# North Carolina State Health Plan

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of December 31, 2013 in Accordance with GASB Statements No. 43 and No. 45







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September 12, 2014

Committee on Actuarial Valuation of Retired Employees' Health Benefits (OPEB) State of North Carolina 4901 Glenwood Avenue Suite 300 Raleigh, North Carolina 27612

Dear Committee members:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of December 31, 2013 under Governmental Accounting Standards Board Statements 43 and 45. The report summarizes the actuarial data used in the valuation, discloses the Net OPEB obligation (NOO) as of June 30, 2014, establishes the Annual Required Contribution (ARC) for the coming year, and analyzes the preceding year's experience. This report was based on the census data provided by the Teachers' and State Employees' Retirement Systems (TSERS), the financial information provided by the Department of State Treasurer, and the terms of the Plan. Claims and enrollment data was received from the State Health Plan. The actuarial calculations were completed under the supervision of K. Eric Fredén, FSA, MAAA, FCA, Vice President & Actuary.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in this valuation and described in Exhibit II are reasonably related to the experience of and the expectations for the Plan. The actuarial projections are based on these assumptions and the plan of benefits as summarized in Exhibit III.

Sincerely,

Segal Consulting, a Member of the Segal Group, Inc.

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J. Richard Johnson Senior Vice President K. Eric Fredén, FSA, MAAA, FCA

Vice President & Actuary

## **SECTION 1**

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#### **PURPOSE**

This report presents the results of our actuarial valuation of State of North Carolina (the "Employer") OPEB plan as of December 31, 2013. The results are in accordance with the Governmental Accounting Standards, which prescribe an accrual methodology for accumulating the value of other postemployment benefits (OPEB) over participants' active working lifetimes.

#### HIGHLIGHTS OF THE VALUATION

- > The unfunded actuarial accrued liability (UAAL) as of December 31, 2013 is \$25,529,412,173 an increase of \$2,412,133,157, from the prior valuation UAAL of \$23,117,279,016. Net unfunded plan obligations had been expected to increase to \$24,501,242,962, due to normal plan operations. The difference between actual and expected unfunded actuarial accrued liabilities was the net effect of several factors:
  - O An actuarial experience gain decreased the UAAL by \$1,396,547,365. This was the net result of gains and losses due to fund investment performance, demographic changes and actual 2014 contributions and benefit payments that were different from expected. We have taken these actuarial gains and losses into account in reviewing our assumptions for the current valuation.
  - Valuation assumption changes increased the UAAL by \$2,424,716,576. This was the result of a decrease in obligations due to lowering the valuation-year per capita health costs and adjusting the future trend on these costs.
  - There were no Plan changes since last valuation.

- As of December 31, 2013, the ratio of assets to the AAL (the funded ratio) is 3.37%.
- > The **Net OPEB Obligation (NOO)** increased to \$14,314,298,263 for the year ending June 30, 2014. The NOO generally increases if the contributions in relation to the ARC are less than the ARC. The contributions in relation to the ARC during the year ending June 30, 2014 were \$798,401,569 compared to the ARC of \$2,223,900,337. Contributions in relation to the ARC totaled 35.90% of the ARC in the year ending June 30, 2014. Chart 6 shows the detailed derivation of the NOO as of June 30, 2014.
- The **Annual Required Contribution (ARC)** increased to \$2,223,900,337 for the year ending June 30, 2014. The ARC was \$2,021,026,309 for the last year. As a percentage of payroll, the ARC increased from 13.51% last year to 14.75% this year.
- > The **Annual OPEB Cost (AOC)** increased to \$2,223,900,337 for the year ending June 30, 2014. The AOC was \$2,085,390,268 last year.



The key valuation results for the current and prior years are shown.

## SUMMARY OF VALUATION RESULTS

	December 31, 2013	December 31, 2012
Actuarial Accrued Liability (AAL)	\$26,420,167,735	\$23,883,106,962
Actuarial Value of Assets	890,755,562	765,827,946
Unfunded Actuarial Accrued Liability	25,529,412,173	23,117,279,016
Funded Ratio	3.37%	3.21%
Market Value of Assets	\$890,755,562	\$765,827,946
Annual Required Contribution (ARC) for Fiscal Year Ending:	June 30, 2014	June 30, 2013
Normal cost	\$1,280,839,603	\$1,167,070,175
Amortization of the unfunded actuarial accrued liability	943,060,734	853,956,134
Total Annual Required Contribution, including adjustment for timing	\$2,223,900,337	\$2,021,026,309
Covered payroll	\$15,080,626,734	\$14,957,178,663
ARC as a percentage of pay	14.75%	13.51%
Total Participants	571,854	560,625
Annual OPEB Cost (AOC) for Fiscal Year Ending:	June 30, 2014	June 30, 2013
Annual Required Contributions	\$2,223,900,337	\$2,021,026,309
Interest on Net OPEB Obligations	544,745,285	492,005,421
ARC Adjustments	-473,481,917	-427,641,462
Total Annual OPEB Cost	\$2,295,163,705	\$2,085,390,268
AOC as a percent of pay	15.22%	13.94%

September 12, 2014

#### **ACTUARIAL CERTIFICATION**

This is to certify that Segal Consulting, a Member of the Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of North Carolina State Health Plan's other postemployment benefit programs as of December 31, 2013, in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements 43 and 45 for the determination of the liability for postemployment benefits other than pensions.

The actuarial valuation is based on the plan of benefits verified by the Employer and reliance on participant, premium, claims and expense data provided by the Employer or from vendors employed by the Employer. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination of the plan, or determining short-term cash flow requirements.

To the best of my knowledge, this report is complete and accurate and in my opinion presents the information necessary to comply with GASB Statements 43 and 45 with respect to the benefit obligations addressed. The signing actuary is a member of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and meets their "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.

K. Eric Fredén, FSA, MAAA, FCA

Vice President & Actuary



The actuarial present value of total projected benefits uses the actuarial assumptions disclosed in Section 4 to calculate the value today of all benefits expected to be paid to current actives and retired plan members. The actuarial balance sheet shows the expected breakdown of how these benefits will be financed.

CHART 1

Actuarial Present Value of Total Projected Benefits (APB) and Actuarial Balance Sheet

		Actuarial Present Value of Total Projected Benefits (APB)		
		<b>December 31, 2013</b>	December 31, 2012	
Parti	cipant Category			
Curre	ent retirees, beneficiaries, and dependents	\$9,810,405,584	\$8,165,950,545	
Curre	ent active members	32,406,097,969	29,886,993,329	
Term	inated members entitled but not yet eligible	<u>2,425,418,463</u>	2,255,068,465	
Total		\$44,641,922,016	\$40,308,012,340	
		December 31, 2013	December 31, 2012	
Actua	arial Balance Sheet			
The a	actuarial balance sheet as of the valuation date is as follows:			
	Assets			
1.	Actuarial value of assets	\$890,755,562	\$765,827,946	
2.	Present value of future normal costs	18,221,754,281	16,424,905,378	
3.	Unfunded actuarial accrued liability	<u>25,529,412,173</u>	23,117,279,016	
4.	Present value of current and future assets	\$44,641,922,016	\$40,308,012,340	
	Liabilities			
5.	Actuarial present value of total projected benefits	\$44,641,922,016	\$40,308,012,340	



The actuarial accrued liability shows that portion of the APB (Chart 1) allocated to periods prior to the valuation date by the actuarial cost method. The chart below shows the portion covered by retiree contributions, the portion

covered by accumulated plan assets, and reconciles the unfunded actuarial liability from last year to this year.

CHART 2
Actuarial Accrued Liability (AAL) and Unfunded AAL (UAAL)

		<b>December 31, 2013</b>	December 31, 2012
Parti	cipant Category		
Curre	ent retirees, beneficiaries, and dependents	\$9,810,405,584	\$8,165,950,545
Curre	ent active members	14,184,343,688	13,462,087,951
Term	inated members entitled but not yet eligible	<u>2,425,418,463</u>	2,255,068,465
Total		\$26,420,167,735	\$23,883,106,962
Effec	et of Retiree Contributions		
Actu	arial accrued liability before reduction for retiree contributions	\$30,210,097,630	\$26,680,709,258
Less	projected retiree contributions	<u>3,789,929,895</u>	2,797,602,296
Net e	mployer actuarial accrued liability	26,420,167,735	23,883,106,962
Actu	arial value of assets	<u>890,755,562</u>	765,827,946
Unfu	nded actuarial accrued liability	\$25,529,412,173	\$23,117,279,016
Deve	lopment of Unfunded Actuarial Accrued Liability		
1.	Unfunded actuarial accrued liability as of December 31, 2012		\$23,117,279,016
2.	Employer normal cost at beginning of year		1,167,070,175
3.	Total employer contributions at beginning of year		-781,957,861
4.	Interest		998,851,632
5.	Expected unfunded actuarial accrued liability		\$24,501,242,962
6.	Change due to the combined effect of experience gains, updated assumptions a	nd methods and plan changes	1,028,169,211
7.	Unfunded actuarial accrued liability as of December 31, 2013		\$25,529,412,173



The Annual Required Contribution (ARC) is the amount calculated to determine the annual cost of the OPEB plan for accounting purposes *as if* the plan were being funded through contributions to a trust fund. The GASB standards cannot require the contributions actually be made to a trust fund. The ARC is simply a device used to measure annual plan costs on an accrual basis. The calculation consists of adding the Normal Cost of the plan to an amortization payment. The resulting sum is then adjusted to the start of the accounting period and adjusted as if the annual cost were to be contributed in the middle of the year.

The amortization payment is based on a 30-year amortization of the Unfunded Actuarial Accrued Liability on an increasing payment basis at 3.50%.

CHART 3

Determination of Annual Required Contribution (ARC) – Payable Throughout Fiscal Year

Cost Element		Fiscal Year Beginning July 1, 2013 and Ending June 30, 2014		Fiscal Year Beginning July 1, 2012 and Ending June 30, 2013	
		Amount	Percentage of Compensation	Amount	Percentage of Compensation
1	Normal cost	\$1,280,839,603	8.49%	\$1,167,070,175	7.80%
2	Amortization of the unfunded actuarial accrued liability (30 years)	943,060,734	6.25%	853,956,134	5.71%
3	Total Annual Required Contribution (ARC)	\$2,223,900,337	14.75%	\$2,021,026,309	<u>13.51%</u>
4	Total Compensation	\$15,080,626,734		\$14,957,178,663	



## SECTION 2: Valuation Results for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

The Annual OPEB Cost (AOC) adjusts the ARC for timing differences between the ARC and contributions in relation to the ARC. The AOC is the cost of OPEB actually booked as an expense for the Fiscal Year under GASB 45.

## **CHART 3 (continued)**

**Determination of Annual OPEB Cost (AOC) – Payable Throughout Fiscal Year** 

Cost Element		Fiscal Year Beginning July 1, 2013 and Ending June 30, 2014		Fiscal Year Beginning July 1, 2012 and Ending June 30, 2013	
		Amount	Percentage of Compensation	Amount	Percentage of Compensation
1	Annual Require Contribution	\$2,223,900,337	14.75%	\$2,021,026,309	13.51%
2	Interest on Beginning of Year Net OPEB Obligation (NOO)	544,745,285	3.61%	492,005,421	3.29%
3	ARC adjustment	<u>-473,481,917</u>	<u>-3.14%</u>	<u>-427,641,462</u>	<u>-2.86%</u>
4	Annual OPEB Cost	<u>\$2,295,163,705</u>	<u>15.22%</u>	<u>\$2,085,390,268</u>	<u>13.94%</u>



For GASB 43 (plan reporting) purposes, the schedule of employer contributions compares actual contributions to the ARC. For GASB 45 (employer reporting) purposes, the

schedule of employer contributions compares actual contributions to the AOC.

CHART 4

Required Supplementary Information – Schedule of Employer Contributions GASB 43

Fiscal Year Ended June 30	Annual Required Contributions	Actual Contributions	Percentage Contributed
2007	\$2,389,583,000	\$550,942,204	23.06%
2008	2,714,184,000	825,081,155	30.40%
2009	2,674,416,000	635,675,084	23.77%
2010	3,018,959,000	677,827,218	22.45%
2011	2,910,615,707	868,263,454	29.83%
2012	2,480,159,722	852,358,729	34.37%
2013	2,021,026,309	844,452,283	41.78%
2014	2,223,900,337	798,401,569	35.90%

## Required Supplementary Information – Schedule of Employer Contributions GASB 45

Fiscal Year Ended June 30	Annual OPEB Cost	Actual Contributions	Percentage Contributed
2007	\$2,389,582,938	\$550,942,204	23.06%
2008	2,399,416,597	825,081,155	34.39%
2009	2,699,430,651	635,675,084	23.55%
2010	3,049,870,032	677,827,218	22.22%
2011	2,954,027,031	868,263,454	29.39%
2012	2,535,167,544	852,358,729	33.62%
2013	2,085,390,268	844,452,283	40.49%
2014	2,295,163,705	798,401,569	34.79%



This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

CHART 5

Required Supplementary Information – Schedule of Funding Progress

-	Actuarial /aluation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [((b) – (a)) / (c)]
12	/31/2005	139,174,878	23,925,138,742	23,785,963,864	0.58%	12,359,975,359	192.44%
12	/31/2007	296,500,252	28,890,229,747	28,593,729,495	1.03%	14,810,270,168	193.07%
12	/31/2008	434,768,521	28,288,439,376	27,853,670,855	1.54%	15,295,559,646	182.10%
12	/31/2009	556,303,039	33,321,783,854	32,765,480,815	1.67%	15,131,145,834	216.54%
12	/31/2010	655,445,062	33,494,640,678	32,839,195,616	1.96%	15,098,336,130	217.50%
12	/31/2011	729,094,584	30,339,346,481	29,610,251,897	2.40%	14,851,954,027	199.37%
12	/31/2012	765,827,946	23,883,106,962	23,117,279,016	3.21%	14,957,178,663	154.56%
13/	/31/2013	890,755,562	26,420,167,735	25,529,412,173	3.37%	15,080,626,734	169.29%



## SECTION 2: Valuation Results for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

The Net OPEB obligation measures the accumulated differences between the annual OPEB cost and the actual contributions in relation to the ARC.

CHART 6

Required Supplementary Information – Net OPEB Obligation (NOO)

Actuarial Valuation Date	Fiscal Year End	Annual Required Contribution (a)	Interest on Existing NOO (b)	ARC Adjustment (c)	Annual OPEB Cost (a) + (b) + (c) (d)	Actual Contribution Amount (e)	Net Increase in NOO (d) – (e) (f)	NOO as of Fiscal Year (g)
12/31/2010	06/30/2011	\$2,910,615,707	331,841,094	(288,429,771)	\$2,954,027,031	868,263,454	2,085,763,576	\$9,893,789,327
12/31/2011	06/30/2012	2,480,159,722	420,486,046	(365,478,224)	2,535,167,544	852,358,729	1,682,808,815	11,576,598,142
12/31/2012	06/30/2013	2,021,026,309	492,005,421	(427,641,462)	2,085,390,268	844,452,283	1,240,937,985	12,817,536,127
12/31/2013	06/30/2014	2,223,900,337	544,745,285	(473,481,917)	2,295,163,705	798,401,569	1,496,762,136	14,314,298,263



Employer contribution in relation to the ARC consist of benefits paid directly to or on behalf of a retiree or beneficiary, premiums paid to an insurer, or assets irrevocably transferred to OPEB trust.

CHART 7

Net Contribution In Relation to the ARC

Transaction	06/30/2014	Source of information	06/30/2013	Source of information
	Φ040 270 104	GAG 1: 1.1	Ф0.52. с22. 2.60	GAG 1: 1.1
Claims paid net of refunds	\$840,259,194	SAS claims database	\$853,623,268	SAS claims database
Administrative load	43,866,132	Segal FYE 2014 Q4 financial updates	46,671,747	Segal FYE 2013 Q4 financial updates
Retiree/Dependent premiums	(104,030,070)	Enrollment & retiree contribution rates	(116,948,276)	Enrollment & retiree contribution rates
Net benefits paid	780,095,256	Sum of above	783,346,739	Sum of above
Employer contribution to trust	813,956,238	Retiree health reserve statement 06/30/2014	813,222,689	Retiree health reserve statement 06/30/2013
Transfer to SHP from trust	(795,649,925)	Retiree health reserve statement 06/30/2014	(752,117,145)	Retiree health reserve statement 06/30/2013
Net contribution in relation to the ARC	798,401,569	P. 16 Exh D Col [e]	844,452,283	P. 16 Exh D Col [e]



This exhibit summarizes the participant data used for the current and prior valuations.

## EXHIBIT A Summary of Participant Data

	December 31, 2013	December 31, 2012
Retirees		
Number of retirees	182,146	170,070
Average age of retirees	69.3	69.3
Number of spouses	12,690	12,745
Average age of spouses	68.4	66.6
Surviving Spouses		
Number	2,359	2,566
Average age	80.6	80.4
Inactive Vesteds		
Number of inactive vested	31,610	32,511
Average age of inactive vested	48.0	48.0
Average expected retirement age	63.03	62.97
Active Participants		
Number	343,049	342,733
Average age	44.8	44.9
Average years of service	9.9	11.3
Average expected retirement age	59.0	58.5



EXHIBIT B

Members in Active Service as of December 31, 2013 By Age and Service

	Service									
Age	Total	0-4	5-9	10-14	15-19	20-24	25 – 29	30 – 34	35 – 39	40 & Over
Under 25	11,689	11,656	32	1						
25 - 29	31,815	24,945	6,857	13						
30 - 34	37,862	15,880	17,052	4,700	230					
35 - 39	40,178	13,418	11,569	11,423	3,747	21				
40 - 44	49,060	13,579	12,051	9,613	10,575	3,196	46			
45 - 49	48,437	11,515	11,040	8,757	7,228	7,289	2,589	19		
50 - 54	48,405	9,868	10,183	8,749	7,326	5,350	5,932	986	11	
55 - 59	42,694	7,766	8,609	7,788	6,760	5,264	4,371	1,654	479	3
60 - 64	24,263	4,710	5,183	4,336	3,721	3,049	1,843	768	541	112
65 - 69	6,629	1,607	1,535	1,218	821	563	392	226	159	108
70 & over	2,017	573	404	358	228	154	107	59	47	87
Total	343,049	115,256	84,515	56,956	40,897	24,886	15,280	3,712	1,237	310



### **EXHIBIT C**

## **Cash Flow Projections**

The ARC generally exceeds the current pay-as-you-go ("paygo") cost of an OPEB plan. Over time the paygo cost will tend to grow and may even eventually exceed the ARC in a well funded plan. The following table projects the paygo cost as the projected net fund payment over the next ten years.

Year Ending	Projected Number of Retirees*			Projected Benefit Payments			Projected Retiree	Projected Net Fund	Contribution
December 31	Current	Future	Total	Current	Future	Total	Contributions	Payment	Ratio
2014	197,195	15,977	213,172	\$782,672,377	\$58,220,424	\$840,892,801	\$84,181,320	\$756,711,481	10.01%
2015	191,822	29,380	221,202	763,160,033	159,590,251	922,750,284	96,480,909	826,269,375	10.46%
2016	186,357	42,491	228,848	740,479,300	264,021,341	1,004,500,641	110,174,623	894,326,018	10.97%
2017	180,812	55,376	236,188	718,038,648	369,579,771	1,087,618,419	125,281,907	962,336,512	11.52%
2018	175,181	68,424	243,605	696,343,624	475,546,267	1,171,889,891	141,927,910	1,029,961,981	12.11%
2019	169,480	82,510	251,990	680,480,894	585,008,292	1,265,489,186	160,535,930	1,104,953,256	12.69%
2020	163,713	95,614	259,327	670,112,293	697,340,494	1,367,452,787	179,875,495	1,187,577,292	13.15%
2021	157,874	108,186	266,060	660,418,801	810,509,947	1,470,928,748	199,043,402	1,271,885,346	13.53%
2022	151,971	120,410	272,381	647,643,554	923,835,077	1,571,478,631	217,389,586	1,354,089,045	13.83%
2023	146,013	131,998	278,011	634,824,713	1,034,432,195	1,669,256,908	234,623,911	1,434,632,997	14.06%

<sup>\*</sup> Includes spouses of retirees.



EXHIBIT D
ARC and NOO Projection

The following charts project the ARC and NOO through June 30, 2014 assuming a stable active population and that State contributions to the trust fund follow the current percent of pay methodology through the 2014 fiscal year and remain at 5.3% of pay thereafter. These contributions are expected to exceed transfers to the SHP by amounts similar to recent experience.

Actuarial	Actuarial	Actuarial				Annual
Valuation	Value of	Accrued	Normal	Unfunded	30-Year	Required
Date	Assets	Liability	Cost	AAL	Amortization	Contribution
	(a)	(b)	(c)	(b) - (a)	(d)	(c) + (d)
12/31/2014	\$899,575,966	\$28,105,675,864	\$1,278,211,650	\$27,206,099,898	\$1,004,997,858	\$2,283,209,508
12/31/2015	906,849,176	29,789,057,828	1,284,602,708	28,882,208,652	1,066,913,594	2,351,516,302
12/31/2016	912,524,928	31,481,158,405	1,297,448,735	30,568,633,477	1,129,210,408	2,426,659,143
12/31/2017	916,519,661	33,189,124,561	1,316,910,466	32,272,604,900	1,192,155,395	2,509,065,861
12/31/2018	918,752,808	34,920,920,575	1,343,248,676	34,002,167,767	1,256,045,736	2,599,294,412
12/31/2019	918,976,779	36,677,207,245	1,376,829,893	35,758,230,466	1,320,914,984	2,697,744,877
12/31/2020	916,927,229	38,458,782,988	1,418,134,789	37,541,855,759	1,386,802,399	2,804,937,188
12/31/2021	912,453,027	40,273,055,096	1,467,769,507	39,360,602,069	1,453,987,190	2,921,756,697
12/31/2022	905,475,615	42,132,245,611	1,526,480,287	41,226,769,995	1,522,923,744	3,049,404,031
12/31/2023	895,903,054	44,049,420,007	1,595,171,900	43,153,516,953	1,594,098,097	3,189,269,997
Fiscal	Annual	Interest		Annual	Projected	NOO
Year	Required	on Existing		OPEB Cost	Contribution	as of
End	Contribution	NOO	Adjustment	(a) + (b) + (c)	Amount	Fiscal Year
	(a)	(b)	(c)	(d)	(e)	(f)
06/30/2015	\$2,283,209,508	\$608,357,676	-\$528,772,560	\$2,362,794,624	\$778,366,526	\$15,898,726,361
06/30/2016	2,351,516,302	675,695,870	-587,301,597	2,439,910,576	846,714,458	17,491,922,479
06/30/2017	2,426,659,143	743,406,705	-646,154,527	2,523,911,322	914,272,613	19,101,561,188
06/30/2018	2,509,065,861	811,816,350	-705,614,849	2,615,267,363	981,598,542	20,735,230,009
06/30/2019	2,599,294,412	881,247,275	-765,962,847	2,714,578,840	1,052,397,639	22,397,411,210
06/30/2020	2,697,744,877	951,889,976	-827,364,097	2,822,270,756	1,130,678,195	24,089,003,772
06/30/2021			000 051 000	2,938,868,041	1,213,598,693	25,814,273,120
00/30/2021	2,804,937,188	1,023,782,660	-889,851,808	2,938,808,041	1,213,396,093	23,014,273,120
06/30/2022	2,804,937,188 2,921,756,697	1,023,782,660 1,097,106,608	-889,851,808 -953,583,545	3,065,279,760	1,296,289,927	27,583,262,952
	, , ,		, , , , , , , , , , , , , , , , , , ,	, , ,		



#### **EXHIBIT E**

### **Financial Information**

Employers may accumulate assets to pay for future OPEB. In order to be treated as plan assets, the funds must be set aside in a trust fund or equivalent arrangement that has the following characteristics:

- a. Employer contributions are irrevocable
- b. Plan assets are dedicated to OPEB only
- c. Plan assets are legally protected from the creditors of the employer and the plan administrator.

North Carolina State Health Plan has an arrangement that meets those requirements.

#### Statement of Plan Net Assets

	Year Ended December 31, 2013	Year Ended December 31, 2012
Assets		
Cash equivalents	\$121,158,277	\$771,261,531
Investments	785,721,085	0
Investment income	45,801	282,486
Contributions receivable	<u>49,722,073</u>	<u>56,922,023</u>
Total assets	\$956,647,236	\$828,466,040
Liabilities		
Less accounts payable:	<u>-65,891,674</u>	-62,638,094
Net assets held in trust for other postemployment benefits	\$890,755,562	\$765,827,946



**EXHIBIT F**Statement of Changes in Plan Net Assets

	Year Ended	Year Ended
	<b>December 31, 2013</b>	December 31, 2012
Additions		
Employer contributions*	\$808,140,588	\$756,750,625
Interest credited	<u>86,129,281</u>	<u>3,752,161</u>
Total additions:	\$894,269,869	\$760,502,786
Deductions		
Benefit Payments	\$768,864,551	\$723,429,964
Expenses	<u>477,702</u>	<u>339,460</u>
Total deductions	\$769,342,253	\$723,769,424
Net increase	\$124,927,616	\$36,733,362
Net assets held in trust for other postemployment benefits		
Beginning of year	\$765,827,946	\$729,094,584
End of year	\$890,755,562	\$765,827,946

<sup>\*</sup> Employer contributions include both implicit and explicit subsidies for the retirees' cost of OPEB. These are the contributions in relation to the ARC.



### **EXHIBIT G**

### **Detailed Actuarial Gain and Loss Analysis**

If all actuarial assumptions had been exactly realized the ARC would have been expected to be \$2,072,150,167 this year. The actual ARC for this year is \$2,223,900,337, a difference of \$151,750,170. The following chart identifies the sources of this difference.

### **Actuarial Gain and Loss**

Item	FY 2014	FY 2013
Expected ARC	\$2,072,150,167	\$2,548,184,950
Experience gain or loss	-55,795,356	225,043,128
Assumption changes	207,545,526	-421,233,465
Plan changes	<u>0</u>	-330,968,304
Total change	\$151,750,170	-\$527,158,641
Actual ARC	\$2,223,900,337	\$2,021,026,309



## SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

EXHIBIT I		
Summary of Required Supplementary Informati	on	
Valuation date	December 31, 2013	
Actuarial cost method	allocate costs. Full eligibilit	ice from hire date to full eligibility was used to ty in this context refers to the date when an to the valuation assumptions.
Amortization method	Open 30-Year Amortization	1
Remaining amortization period	30 years as of December 31	, 2013
Asset valuation method	Market Value	
Actuarial assumptions:		
Investment rate of return	4.25%	
Inflation rate	3.50%	
Projected salary increases	Vary by group and years of	service
Medical cost trend rate	7.50% graded to 5.00% ove	er 8 years
Plan membership:	December 31, 2013	December 31, 2012
Current retirees, beneficiaries, and dependents	197,195	185,381
Current active participants	343,049	342,733
Terminated participants entitled but not yet eligible	<u>31,610</u>	<u>32,511</u>
Total	571,854	560,625



EXHIBIT II	
Actuarial Assumptions and Act	tuarial Cost Method
Data:	Detailed census data, premium data and/or claim experience, and summary plan descriptions for OPEB were provided by the State.
Actuarial Cost Method:	Projected Unit Credit. Service from hire date to full eligibility was used to allocate costs. Full eligibility in this context refers to the date when an employee retires, according to the valuation assumptions.
<b>Asset Valuation Method:</b>	Market Value
Measurement Date:	December 31, 2013
<b>Discount Rate</b> :	4.25%
Salary Increases:	Vary by group and years of service
<b>Mortality Rates:</b>	RP-2000 Non-Annuitant and Annuitant Mortality Tables, with the following adjustments:
	Male teachers (healthy): one-year set back Female teachers (healthy): no adjustment Male general employee (healthy): one-year set forward Female general employees (healthy): one-year set forward Male law-enforcement officer (healthy): no adjustment Female law-enforcement officer (healthy): no adjustment Male beneficiaries of deceased members: one-year set forward Female beneficiaries of deceased members: two-year set forward Male retirees (disabled): six-year set back Female retirees (disabled): one-year set forward
	All mortality rates for employees and healthy annuitants are projected from December 31, 2003 using Scale AA. No mortality improvements are projected for disabled retirees.



### **Termination before retirement:**

General Employees:				Rate	e (%)		
		Moi	rtality	Disa	bility	Turn	over*
	Age	Male	Female	Male	Female	Male	Female
	25	0.0004	0.0002	0.0002	0.0002	0.0650	0.0900
	30	0.0005	0.0003	0.0004	0.0004	0.0650	0.0800
	35	0.0008	0.0005	0.0010	0.0010	0.0500	0.0600
	40	0.0011	0.0008	0.0030	0.0018	0.0400	0.0400
	45	0.0016	0.0012	0.0050	0.0032	0.0350	0.0400
	50	0.0023	0.0018	0.0084	0.0050	0.0350	0.0400
	55	0.0033	0.0028	0.0144	0.0088	0.0350	0.0400
	60	0.0054	0.0043	0.0240	0.0138	0.0000	0.0000
	65	0.0081	0.0062	0.0000	0.0000	0.0000	0.0000
	69	0.0099	0.0076	0.0000	0.0000	0.0000	0.0000
Teachers:				Rate	e (%)		
		Moi	rtality	Disa	bility	Turn	over*
	Age	Male	Female	Male	Female	Male	Female
	25	0.0004	0.0002	0.0001	0.0002	0.0600	0.0700
	30	0.0004	0.0003	0.0001	0.0003	0.0550	0.0600
	35	0.0007	0.0005	0.0003	0.0006	0.0400	0.0450
	40	0.0010	0.0007	0.0007	0.0010	0.0350	0.0300
	45	0.0014	0.0011	0.0014	0.0018	0.0350	0.0300
	50	0.0020	0.0017	0.0023	0.0032	0.0350	0.0300
	55	0.0028	0.0025	0.0047	0.0055	0.0350	0.0300
	60	0.0044	0.0039	0.0077	0.0102	0.0000	0.0000
	65	0.0070	0.0058	0.0000	0.0000	0.0000	0.0000
	69	0.0091	0.0073	0.0000	0.0000	0.0000	0.0000

<sup>\*</sup> Higher rates are used during the first five years of service.

### **Law Enforcement Officers:**

D - 4 -	/n/\
Rate	(%)

			110 (70)	
	Mort	ality		
	Male	Female	Disability	Turnover
25	0.0004	0.0002	0.0033	0.0400
30	0.0004	0.0003	0.0043	0.0350
35	0.0008	0.0005	0.0060	0.0300
40	0.0011	0.0007	0.0079	0.0300
45	0.0015	0.0011	0.0110	0.0300
50	0.0021	0.0017	0.0176	0.0300
55	0.0030	0.0025	0.0307	0.0000
60	0.0049	0.0039	0.0601	0.0000
65	0.0076	0.0058	0.0000	0.0000
69	0.0095	0.0073	0.0000	0.0000

<sup>\*</sup> Higher rates are used during the first five years of service.

## **Actives' Retirement Rates:**

	General Employees			chers	Law Enforcement Officers
	Rate	e (%)	Rate	e (%)	Rate (%) Male
Age	Male	Female	Male	Female	Female
50	0.3500	0.3500	0.3000	0.3000	0.5000
55	0.2000	0.2250	0.3000	0.2750	0.5000
60	0.2250	0.2500	0.3000	0.2750	0.5000
65	0.3500	0.3500	0.3500	0.5000	0.4000
70	0.2250	0.2500	0.2500	0.2750	0.3000
75	1.0000	1.0000	1.0000	1.0000	1.0000

<sup>\*</sup>Special rates are used for early service retirement.



**Inactive Vested Retirement Rates:** 

Age 55 with 20 or more years of service; age 63 with 5 or more years of service, but

less than 20 years of service.

Actives and terminated vested who do not have plan code are assumed to be enrolled

in plans based on enrollment assumptions.

Missing date of birth or invalid date of birth are assumed an average value of the

group. Invalid gender codes are replaced with the default of male.

**Missing Participant Data**: Any other missing census item for a given participant was assumed to equal the

average value of that item over all other participants of the same status for whom the

item is known.

Participation and Coverage Election: 100% of employees eligible to retire and receive subsidized postretirement welfare

coverage were assumed to elect medical and prescription drug coverage. All participants are assumed to be enrolled in plans based on enrollment assumptions.

**Dependents**: Demographic data was available for spouses of current retirees. For future retirees,

husbands were assumed to be four years older than their wives. 10% of future retirees who elect to continue their health coverage at retirement were assumed to have an

eligible spouse who also opts for health coverage at that time.

Per Capita Cost Development:

Medical and Prescription
Drug

Per capita claims costs were based on actual paid claim experience for the periods July 1, 2012 through June 30, 2013. Claims were separated by Medicare and Non-Medicare participants, then adjusted as follows:

- > paid claims were multiplied by a factor to yield an estimate of incurred claims,
- total claims were divided by the number of adult members to yield a per capita claim,
- the per capita claim was trended to the midpoint of the valuation year at assumed trend rates, and the per capita claim was adjusted for the effect of any plan changes

Actuarial factors were then applied to the per capita claims to estimate individual retiree and spouse costs by age and by gender.

Medicare Advantage plans were valued by actuarially adjusting the insured premium rates by age and gender.



Administrative Expenses

Administrative expenses were based on projection furnished by Segal for the period January 1, 2014 through December 31, 2014.

**Per Capita Health Costs:** 

2014 medical and prescription drug claims costs, excluding assumed expenses, are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.

Non-Medicare

	Medical Basic					Medical CDHP			
	Re	tiree	Spe	Spouse		Retiree		ouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female	
40	\$3,038	\$3,907	\$1,889	\$3,139	\$3,541	\$4,554	\$2,202	\$3,658	
45	3,613	4,532	2,241	3,383	4,211	5,282	2,612	3,943	
50	4,288	4,884	2,995	3,922	4,998	5,692	3,491	4,571	
55	5,093	5,258	4,008	4,539	5,935	6,128	4,671	5,291	
60	6,048	5,667	5,366	5,265	7,049	6,605	6,253	6,136	
65	7,183	6,105	7,183	6,105	8,371	7,116	8,371	7,116	
70	8,325	6,579	8,325	6,579	9,702	7,668	9,702	7,668	
75	8,971	7,082	8,971	7,082	10,456	8,254	10,456	8,254	
80	9,661	7,635	9,661	7,635	11,259	8,899	11,259	8,899	

	Medical Enhanced					Prescription Drug			
	Re	Retiree		Spouse		tiree	Spo	ouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female	
40	\$3,731	\$4,798	\$2,320	\$3,855	\$949	\$1,220	\$590	\$980	
45	4,437	5,566	2,752	4,154	1,128	1,415	700	1,056	
50	5,266	5,998	3,678	4,816	1,339	1,525	935	1,224	
55	6,254	6,457	4,922	5,575	1,590	1,642	1,251	1,417	
60	7,427	6,959	6,589	6,465	1,888	1,769	1,675	1,644	
65	8,821	7,497	8,821	7,497	2,243	1,906	2,243	1,906	
70	10,223	8,080	10,223	8,080	2,599	2,054	2,599	2,054	
75	11,017	8,697	11,017	8,697	2,801	2,211	2,801	2,211	
80	11,864	9,376	11,864	9,376	3,016	2,384	3,016	2,384	



**Medicare – Non Medicare Advantage** 

Medical Basic					Prescription Drug			
	Re	tiree	Spo	ouse	Retiree		Spouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female
40	\$283	\$364	\$176	\$292	\$949	\$1,220	\$590	\$980
45	336	422	209	315	1,128	1,415	700	1,056
50	399	455	279	365	1,339	1,525	935	1,224
55	474	489	373	423	1,590	1,642	1,251	1,417
60	563	528	499	490	1,888	1,769	1,675	1,644
65	669	568	669	568	2,243	1,906	2,243	1,906
70	775	612	775	612	2,599	2,054	2,599	2,054
75	835	659	835	659	2,801	2,211	2,801	2,211
80	899	711	899	711	3,016	2,384	3,016	2,384

## **Medicare – Medicare Advantage**

	Medicare Advantage (Base)									
	Re	tiree	Spe	ouse						
Age	Male	Female	Male	Female						
40	\$555	\$714	\$345	\$574						
45	660	829	410	618						
50	784	893	548	717						
55	931	961	733	830						
60	1,106	1,036	981	962						
65	1,313	1,116	1,313	1,116						
70	1,522	1,203	1,522	1,203						
75	1,640	1,295	1,640	1,295						
80	1,766	1,396	1,766	1,396						



#### **Health Care Cost Trend Rates:**

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are "net" and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year's cost to yield the next year's projected cost.

Rate (%)

	` ,	
Year Ending December 31,	Medical and Prescription Drug	Admin.
2014	7.50%	3.00%
2015	7.25%	3.00%
2016	7.00%	3.00%
2017	6.75%	3.00%
2018	6.50%	3.00%
2019	6.25%	3.00%
2020	6.00%	3.00%
2021	5.50%	3.00%
2022 & later	5.00%	3.00%

Medicare Part D Subsidy Assumption:

GASB guidelines prohibit the offset of OPEB obligations by the future value of Medicare Part D subsides. Therefore, these calculations do not include an estimate for retiree prescription drug plan federal subsidies that the North Carolina State Health Plan may be eligible to receive for plan years beginning in 2006.

**Retiree Contribution Increase Rate:** 

Retiree contributions for medical and prescription drugs was assumed to increase at

the same trend rate as medical and prescription drug cost.

**Administrative Expenses:** 

An administrative expense load of \$253 per participant increasing at 3.0% per year was added to projected incurred claims cost in developing the benefit obligations.

**Plan Design:** 

Development of plan liabilities was based on the substantive plan of benefits in effect

as described in Exhibit III.



Annual Maximum Benefits: There are no annual maximum benefits assumed.

Lifetime Maximum Benefits: There are no lifetime maximum benefits assumed.

### **Plan Enrollment Assumptions:**

#### **Non-Medicare**

Plan	2014	2015	2016	2017	2018	2019+
Basic	44.3%	43.9%	46.1%	46.0%	48.2%	48.0%
Enhanced	53.9%	53.4%	50.6%	50.1%	47.2%	46.8%
CDHP	1.8%	2.7%	3.3%	3.9%	4.6%	5.2%

#### Medicare

Plan	Enrollment
Basic	24.7%
MA Base	47.6%
MA Enhanced	27.7%

Assumption Changes since Prior Valuation:

Medical and prescription drug claims cost were changed based on most recent experience.

Medical and prescription drug trend rates were changed to current schedule.

Enrollment assumptions were introduced to model expected migrations among plan options over the next few years.

#### **EXHIBIT III**

### **Summary of Plan**

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

#### **Eligibility**:

Participants in the North Carolina State Health Plan for Teachers and State Employees who retire from the State, the University of North Carolina System, community colleges, local school systems, and certain other component units are eligible to continue to participate in the State Health Plan in retirement if they meet certain criteria. Former employees who are eligible to receive medical benefits are long-term disability beneficiaries of the Disability Income Plan of North Carolina (DIPNC) and retirees of the Teachers' and State Employees' Retirement System (TSERS), the Consolidated Judicial Retirement system (CJRS), the Legislative Retirement System (LRS), the University Employees' Optional Retirement Program (UEORP), and a small number of local governments. General retirement requirements are as follows:

#### **Law Enforcement Officer:**

- age 50 and 15 years of service;
- > age 55 and 5 years of service; or
- > any age with 30 or more years of service.

#### **All Others:**

- > age 50 and 20 years of service;
- > age 60 and 5 years of service; or
- > any age with 30 or more years of service.

**Benefit Types:** 

Basic, Standard and CDHP are offered to non-Medicare participants, and Basic, MA and MA+ are offered to Medicare eligible participants.

**Duration of Coverage:** Lifetime for retirees and dependents

**Dependent Benefits**: Same as retirees

**Retiree Contributions:** Monthly contributions, effective January 1, 2014, are shown below.



For Retirees hired prior to October 1, 2006 (February 1, 2007 for legislators):

		Non-Medicare	<b>;</b>	Medicare			
	Basic	Standard	CDHP	Basic	MA	MA+	
Retiree	\$0.00	\$63.56*	\$40.00*	\$0.00	\$0.00	\$33.00	
Spouse	528.52	628.54	475.68	383.72	114.50	147.50	

<sup>\*</sup> Reduced by Wellness incentive credits for those who participate.

For Retirees hired after October 1, 2006 (February 1, 2007 for legislators), contributions are defined as a percentage of the total premium costs based on the following service based schedule:

Years of Service at	Retiree Contribution		
Retirement	Percentage		
5 – 9.99	100%		
10 – 19.99	50%		
20 or more	0%		

100% of the total premium costs are show below:

	Non-Medicare		Medicare			
	Basic Standard CDHP		Basic	MA	MA+	
Retiree	\$448.11	\$511.67*	\$488.11*	\$348.25	\$114.50	\$147.50
Spouse	528.52	628.54	475.68	383.72	114.50	147.50

<sup>\*</sup> Reduced by Wellness incentive credits for those who participate.



## **Benefit Descriptions:**

PPO Basic	In-Network	Out-Of-Network
Medical		
Annual Deductible	\$933/\$2,799	\$1,866/\$5,598
Coinsurance	70%	50%
Coinsurance Maximum	\$3,793/\$11,379	\$7,586/\$22,758
Lifetime Maximum	Unlimited	Unlimited
Office Visit copay		
Primary Care	\$35	Ded. & coins.
Specialist	\$81	Ded. & coins.
Urgent Care	\$87	\$87
Inpatient Hospitalization	\$291 + ded. & coins.	Same as in-network
Outpatient Hospitalization	ded. & coins.	ded. & coins.
Emergency Room	\$291 + ded. & coins.	Same as in-network
Chiropractic	\$64	Ded. & coins.
Physical, Occupational or Speech Therapy	\$64	Ded. & coins.
Mental Health, Chemical Dependency	\$35	coins.



## SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

Prescription Drugs (up to 30 day supply)		
Tier 1	\$12	
Tier 2	\$40	
Tier 3	\$64	
Tier 4 (Preferred Specialty)	25% coins., \$100 max.	
Tier 5 (Non-Preferred Specialty)	25% coins., \$125 max.	
Brand drug with a generic equivalent	Tier 1 copay plus the difference in the cost to the Plan betwee the generic and brand name drug, not to exceed \$100 per 30 day supply of the brand name medication.	
Preferred diabetic testing supplies	\$10	
Non-Preferred diabetic testing supplies	\$25	
Out-of-Pocket Maximum	\$2500	

Coverage becomes secondary when former employees become eligible for Medicare.

SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

PPO Standard	In-Network	Out-Of-Network
Medical		
Annual Deductible	\$700/\$2,100	\$1,400/\$4,200
Coinsurance	80%	60%
Coinsurance Maximum	\$3,210/\$9,630	\$6,420/\$19,260
Lifetime Maximum	Unlimited	Unlimited
Office Visit copay		
Primary Care	\$30	Ded. & coins.
Specialist	\$70	Ded. & coins.
Urgent Care	\$87	\$87
Inpatient Hospitalization	\$233 + ded. & coins.	Same as in-network
Outpatient Hospitalization	ded. & coins.	ded. & coins.
Emergency Room	\$233 + ded. & coins.	Same as in-network
Chiropractic	\$52	Ded. & coins.
Physical, Occupational or Speech Therapy	\$52	Ded. & coins.
Mental Health, Chemical Dependency	\$30	coins.

## SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

Prescription Drugs (up to 30 day supply)			
Tier 1	\$12		
Tier2	\$40		
Tier 3	\$64		
Tier 4 (Preferred Specialty)	25% coins., \$100 max.		
Tier 5 (Non-Specialty)	25% coins., \$125 max		
Brand drug with a generic equivalent	Tier 1 copay plus the difference in the cost to the Plan betwee the generic and brand name drug, not to exceed \$100 per 30 day supply of the brand name medication.		
Preferred diabetic testing supplies	\$10		
Non-Preferred testing supplies	\$25		
Out-of-Pocket Maximum	\$2500		

Coverage becomes secondary when former employees become eligible for Medicare.



SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

CDHP	In-Network	Out-Of-Network
Medical & Prescription Drug		
Annual Deductible	\$1,500/4,500	\$3,000/9,000
Coinsurance	85%	65%
Lifetime Maximum	Unlimited	Unlimited
HRA	\$500/\$1,500	\$500/\$1,500

MA	MA-PDP Basic	Humana MA-PDP Enhanced	UHC MA-PDP Enhanced
Medical			
Annual Deductible	\$0	\$0	\$0
Coinsurance	80%	80%	80%
Coinsurance Maximum	\$4,000	\$2,600	\$2,600
Lifetime Maximum	Unlimited	Unlimited	Unlimited
Office Visit copay			
Primary Care	\$20	\$10	\$10
Specialist	\$40	\$30	\$35
Preventive Care	\$0	\$0	\$0
Emergency Room	\$65	\$50	\$50

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<b>Prescription Drugs</b>			
Retail (up to 31 day supply)			
Tier 1	\$10	\$7	\$5
Tier 2	\$40	\$35	\$30
Tier 3	\$64	\$50	\$40
Tier 4	25% coins., \$100 max.	25% coins., \$95 max.	25% coins., \$95 max.
Out-of-Pocket Maximum	\$2,500	\$2,500	\$2,500
Mail Order (up to 90 day supply)			
Tier 1	\$24	\$14	\$10
Tier 2	\$80	\$70	\$60
Tier3	\$128	\$100	\$80
Tier 4	25% coins., \$300 max.	25% coins., \$190 max.	25% coins., \$200 max.
Out-of-Pocket Maximum	\$2,500	\$2,500	\$2,500

Plan Changes: None.

#### **EXHIBIT IV**

#### **Definitions of Terms**

The following list defines certain technical terms for the convenience of the reader:

## Assumptions or Actuarial Assumptions:

The estimates on which the cost of the Plan is calculated including:

- (a) <u>Investment return</u> the rate of investment yield that the Plan will earn over the long-term future;
- (b) <u>Mortality rates</u> the death rates of employees and pensioners; life expectancy is based on these rates;
- (c) Retirement rates the rate or probability of retirement at a given age;
- (d) <u>Turnover rates</u> the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

## Actuarial Present Value of Total Projected Benefits (APB):

Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

**Normal Cost:** 

The amount of contributions required to fund the benefit allocated to the current year of service.

## Actuarial Accrued Liability For Actives:

The equivalent of the accumulated normal costs allocated to the years before the valuation date.

## Actuarial Accrued Liability For Retirees:

The single sum value of lifetime benefits to existing retirees. This sum takes account of life expectancies appropriate to the ages of the retirees and of the interest which the sum is expected to earn before it is entirely paid out in benefits.



**Actuarial Value of Assets (AVA):** The value of assets used by the actuary in the valuation. These may be at market value

or some other method used to smooth variations in market value from one valuation to

the next.

**Funded Ratio:** The ratio AVA/AAL.

Unfunded Actuarial Accrued Liability (UAAL):

The extent to which the actuarial accrued liability of the Plan exceeds the assets of the Plan. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period

of time.

Amortization of the Unfunded Actuarial Accrued Liability:

Payments made over a period of years equal in value to the Plan's unfunded actuarial

accrued liability.

**Investment Return (discount rate):** 

The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next. If the plan is funded on a pay-as-you-go basis, the discount rate is

tied to the expected rate of return on day-to-day employer funds.

**Covered Payroll:** Annual reported salaries for all active participants on the valuation date.

ARC as a Percentage of Covered Payroll:

The ratio of the annual required contribution to covered payroll.

**Health Care Cost Trend Rates:** The annual rate of increa

The annual rate of increase in net claims costs per individual benefiting from the Plan.

**Annual Required** 

**Contribution (ARC):** The ARC is equal to the sum of the normal cost and the amortization of the unfunded

actuarial accrued liability.



**Net OPEB Obligation (NOO):** 

The NOO is the cumulative difference between the ARC and actual contributions made. If the plan is not pre-funded, the actual contribution would be equal to the annual benefit payments less retiree contributions. There are additional adjustments in the NOO calculations to adjust for timing differences between cash and accrual accounting, and to prevent double counting of OPEB plan costs.

#### **EXHIBIT V**

### **Accounting Requirements**

The Governmental Accounting Standards Board (GASB) issued Statement Number 43 – Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, and Statement Number 45 – Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions. Under these statements, all state and local government entities that provide other post employment benefits (OPEB) are required to report the cost of these benefits on their financial statements. The accounting standards supplement cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (i.e., a pay-as-you-go basis).

The statements cover postemployment benefits of health, prescription drug, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. The benefits valued in this report are limited to those described in Exhibit III of Section 4, which are based on those provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits is not limited by legal or contractual limits on funding the plan unless those limits clearly translate into benefit limits on the substantive plan being valued.

The new standards introduce an accrual-basis accounting requirement, thereby recognizing the employer cost of postemployment benefits over an employee's career. The standards also introduce a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. These assumptions are summarized in Exhibit II of Section 4. This amount is then discounted to determine the actuarial present value of the total projected benefits (APB). The actuarial accrued liability (AAL) is the portion of the present value of the total projected benefits allocated to years of employment prior to the measurement date. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and actuarial value of assets in the Plan.

Once the UAAL is determined, the Annual Required Contribution (ARC) is determined as the normal cost (the APB allocated to the current year of service) and the amortization of the UAAL. This ARC is compared to actual contributions made and any difference is reported as the Net OPEB Obligation (NOO). In addition, Required Supplementary Information (RSI) must be reported, including historical information about the UAAL and the progress in funding the Plan. Exhibits IV and VI of Section



## SECTION 4: Supporting Information for the North Carolina State Health Plan December 31, 2013 Measurement Under GASB 43 and 45

4 contain a definition of terms as well as more information about GASB 43/45 concepts.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short term volatility in accrued liabilities and the actuarial value of assets, if any.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

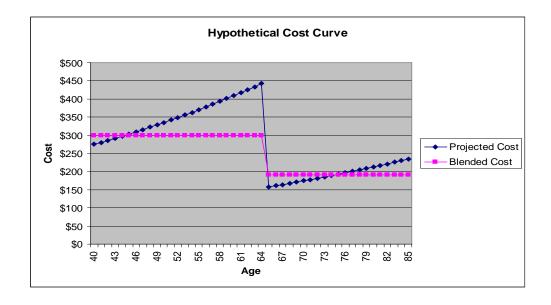
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## EXHIBIT VI GASB 43/45 Concepts

The following graph illustrates why a significant accounting obligation may exist even though the retiree contributes most or all of the blended premium cost of the plan. The average cost for retirees is likely to exceed the average cost for the whole group, leading to an implicit

subsidy for these retirees. The accounting standard requires the employer to identify and account for this implicit subsidy as well as any explicit subsidies the employer may provide.



This graph shows how the actuarial present value of the total projected benefits (APB) is broken down and allocated to various accounting periods. The exact breakdown depends on the actuarial cost method and amortization methods selected by the employer.

# GASB 43/45 Measurement Elements Using Actuarial Cost Methods

Present Value of Future Benefits

Future Accounting Periods

Future Accruals (Actives)

**Current Period** 

Historical Accounting Periods **Normal Cost (Actives)** 

Actuarial Accrued Liability (Actives + Retirees) Normal Cost

30 Years Amortization of Unfunded Actuarial Accrued Liability Annual Required Contribution (ARC)

Net OPEB Obligation = ARC<sub>1</sub> + ARC<sub>2</sub> + ARC<sub>3</sub> + .....

- Contribution<sub>1</sub> - Contribution<sub>2</sub> - Contribution<sub>3</sub> - .....

