	23,752,150
4.	Expected Actuarial Value of Assets as of December 31, 2008: (1) + (2)c + (3)	352,309,527
5.	Market Value of Assets as of December 31, 2008	341,487,657
6.	Excess of Market Value over Expected Actuarial Value of Assets: (5) - (4)	(10,821,870)
7.	20% Adjustment towards Market Value: (6) * .20	(2,164,374)
8.	Actuarial Value of Assets as of December 31, 2008 (4) + (7)	\$ 350,145,153
9.	Rate of investment return on actuarial value	6.59%
10.	Rate of investment return on market value	7.30%

SCHEDULE D**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

INTEREST RATE: 7.25% per annum, compounded annually.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

GENERAL EMPLOYEES

Age	Annual Rates of					
	<u>Withdrawal*</u> <u>and Vesting</u>		<u>Death</u>		<u>Service</u> <u>Retirement**</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
25	.0800	.0850	.0006	.0003		
30	.0800	.0850	.0008	.0003		
35	.0680	.0740	.0009	.0005		
40	.0530	.0500	.0010	.0007		
45	.0400	.0400	.0015	.0009		
50	.0400	.0350	.0023	.0013	.3500	.3500
55	.0400	.0350	.0040	.0021	.3000	.3500
60			.0071	.0039	.1500	.1500
65			.0129	.0076	.3000	.3000
69			.0199	.0118	.1500	.2000

TEACHERS

Age	Annual Rates of					
	<u>Withdrawal*</u> <u>and Vesting</u>		<u>Death</u>		<u>Service</u> <u>Retirement**</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
25	.0550	.0600	.0006	.0003		
30	.0550	.0600	.0007	.0003		
35	.0550	.0500	.0008	.0004		
40	.0350	.0350	.0009	.0006		
45	.0300	.0250	.0013	.0008		
50	.0350	.0300	.0019	.0011	.3500	.3500
55	.0350	.0300	.0032	.0017	.3500	.4500
60			.0056	.0029	.1500	.1500
65			.0102	.0058	.3000	.3500
69			.0162	.0097	.2500	.1500

* Higher rates of withdrawal are used during the first 3 years of membership in the system.

** An additional 15% of general employees and an additional 20% of teachers are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

LAW ENFORCEMENT OFFICERS - MALES

Annual Rates of

<u>Age</u>	<u>Withdrawal and Vesting</u>	<u>Death</u>		<u>Service Retirement*</u>
		<u>Ordinary</u>	<u>Accidental</u>	
25	.0980	.00056	.00006	
30	.0570	.00070	.00008	
35	.0370	.00077	.00009	
40	.0300	.00090	.00010	
45	.0220	.00131	.00015	
50	.0220	.00210	.00023	.2000
55		.00358	.00040	.2000
60		.00638	.00071	.2000
65		.01165	.00129	.4000
69		.01787	.00199	.3000

LAW ENFORCEMENT OFFICERS - FEMALES

Annual Rates of

<u>Age</u>	<u>Withdrawal and Vesting</u>	<u>Death</u>		<u>Service Retirement*</u>
		<u>Ordinary</u>	<u>Accidental</u>	
25	.0980	.00026	.00003	
30	.0570	.00030	.00003	
35	.0370	.00041	.00005	
40	.0300	.00059	.00007	
45	.0220	.00083	.00009	
50	.0220	.00118	.00013	.2000
55		.00187	.00021	.2000
60		.00347	.00039	.2000
65		.00686	.00076	.4000
69		.01058	.00118	.3000

- * An additional 40% are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Age	Annual Rate of Salary Increase			
	General Employees	Law Enforcement Officers	Service	Teachers
25	10.28%	9.70%	0	14.73%
30	6.17	7.20	5	10.38
35	5.22	5.87	10	6.86
40	5.08	5.30	15	6.65
45	4.98	4.96	20	6.43
50	4.77	4.50	25	6.34
55	4.50	4.50	30	6.29
60	4.50	4.50	35	5.90
64	4.50	4.50	40	4.50
65	4.50	4.50	45	4.50
69	4.50	4.50	50	4.50

DEATH AFTER RETIREMENT: According to the 1994 Group Annuity Mortality Tables. These tables are not adjusted for male teachers, set forward one year for female teachers, set forward two years for general employees and law enforcement officers, and set forward two years for the beneficiaries of deceased members.

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

DISABILITY RATES: Rates of disability and termination are based on the Group Long-Term Disability (GLTD) Valuation Tables published in the Society of Actuaries Transactions Volume XXXIX, 1987. The rates of disability have been adjusted by a factor of 0.80. The termination rates are the basic rates at all durations prior to adjustment for margin.

RATES OF DISABILITY: The assumed rates of disability per 1,000 lives exposed are as follows:

AGE	RATE OF DISABILITY PER 1,000 LIVES	
	MEN	WOMEN
20 – 24	1.18	1.50
25 – 29	1.26	1.63
30 – 34	1.44	2.13
35 – 39	1.87	3.16
40 – 44	2.66	4.02
45 – 49	4.31	5.60
50 – 54	7.18	7.89
55 – 59	12.03	10.83
60 – 64	17.07	12.80

RATES OF TERMINATION: Select rates of termination of disability were used for the first 24 months of disability. Sample rates of termination per 1,000 lives are as follows:

MEN									
Duration of Disability (in months)	Age at Disability								
	22	27	32	37	42	47	52	57	62
5	142.2	129.1	118.7	106.4	94.1	81.5	67.3	49.8	27.5
10	69.0	60.0	52.3	45.6	39.0	32.9	26.4	18.5	11.2
15	44.0	38.6	34.0	29.9	25.2	21.3	17.8	12.2	6.3
20	28.0	25.5	23.0	21.2	18.5	15.3	13.1	8.9	4.9
24	20.2	18.6	16.7	15.7	14.0	11.6	9.8	7.5	4.8

WOMEN									
Duration of Disability (in months)	Age at Disability								
	22	27	32	37	42	47	52	57	62
5	147.7	134.1	123.3	110.5	97.8	84.7	69.9	51.7	28.6
10	78.6	68.3	59.6	51.9	44.4	37.5	30.1	21.1	12.8
15	45.9	40.3	35.5	31.2	26.3	22.2	18.6	12.7	6.6
20	28.2	25.7	23.1	21.3	18.6	15.4	13.2	9.0	4.9
24	19.7	18.1	16.3	15.3	13.6	11.3	9.5	7.3	4.7

Ultimate rates of termination of disability were used after the first 24 months of disability. Sample rates per 1,000 lives are as follows:

MEN									
Duration of Disability (in years)	Age at Disability								
	22	27	32	37	42	47	52	57	62
5	105.9	93.8	78.4	63.5	52.9	48.2	48.5	50.5	48.8
10	27.3	28.5	30.3	32.6	36.4	36.9	37.3	44.9	57.2
15	25.1	27.0	29.9	34.2	36.3	38.2	46.0	64.1	90.9
20	27.0	29.9	34.2	36.3	38.2	46.0	64.1	90.9	131.4

WOMEN									
Duration of Disability (in years)	Age at Disability								
	22	27	32	37	42	47	52	57	62
5	73.7	65.3	54.6	44.2	36.8	33.5	33.8	35.1	34.0
10	18.2	19.0	20.2	21.7	24.3	24.6	24.9	29.9	38.2
15	16.8	18.1	20.0	22.9	24.3	25.6	30.8	42.9	60.9
20	18.1	20.0	22.9	24.3	25.6	30.8	42.9	60.9	88.1

SOCIAL SECURITY ASSUMPTIONS: The assumed rate of approval for Social Security disability benefits prior to completion of four years of disability from the conclusion of the waiting period is 50%.

FUTURE INCREASES IN SOCIAL SECURITY BENEFITS: Social Security disability benefits are assumed to increase by 3.75% per year. This impacts those disabled on or after January 1, 1988.

ACROSS-THE-BOARD SALARY INCREASES: 5.75% per year. This impacts the LTD benefits (before reductions) for those disabled on or after January 1, 1988.

REPORTED COMPENSATION: Calendar year compensation as furnished by the Director.

VALUATION COMPENSATION: Reported compensation adjusted by the assumed salary scale to reflect the pay rate as of the valuation date.

VALUATION METHODS: Aggregate.

ADMINISTRATIVE EXPENSES: No provision made.

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 E

SUMMARY OF MAIN BENEFIT PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Disability Income Plan of North Carolina became effective January 1, 1988. The Plan replaced the Disability Salary Continuation Plan for Teachers and State Employees of North Carolina (DSC Plan). Those beneficiaries disabled prior to January 1, 1988 continue to be covered under the provisions of the DSC Plan as in effect December 31, 1987. Beneficiaries disabled on or after January 1, 1988 are covered under the provisions of the Disability Income Plan. The following summary describes the main membership, benefit and contribution provisions of the Plan as interpreted for the valuation.

1 - MEMBERSHIP IN THE PLAN

All teachers and other employees who are in active service and are members of the Teachers and State Employees' Retirement System or the Optional Retirement Program on or after January 1, 1988 are eligible to participate in the Plan.

2 - BENEFITS

Definition of Disability	The mental or physical incapacity for the further performance of duty of a beneficiary; provided that such incapacity was not the result of terrorist activity, of active participation in a riot, of the commission or attempt to commit a felony, or of the intentional self-infliction of an injury.
Waiting Period	A beneficiary shall receive no benefits from the Plan for a period of 60 continuous calendar days from the onset of disability determined as the last actual day of service or the day succeeding at least 365 calendar days after the commencement of service as a teacher or employee, whichever is later.
Salary Continuation Benefits	<p>During the waiting period, a beneficiary may be paid such salary continuation as provided by an employer through the use of sick leave, vacation leave or any other salary continuation.</p> <p>A disabled beneficiary may elect to receive any such salary continuation in lieu of STD benefits provided such election shall not extend the 365 days duration of the STD period.</p>

	A disabled beneficiary may elect to receive any such salary continuation in lieu of LTD benefits provided such election shall not extend the first 36 consecutive calendar months of the LTD period.
Eligibility for Short Term Disability (STD) Benefits	Any beneficiary who becomes disabled and is no longer able to perform his usual occupation after at least 365 calendar days succeeding his date of initial employment and at least one year of contributing membership service may be eligible for STD benefits.
Commencement of STD Benefits	The STD benefit commences on the first day succeeding the waiting period.
Duration of STD Benefits	These benefits are payable for 365 days following the waiting period. The first six months of benefits are payable by the employer outside of the trust. The remaining six months are paid by the employer outside of the trust but the employer is reimbursed by the trust quarterly. STD benefits may be extended up to an additional 365 days if the Medical Board determines that the beneficiary's disability is temporary and is likely to end within the extended period. During this extended period, STD benefits are paid directly from the trust.
Amount of Monthly STD Benefits	50% of 1/12th of the annual base rate of compensation last payable to the beneficiary prior to the beginning of the STD period plus 50% of 1/12th of the annual longevity payment (see below) to which the beneficiary would be eligible, to a maximum of \$3,000 per month, reduced by monthly payments for Workers' Compensation. Provided that a beneficiary has earnings in excess of the STD benefit, the STD benefit shall be reduced on a dollar-for-dollar basis by the amount that exceeds the STD benefit.
Eligibility for Long Term Disability (LTD) Benefits	Any beneficiary who has five or more years of membership service may receive LTD benefits from the Plan upon approval by the Board of Trustees provided that the disability is likely to be permanent.
Commencement of LTD Benefits	Benefits commence on the first day succeeding the conclusion of the short-term disability period provided the beneficiary makes application for such benefits within 180 days after the short-term disability period ceases or after salary continuation payments cease, whichever is later.
Duration of LTD Benefits	The LTD benefit is payable until the earliest date at which the beneficiary is eligible for an unreduced service retirement allowance from the Retirement System.

Amount of Monthly LTD Benefits

65% of 1/12th of the annual base rate of compensation last payable to the beneficiary prior to the beginning of the STD benefit period plus 65% of 1/12th of the annual longevity payment (see below) to which the beneficiary would be eligible, to a maximum of \$3,900 per month, reduced by benefits payable from other plans including but not limited to the "Plan Offsets" (listed below).

Plan Offsets

Primary Social Security disability benefits. For beneficiaries not approved for Primary Social Security disability benefits, upon completion of four years from the conclusion of the waiting period, the beneficiary's benefit shall be reduced by an amount as determined by the Board of Trustees, equal to a Primary Social Security disability benefit to which the beneficiary might be entitled had the beneficiary been awarded Social Security disability benefits. For members with less than five years of service as of July 31, 2007, the LTD benefit ceases after 36 months if the member has not been approved for Social Security disability benefits.

Workers' Compensation

Post Disability Benefit Adjustments

The compensation upon which the short-term or long-term disability benefit is calculated may be increased by any percentage across-the-board salary increases granted by the General Assembly. Benefits shall be reduced by future increases granted by the Social Security Administration.

Outside Earnings

During the first 36 months of disability, the net monthly LTD benefit plus outside earnings cannot be greater than 100% of the monthly compensation used to calculate the LTD benefit including any across-the-board salary increases granted by the General Assembly.

After the first 36 months of disability, a beneficiary's earnings will not result in any reduction of the monthly long-term disability benefit until the monthly earnings equal the net monthly long-term disability benefit. The monthly long-term disability benefit will be reduced by \$1.00 for each \$3.00 of monthly earnings in excess of the net long-term disability benefit until the sum of the monthly net long-term benefit and monthly earnings reaches 100% of monthly compensation adjusted for across-the-board salary increases, at which point the monthly long-term disability benefit shall be reduced dollar-for-dollar for the amount of earnings in excess of the 100% monthly limit.

Annual Longevity Payments

These payments are based on service and are additional components of the STD and LTD benefit formulas.

<u>Years of Service</u>	<u>Percentage of Base Salary</u>
less than 10	0%
10 - 14	1.50%
15 - 19	2.25%
20 - 24	3.25%
25 and over	4.50%

Transition Provisions

Any participant in service as of August 7, 1987 who becomes disabled after one year of membership service may be eligible for LTD benefits regardless of the requirement of five years of membership service. However, any beneficiary who receives benefits under the transition provisions shall receive lifetime benefits in lieu of service accruals under the Retirement System.

Benefits for Participants Disabled Prior to and January 1, 1988 Receiving Payments Under Former Disability Salary Continuation Plan

The LTD benefit is payable until termination of disability and pays 60% of monthly salary to a maximum of \$1,000 per month reduced by benefits payable from other plans including but not limited to the "Plan Offsets."

Plan Offsets include:

- Social Security benefits payable:
 - Prior to July 1, 1974 - Full family benefits.
 - July 1, 1974 and after - Primary benefits only.
- Workers' Compensation and statutory disability plans.
- Teachers' and State Employees' Retirement System, or other retirement systems supported by the State.
- Other insurance plans to which the State contributes.
- Wages or other income paid by public or private employers.

Benefits shall not be increased by future across-the-board salary increases granted by the General Assembly nor decreased by any future increases granted by the Social Security Administration.

3 - CONTRIBUTIONS

All contributions are to be made by the State or Employing Units.