Washington Suburban Sanitary Commission

Other Post-Employment Benefits

Actuarial Valuation as of July 1, 2017

March, 2018

Submitted by

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March 15, 2018

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This report presents the July 1, 2017 actuarial valuation results for the Washington Suburban Sanitary Commission ("WSSC") Other Post-Employment Benefit Plan. The purposes of this report are to:

(1) Determine WSSC's actuarial OPEB obligations;
(2) Establish the basis for GASB 74/75 implementation;
(3) Provide information that may be helpful in future planning for the Other Post-Employment Benefit ("OPEB") Plan.

A summary of the major results is shown in the Executive Summary, while the Principal Valuation Results section provides more detail. Financial Reporting information is now provided in a separate report. This report establishes the basis for Actuarially Determined Contributions.

The actuarial costs and liabilities shown in this report are based upon the data and plan provisions provided by WSSC, as summarized in the Demographic Information and Plan Provisions Sections, and the funding method and actuarial assumptions outlined in the Methods and Assumptions Section of this report.

To the best of our knowledge, this report is complete and accurate and conforms to generally accepted actuarial principles and methodology.

This report is intended for the sole use of the addressee. It is intended only to supply sufficient information for WSSC to comply with the stated purposes, and may not be appropriate for other business purposes. Reliance on information contained in the report by anyone for other than the intended purposes puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the reports conclusions.

The undersigned are members of the American Academy of Actuaries, and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

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Executive Summary

The Washington Suburban Sanitary Commission ("WSSC") provides healthcare, life insurance and prescription drug benefits to retirees and their dependents. The cost of the insurance is paid partially by the retiree and partially by WSSC. Employees who retire or qualify for disability or retirement directly from WSSC, and meet the eligibility criteria, may participate.

The following table summarizes the valuation results. These figures have been calculated based on assumptions as to current claim cost, projected increases in health care costs, participation, demographics, and investment earnings.

Information on Plan provisions and participation was provided by WSSC.

This summary identifies the actuarial value of benefits as of July 1, 2017 and actuarial cost, reflecting full pre-funding, utilizing a discount rate of 7.00% and amortizing the Unfunded Actuarial Accrued Liability as a level dollar amount.

	7/1/2017	**7/1/2015**
Present Value of Projected Benefits (PVPB)	$262,407,087	$247,180,915
Actuarial Accrued Liability (AAL)	236,603,033	218,174,615
Plan Asset Value	100,123,140	69,136,817
Unfunded Actuarial Accrued Liability	136,479,893	149,037,798
Funding Ratio	42.3%	31.7%
Actuarially Determined Contribution (ADC)	14,004,405	14,960,787
Estimated Employer Benefit Payments	$14,248,329	$13,148,742

The funding has increased and the actuarial cost has decreased since the prior valuation. This is due to favorable claims experience as well as a significant increase in the Plan asset value.

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Principal Valuation Results

This section presents detailed valuation results for WSSC's OPEB program.

- The Present Value of Projected Benefits (PVPB) is the total present value of all expected future benefits, based on a set of actuarial assumptions. Essentially, the PVPB is the value (on the valuation date) of the benefits promised to current plan participants. The Plan's PVPB (at July 1, 2017) is $262.4 million. About 35.3% ($92.7 million) of this liability is for current active employees (future retirees), with the remainder attributable to current retirees enrolled in WSSC's healthcare plan.

- The Actuarial Accrued Liability (AAL) is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan's AAL (at July 1, 2017) is $236.6 million. The AAL represents approximately 90.2% of the PVPB.

- The Normal Cost is the value of benefits expected to be earned during the year (active employees only), again based on certain actuarial methods and assumptions. The 2017 Normal Cost for the plan is $2.8 million.

The AAL and Normal Cost have been developed using the Entry Age actuarial cost method.

The following table shows results by active and retired employee groups.

	July 1, 2017	July 1, 2015
Present Value of Projected Benefits		
Actives	$ 92,668,890	$ 92,892,539
Retirees	159,738,197	154,288,376
Total	$ 262,407,087	$ 247,180,915
Actuarial Accrued Liability (AAL)		
Actives	$ 66,864,836	$ 63,886,239
Retirees	159,738,197	154,288,376
Total	$ 236,603,033	$ 218,174,615
Assets	$100,123,140	$ 69,136,817
Unfunded AAL	136,479,893	149,037,798
Normal Cost	$ 2,809,328	$ 2,757,352

Actuarially Determined Contribution and Funding

Actuarially Determined Contribution (ADC)

The Actuarially Determined Contribution (ADC) includes both the value of benefits earned during the year (Normal Cost) and an amortization of the Unfunded Accrued Liability (UAAL). Accordingly, the following table shows WSSC's ADC based on a 30 year amortization of the unfunded AAL.

	As of July 1, 2017	As of July 1, 2015
Normal Cost	$2,809,328	$2,757,352
Unfunded AAL Amortization	10,278,901	11,224,692
Interest to End of Year	916,176	978,743
Actuarially Determined Contribution (ADC)	$14,004,405	$14,960,787

Benefits paid directly (i.e., not from the Trust) as well as Trust contributions can be used to satisfy payment of the ADC.

History of Funding Progress

Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a / b)
7/1/2007	$0	$232,273,947	$232,273,947	0.0%
7/1/2008	$1,861,000	$237,714,544	$235,853,544	0.8%
7/1/2009	$5,070,986	$208,728,929	$203,657,943	2.4%
7/1/2010	$11,308,207	$213,159,274	$201,851,067	5.3%
7/1/2011	$21,295,568	$205,940,969	$184,645,401	10.3%
7/1/2013	$41,300,000	$217,195,977	$175,895,977	19.0%
7/1/2015	$69,136,817	$218,174,615	$149,037,798	31.7%
7/1/2017	$100,123,139	$236,603,033	$136,479,893	42.3%

Payout Projection

Annual Payments expected based on the assumptions detailed in the Methods and Assumptions section. These amounts include total benefits, net of retiree contributions.

Year Ending	Payout
6/30/2018	$14,248,329
6/30/2019	14,783,186
6/30/2020	15,283,048
6/30/2021	15,686,652
6/30/2022	16,088,988
6/30/2023	16,298,543
6/30/2024	16,587,963
6/30/2025	16,921,695
6/30/2026	17,218,360
6/30/2027	17,627,317

Demographic Information

The following Table summarizes active and retiree demographic information.

	Number of Participants	
	7/1/2017	**7/1/2015**
Actives*	1,569	1,582
Retiree (includes surviving beneficiaries and disabled)	1,474	1,594
Spouses	628	612
Total Participants	3,671	3,788

	7/1/2017	**7/1/2015**
Average Age (Medical/Drug) (with insurance coverage)		
• Active Participants	47.7	47.8
• Retired (Beneficiaries and Disabled Participants)	70.1	70.1
Average Service (for actives)	12.9	13.5

* Includes those with Health and/or Life Insurance coverage.

Plan Provisions

Medical/Drug	United Healthcare ChoicePlus POS, United Healthcare Select EPO, Kaiser Permanente HMO for retirees/spouses under 65, United Healthcare Medicare Supplement or Kaiser Permanente HMO Medicare Supplement for retirees/spouses 65 and over
Eligibility	WSSC employees are eligible to continue with their WSSC group insurance coverage if retiring employee had coverage in effect for 2 years prior to retirement. Retirement is effective on the last day of the month. The surviving spouse and dependent children who were covered under WSSC health insurance may continue coverage after the death of the WSSC employee/Retiree, if a joint and contingent survivor option is chosen at pension commencement. Retirement eligibility for the **closed group**: Normal retirement is the earlier of age 60 with one year of service or 30 years of service. Early retirement is the rule of 65 attaining at least age 45 with 15 years of service. Retirement eligibility for the **open group hired prior to 3/1/1994**: Normal retirement is the earlier of age 62 with 3 years of service or the rule of 85 with at least 30 years of service. Early retirement is at least age 50 with 15 years of service. Retirement eligibility for the **open group hired on or after 3/1/1994**: Normal retirement is the earlier of age 65 with 5 years of service or the rule of 85 with at least 30 years of service. Early retirement is at least age 50 with 15 years of service.
Retiree Payment	WSSC pays a portion of the full premium for retiree coverage for eligible participants and qualified dependents.
Life Insurance Benefit	When an employee retires, the basic life insurance amount (equal to the annual base pay before retirement) will be reduced on the first day of retirement by 15%. On each of the next four anniversaries of retirement, the insurance amount will be further reduced by that same dollar amount. The insurance amount will never be less than 25% of annual base pay immediately prior to retirement, nor less than $5,000.

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2017 Premiums (Monthly)

	WSSC	***Retiree***
United Healthcare Choice Plus POS		
Retiree	$824.60	$260.40
2-Person	1,628.68	514.32
United Healthcare Medicare Supplement		
Retiree	471.63	125.37
2-Person	946.42	251.58
United Healthcare Select EPO		
Retiree	588.55	156.45
2-Person	1,177.89	313.11
Kaiser Permanante HMO		
Retiree	424.23	112.77
2-Person	847.67	225.33
Kaiser Permanante Medicare Supplement		
Retiree	188.81	50.19
2-Person	377.62	100.38

Changes in Plan Provisions

There have been no changes in eligibility or cost-sharing provisions since the last valuation.

Actuarial Methods and Assumptions

All of the assumptions and methods used for this study are in compliance with relevant Actuarial Standards of Practice, as well as with GASB Statements 74 and 75.

Actuarial Cost Method Entry Age, individual, level percentage of pay

Amortization Period 30 Years, closed

Amortization Method Level Dollar

Investment Return/ Discount rate 7.00%, net of expenses and including inflation

Medical and Prescription Drug and Dental Trend

Year	Annual Rate of Increase (Pre-65)	Annual Rate of Increase (Post-65)
2017	5.75%	4.50%
2018	5.50%	4.50%
2019	5.25%	4.50%
2020	4.75%	4.50%
2021 & Later	4.50%	4.50%

Age Difference/ Family Assumptions Males are assumed to be 3 years older than females; For current retirees and actives, actual family status, plan elections and ages were used, 70% of both males and females are assumed to be married; 85% of actives are assumed to continue in the medical plan after retirement.

Demographic assumptions are based on a comprehensive experience study and assumption review conducted in 2016.

Mortality

The RP-2000 Healthy Annuitant mortality tables (males and females), with Blue Collar adjustments and one year set forward, are assumed to represent non-disability retirement pensioner mortality (for pre-retirement, 50% is applied).

For disability retirement pension mortality, the RP2000 Disabled mortality tables are used.

To account for future improvements in longevity, 25 years of projection Scale BB is applied to each of these tables.

Retirement

Age	Rate
50-59	7.5%
60	9.4%
61	11.7%
62	14.6%
63	18.3%
64	22.9%
65-69	28.6%
70+	100.0%

Disability (Sample Rates)

Age	Males	Females
25	0.021%	0.035%
35	0.035%	0.055%
45	0.069%	0.104%
55	0.248%	0.338%
65	0.00%	0.00%
70+	0.00%	0.00%

Withdrawal/Termination

Years of Service	Males	Females	Years of Service	Males	Females
0	11.0%	16.5%	11	1.8%	2.8%
1	9.4%	14.0%	12	1.6%	2.3%
2	7.9%	11.9%	13	1.3%	2.0%
3	6.8%	10.1%	14	1.1%	1.7%
4	5.7%	8.6%	15	1.0%	1.4%
5	4.9%	7.3%	16	0.8%	1.2%
6	4.1%	6.2%	17	0.7%	1.0%
7	3.5%	5.3%	18	0.6%	0.9%
8	3.0%	4.5%	19	0.5%	0.8%
9	2.5%	3.8%	20+	0.0%	0.0%
10	2.2%	3.2%			

Expected Annual Per Capita Claims (representative amounts)

Age	UHC - POS	UHC – EPO	Kaiser HMO
45	$ 9,253	$ 7,126	$ 5,898
50	11,016	8,484	7,022
55	13,275	10,222	8,460
60	16,150	12,436	10,293
65	5,954	4,030	4,030
70	6,573	4,450	4,450
75	7,168	4,853	4,853
80	7,722	5,228	5,228
85	8,116	5,494	5,494
90+	8,321	5,633	5,633

The per capita costs above were developed based on standard aging rates and plan demographic and premium information.

Method and Assumption Changes

The claims assumptions were updated to reflect actual experience and available information regarding healthcare costs.

Glossary of Actuarial Terms

Actuarial Accrued Liability

A plan's actuarial accrued liability is the level of assets estimated by the system actuary to be needed as of the valuation date to

Finance all previously earned benefits for actively employed members of the plan (and their beneficiaries, if applicable) for when they eventually retire, die or terminate with deferred vested benefits, and

Finance all currently payable benefits of current pensioners and their beneficiaries (if applicable).

The Actuarial Accrued Liability is not a debt; instead, it is an asset target set by the actuarial cost method to produce an orderly accumulation of assets to pay for the plan's obligations.

Annually Determined Contribution (ADC)

The annual cost of the plan. The ADC is the Sum of the Normal cost and the amortization of the unfunded actuarial accrued liability.

Normal Cost

The Normal Cost is calculated as the annual amount necessary to fund each member's benefits from that member's Plan entry date to the end of his or her projected working life.

Other Postemployment Benefits (OPEB)

Postemployment benefits other than pensions, OPEB, generally takes the form of health insurance and dental, vision, prescription drugs or other healthcare benefits.

Unfunded Actuarial Accrued Liability

When the actuarial value of assets is below the Actuarial Accrued Liability, there is an Unfunded Actuarial Accrued Liability which must be paid off or amortized on a schedule. When the actuarial value of assets is in excess of the Actuarial Accrued Liability, this can lead to a reduction in future contributions on an amortization schedule.

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