

NORTH CAROLINA COMMITTEE ON ACTUARIAL VALUATION OF RETIRED EMPLOYEES' HEALTH BENEFITS

June 25, 2018

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The logo for Segal Consulting is a large, dark blue, stylized shape that resembles a triangle with a pointed top and a wide base, tapering to a point on the left. It is positioned on the right side of the slide.

 Segal Consulting

OPEB Actuarial Valuation Assumptions for the December 31, 2017 Valuation

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Decisions
needed here

Valuation Purpose

- GASBS 74 and 75
 - Measure State Obligations to provide other postemployment benefits (OPEB)
 - Provide information for the Plan Audit (GASB 74)
 - Determine the Actuarially Determined Contribution (ADEC)
 - Annual OPEB Expense for fiscal 2019, and fiscal 2019 disclosure information (GASB 75)
 - Provide exhibits useful for preparing required financial statement recognition and disclosure items
- Financial Projections
 - Project assets, obligations, benefit payments, contributions for up to ten future years
- Dates for December 31, 2017 Valuation
 - Valuation Date is December 31, 2017
 - Measurement Date is June 30, 2018
 - Reporting Date is June 30, 2019

Reports and other deliverables

Fiscal 2017

GASB 45 Valuation Report
GASB 74 Valuation Report
GASB 75 Valuation Report
GASB 75 Allocations
Auditor Requests

Fiscal 2018

Combined GASB 74/75 Report
GASB 75 Allocations
Auditor Requests

Fiscal 2018 Expense

- Fiscal 2018 Expense was determined based on the following:
 - Valuation Date was December 31, 2016
 - Measurement Date was June 30, 2017 – GASB 74 Plan Audit
 - GASB 75 Reporting Date was June 30, 2018

Net OPEB Liability to be Reported June 30, 2018 (millions)	
Total OPEB Liability Measured at June 30, 2017	\$33,983
Net Fiduciary Position	1,196
Net OPEB Liability Measured at June 30, 2017	\$32,787

June 30, 2018 Balance Sheet Reconciliation (millions)	
Net OPEB Liability Reported at June 30, 2017	\$43,503
Fiscal 2018 Expense	1,626
Contributions during Fiscal 2018	-950
New Net Deferred (Inflows) and Outflows	<u>-11,392</u>
Net OPEB Liability Reported at June 30, 2018	\$32,787

As 2018 was the implementation year, this figure was determined at the prior measurement date using GASB 75 methodology

- Similarly, we will measure the expense for fiscal 2019 with the December 31, 2017 valuation, measured June 30, 2018

Accounting and Funding Methodology

- GASB 45 Expense was based on a Funding calculation, but under GASB 75 the two are no longer linked
- GASB 75 Budgeting Methods for Expense
 - Mandated by GASB 75
 - Actuarial cost method -- Entry Age Level Percent of Pay
 - Asset valuation method – market value
 - Recognition of Changes in Net OPEB Liability
 - Plan changes are recognized immediately
 - Asset gains and losses are recognized over 5 years
 - Other changes are over 6 years (Total Future Service / All Participants)
- Funding Assumptions and Methods for the Actuarially Determined Contribution (ADEC)
 - Current funding policy is essentially a pay-as-you-go process
 - The ADEC is not required, but is a measure of how large the contribution would be if the Plan were to be pre-funded
 - The State can periodically reset the method for calculating the ADEC
 - Demographic assumptions are generally the same as for GASB 75, but the ADEC can be based on a different cost method and the discount rate can differ
 - Decisions about the ADEC are after the assumptions section

Key Assumptions in Determining the Net OPEB Liability

Assumption	Basis
Discount Rate	Based on the 20-year, general obligation, municipal bond index rate as of the Measurement Date.
Health Care Trend	Set based on short-term financial projections and the long-term (ultimate) trend rate.
Annual Claim Cost net of Retiree Contribution for each Plan	These will be consistent with the short-term financial projections.
Participation – the assumed percentage of active employees that retire and elect to be covered under the Plan	Based on plan experience.
Mortality and Projected Mortality Improvements	Part of the 5-year study approved for use by the Pension Board, based on the period ended December 2014.

Assumptions set by the State Annually

	Descriptor	December 31, 2016 Assumption	December 31, 2017 Assumption	Comments
Long-Term Rate of Return on Plan Assets	Investment return	7.20%	7.00%	This is the pension assumption.
Assumed Payroll Growth	Used for the ADEC	2.75%	3.00%	Did not match pension last year. 3.00% is the pension assumption.
Ultimate Health Trend	The final entry in the Health Trend that is projected for 80+ years	5.00%	5.00%	This is the expectation for US medical spending in general. There is an inflation component, a component based on historic measures, and the limiting factor that medical expenses will flatten out as a percent of GDP.

Assumptions typically set by the Health Actuary Annually

	Descriptor	December 31, 2016 Assumption	December 31, 2017 Assumption	Comments
Substantive Plan	Plan documents, SPDs, Notices, Ordinances, Past Practices and Public Law that describe the benefits due and that are expected to be due to participants	Detailed in the valuation report	Same process as last year	Reviewed by the State
Claims Cost Rates	Derivation of the average expected rates for each coverage	Separate rates for Traditional, Enhanced, CDHP, MA Base and MA Enhanced	Being developed	CDHP no longer applicable
Health Trend	The expected increases in US health care costs	Separate trends for Medical, Rx, MA Plans, Retiree Contributions and Admin	Being developed	Separate trends for Medical, Rx, MA Plans, Retiree Contributions and Admin
Participation Rate	The assumed percentage of active employees that retire and elect to be covered under the Plan	100% for employees, 10% for spouses	No change	

Assumptions typically set by the Health Actuary Annually

	Descriptor	December 31, 2016 Assumption	December 31, 2017 Assumption	Comments
Medicare Eligibility	Some hires prior to 1988 were not required to be covered under Medicare, resulting in larger over age 65 claims	100% eligible	No Change	
Morbidity	A required process of allocating average claims to each age and gender	Segal Standard Table	No Change	
Retiree Contributions	Contributions, if any, required for coverage	2017 rates	2018 rates	Reviewed by the State in the Draft report / assumptions
Administrative Expense Rates	Separate from the expenses included in the premiums	\$260	Being developed	Decreasing with the increased movement to the MA Plans
2022 Excise Tax Rates	40% "Cadillac Tax" on richer health plans	Tax would be effective in 2020	Tax will be effective in 2022	Required by GASB 75

Assumptions typically set by the Health Actuary Annually

➤ Migration Assumption

- 2016 valuation:

Non-Medicare Retiree	2017	2018	2019	2020	2021+
Traditional (70/30)	43.7%	44.7%	44.0%	43.2%	42.5%
Enhanced (80/20)	52.8%	55.3%	56.0%	56.8%	57.5%
CDHP Med+Rx	3.5%	0.0%			
Medicare Retiree					
Traditional	25.4%	24.4%	23.4%	22.4%	21.4%
MA Base	62.6%	63.6%	64.6%	65.6%	66.6%
MA Enhanced	12.0%	12.0%	12.0%	12.0%	12.0%

- 2017 valuation: migration based on assumptions used for financial projections

Non-Medicare Retiree	2018	2019	2020	2021	2022	2023+
Traditional (70/30)	46.8%	46.1%	45.3%	44.6%	43.8%	43.1%
Enhanced (80/20)	53.2%	53.9%	54.7%	55.4%	56.2%	56.9%
Medicare Retiree						
Traditional Med	15.6%	14.6%	13.6%	12.6%	11.6%	10.6%
MA Base	72.5%	73.5%	74.5%	75.5%	76.5%	77.5%
MA Enhanced	11.9%	11.9%	11.9%	11.9%	11.9%	11.9%

Assumptions/Methods Typically set by the State Periodically

- Relationship between Valuation Date, Measurement Date and Reporting Date
- Funding Policy for the Actuarially Determined Contribution – discussed later
 - Actuarial Cost Method
 - Discount Rate (Long-term Rate of Return or Discount Rate for GASB 75)
 - Amortization Period (Years, Level \$ or Percent of Pay, and Open/Closed)
- Demographic Assumptions
 - Typically reset every five years in a study by the Pension Actuary, and approved by the State for use
 - Consistent with the Pension Valuation
- Determination of Basis for Allocation of Costs to Agencies

With the exception of the Funding Policy, we suggest keeping these the same as the prior year

Demographic Assumptions set by the State Periodically

Consistent with the Pension Plan – should change when pension assumption changes

	Descriptor	December 31, 2016 Assumption	December 31, 2017 Assumption	Comments
Pre-retirement mortality	Probability of death while active	Differing mortality for Law Enforcement, Teachers, and General Employees by EE/Spouse and Gender	No Change	Includes projection scale. Part of the 2015 demographic study.
Post-retirement mortality	Probability of post-employment death	Differing mortality for Law Enforcement, Teachers, and General Employees by EE/Spouse and Gender	No Change	Includes projection scale. Part of the 2015 demographic study.
Salary growth	The salary growth by individual	<u>Teachers:</u> 7.55% grading down to 3.50% <u>Law Enforcement:</u> 8.10% grading down to 3.50% <u>General Employees:</u> 5.50% grading down to 3.50%	No Change	Part of the 2015 demographic study.

Demographic Assumptions set by the State Periodically

Consistent with the Pension Plan – should change when pension assumption changes

	Descriptor	December 31, 2016 Assumption	December 31, 2017 Assumption	Comments
Turnover	Probability of terminating service prior to retirement eligibility each year prior to retirement eligibility	Based on age, service, gender, and employment classification	No Change	Part of the 2015 demographic study.
Disability	Probability of becoming disabled prior to retirement eligibility each year prior to retirement eligibility	Based on age, service, gender, and employment classification	No Change	Includes projection scale. Part of the 2015 demographic study.
Retirement	Probability of retiring each year after meeting the age and service eligibility requirements	Based on age, service, gender, and employment classification	No Change	Part of the 2015 demographic study.
Percent married and spouse age difference	Actual data is used for retirees, but active employees are valued based on marital status at retirement	Husbands are assumed to be four years older than their wives. 10% of retiring employees are assumed to cover their spouses.	No Change	Part of the 2015 demographic study.

GASB 75 Assumptions/Methods for Accounting

	Descriptor	June 30, 2017 Assumption	June 30, 2018 Assumption	Comments
Actuarial Cost Method	Basis for assigning costs accruals to active employees	Entry Age Level Percent of Payroll	Same	No choice
Discount Rate	The rate used to discount future projected benefit payments to the valuation date	2.85% as of June 30, 2016, and 3.58% as of June 30, 2017	3.58% as of June 30, 2017, and market rate as of June 30, 2018	No choice. 20-year, general obligation, municipal bond index rate as of the Measurement Date, unless pre-funding, in which case that same rate is blended with the long-term rate of return
Expense Methodology	The development of the OPEB Cost from the benefit liabilities and assets	GASB 75 Basis	Same	No choice
Allocation of Expense to Contributing Employers (Agencies)	The basis the OPEB expense is allocated to contributing divisions.	Based on the Present Value of Future Salaries	Same	Consistent with the Pension Assumption. The Cost Method is a level percent of salary cost method, which led to this basis.

Assumptions/Methods for Funding

Generally, the Actuarially Determined Contribution is the annual accrual (Normal Cost), plus a recognition of the unfunded liability, plus an adjustment for timing.

	Descriptor	June 30, 2017 Assumption	Recommended June 30, 2018 Assumption	Alternative June 30, 2018 Assumption
Actuarial Cost Method	Basis for assigning costs accruals to active employees	Projected Unit Credit	Entry Age Level Percent of Payroll	Projected Unit Credit
Discount Rate	The rate used to discount future projected benefit payments to the valuation date	3.58% as of June 30, 2017	Keep the same assumption as for GASB 75	Long-term Return Assumption
Amortization Methodology	Method for recognizing the unfunded liability	30-year, open, level percent of pay	30-year, open, level percent of pay (close when actually adopt)	30-year, closed, level percent of pay (close when actually adopt)
Projecting to Future Years	Could use the 12/31/2017 valuation to produce the result for fiscal 2019	Calculated the ADEC for fiscal 2017	Calculated the ADEC for fiscal 2018 and 2019	Calculated the ADEC for fiscal 2018

Key Valuation Calculation Components *continued*

➤ Excise tax details

- Effective 2022
- 40% tax on value in excess of thresholds
- Thresholds
 - \$10,200 individual
 - \$27,500 family
 - Add \$1,650 individual (\$3,450 family) for certain Early retirees and high-risk professions
 - Indexed after 2018
- Most plans will eventually owe the tax

➤ Plan changes

- 2018 changes were included in the prior valuation via the Trend
- We will reflect the 2019 changes in this valuation by adjusting the first year Trend

Other Items and Committee Concerns

- Questions or concerns from previous valuations of which Segal should be aware
- Other State changes or directions that need to be reflected in this valuation



Timing—Milestones

- 6/25—meeting with Actuarial Committee
- 6/30—all non-financial data acquired by Segal
- 7/31—information about new/leaving agencies acquired by Segal
- 8/08—all financial data acquired by Segal
- 8/15—draft report
- 8/29—final report
- Late August/September—presentation/ discussion with Committee

Questions

