



WSSC Water
Other Post-Employment Benefits
Actuarial Valuation as of July 1, 2021

February 2022

Submitted by

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This report presents the July 1, 2021 actuarial valuation results for the WSSC Water Other Post-Employment Benefits (OPEB) Plan. The purposes of this report are to:

- (1) Determine WSSC Water's actuarial OPEB obligation;
- (2) Establish the basis for GASB 74/75 reporting;
- (3) Provide information that may be helpful in future planning for OPEB.

A summary of the major results is shown in the Executive Summary, while the Principal Valuation Results section provides more detail. Financial Reporting information under GASB 74 and 75 is now provided in a separate report. This report establishes the basis for Actuarially Determined Contribution.


The actuarial costs and liabilities shown in this report are based upon the data and plan provisions provided by WSSC Water, 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.

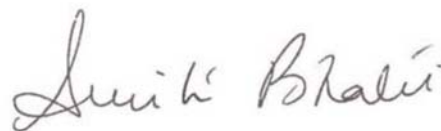
This report is intended for the sole use of the addressee. It is intended only to supply sufficient information for WSSC Water to comply with the stated purposes, and may not be appropriate for other business purposes. Reliance on information contained in the report by anyone for other than the intended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

WSSC Water 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 Water. Employees who retire or qualify for disability or retirement directly from WSSC Water, 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.

This summary identifies the actuarial value of benefits as of July 1, 2021 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 (26 years remaining).

	7/1/2021	7/1/2019
Present Value of Projected Benefits (PVPB)	\$277,584,140	\$281,238,198
Actuarial Accrued Liability (AAL)	244,426,234	250,628,483
Plan Asset Value	199,104,061	135,177,866
Unfunded Actuarial Accrued Liability	45,322,173	\$115,450,617
Funding Ratio	81.5%	53.9%
Actuarially Determined Employer Contribution (ADEC)	7,567,555	\$13,051,507
Estimated Employer Benefit Payments	\$14,318,141	\$14,332,634

The funding has improved since the prior valuation. This is due to favorable experience as well as an increase in the Plan asset value. The actuarial contribution (ADEC) has also decreased due to a lower unfunded actuarial accrued liability.

Changes in assumptions: Demographic assumptions were updated based on the Retirement Plan experience study covering 2015 through 2020.

Claims experience: Per-capita cost assumptions were updated to reflect actual experience and available information regarding healthcare costs.

Principal Valuation Results

This section presents detailed valuation results for WSSC Water'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, 2021) is \$277.5 million. About 40% (\$109.9 million) of this liability is for current active employees (future retirees), with the remainder attributable to current retirees enrolled in WSSC Water's healthcare plan.
- The Actuarial Accrued Liability (AAL) is the liability or obligation for benefits earned through the valuation date, based on a set of actuarial methods and assumptions. The Plan's AAL (at July 1, 2021) is \$244.4 million. The AAL represents approximately 88% 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 Normal Cost for the plan is \$3.5 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, 2021	July 1, 2019
Present Value of Projected Benefits		
Active Employees	\$109,925,714	\$108,735,019
<u>Receiving Benefits</u>	<u>167,658,426</u>	<u>172,503,179</u>
Total PVPB	\$277,584,140	\$281,238,198
Actuarial Accrued Liability (AAL)		
Active Employees	\$76,767,808	\$78,125,304
<u>Receiving Benefits</u>	<u>167,658,426</u>	<u>172,503,179</u>
Total AAL	\$244,426,234	\$250,628,483
Plan Assets	\$199,104,061	\$135,177,866
Unfunded AAL	45,322,173	115,450,617
Normal Cost	\$3,490,715	\$3,307,764

Actuarially Determined Contribution and Funding

Actuarially Determined Employer Contribution (ADEC)

The Actuarially Determined Contribution (ADEC) 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 Water's ADEC based on a closed amortization of the unfunded AAL (26 years remaining).

	July 1, 2021	July 1, 2019
Normal Cost	\$3,490,715	\$3,307,764
Unfunded AAL Amortization	3,581,766	8,889,906
Interest to End of Year	495,074	853,837
Actuarially Determined Employer Contribution (ADCE)	\$7,567,555	\$13,051,507

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	Plan 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%
7/1/2019	135,177,866	250,628,483	115,450,617	53.9%
7/1/2021	199,104,061	244,426,234	45,322,173	81.5%

Payout Projection

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

Year Ending	Expected Payout
6/30/2022	\$14,318,141
6/30/2023	14,674,270
6/30/2024	15,053,734
6/30/2025	15,589,789
6/30/2026	16,078,037
6/30/2027	16,579,918
6/30/2028	16,941,150
6/30/2029	17,326,014
6/30/2030	17,822,041
6/30/2031	18,511,282

Demographic Information

The following Table summarizes active and retiree demographic information.

	Number of Participants	
	7/1/2021	7/1/2019
Actives*	1,639	1,675
Retired (Beneficiaries and Disabled participants)	1,562	1,543
Spouses	451	480
Total Participants	3,652	3,698

	7/1/2021	7/1/2019
Average Age (Medical/Drug) (with insurance coverage)		
• Active Participants	48.0	47.7
• Retired (Beneficiaries and Disabled Participants)	70.9	70.8
Average Service (for actives)	12.3	12.5

* 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 Plus for retirees/spouses 65 and over.
Eligibility	<p>WSSC Water employees are eligible to continue with their 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.</p> <p>The surviving spouse and dependent children who were covered under WSSC Water health insurance may continue coverage after the death of the employee/Retiree, if a joint and contingent survivor option is chosen at pension commencement.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Retiree Payment	WSSC Water 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.

2021 Premiums (Monthly)

	<i>WSSC Water</i>	<i>Retiree</i>
United Healthcare Choice Plus POS		
Retiree	\$847.50	\$282.50
2-Person	1,672.50	557.50
United Healthcare Medicare Supplement		
Retiree	535.62	142.38
2-Person	1,074.40	285.60
United Healthcare Select EPO		
Retiree	631.21	167.79
2-Person	1,263.21	335.79
Kaiser Permanente HMO		
Retiree	465.31	123.69
2-Person	930.62	247.38
Kaiser Permanente Medicare Plus		
Retiree	201.45	53.55
2-Person	402.90	107.10

Changes in Plan Provisions

There were no changes in Plan 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 Closed, 26 years remaining

Amortization Method Level Dollar

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

Healthcare Trend

Year	UHC POS (Pre-65)	UHC EPO/HMO (Pre-65)	Medicare Plus/ Supplement
2021	6.00%	6.50%	4.00%
2022	5.75%	6.25%	4.00%
2023	5.50%	6.00%	4.00%
2024	5.25%	5.75%	4.00%
2025	5.00%	5.50%	4.00%
2026	4.75%	5.25%	4.00%
2027	4.50%	5.00%	4.00%
2028	4.25%	4.75%	4.00%
2029 +	4.25%	4.50%	4.00%

Expected Annual Per Capita Claims (representative amounts)

Age	UHC POS (Retiree)	UHC POS (Dependent)	UHC EPO (Retiree)	UHC EPO (Dependent)	Kaiser HMO (Retiree)	Kaiser HMO (Dependent)
45	\$10,191	\$9,920	\$7,797	\$8,198	\$6,212	\$6,212
50	11,802	11,489	\$9,031	\$9,494	\$7,195	\$7,195
55	14,084	13,710	\$10,776	\$11,329	\$8,586	\$8,586
60	17,533	17,067	\$13,415	\$14,104	\$10,688	\$10,688
65	6,855	6,896	\$6,855	\$6,896	\$2,609	\$2,609
70	7,568	7,613	\$7,568	\$7,613	\$2,881	\$2,881
75	8,253	8,302	\$8,253	\$8,302	\$3,141	\$3,141
80	8,891	8,944	\$8,891	\$8,944	\$3,384	\$3,384
85	9,345	9,400	\$9,345	\$9,400	\$3,557	\$3,557

The per capita costs above were developed based on standard aging rates and plan demographic and premium information. The trend rates are based on a consolidated version of the Society of Actuaries' Getzen Model of Long-Run Medical Cost Trends.

Demographic assumptions were changed for this valuation and are based on an actuarial experience study and assumption review covering Retirement Plan experience from July 1, 2015 through June 30, 2020.

Mortality

For non-disability annuitant mortality, the Pub2010G(B) headcount weighted mortality tables (Employees rates up to age 49, and Healthy Retiree rates thereafter) projected with Scale SSA generationally. Mortality for pre-retirement deaths is 50% of the annuitant mortality for males and females.

For disability retirement pension mortality, the Pub2010G Disabled Retiree headcount weighted tables, projected with Scale SSA generationally.

A 109% factor is applied to female rates in each case.

Retirement

Age	Rate
50-54	7%
55-60	11%
61-64	7%
65-69	20%
70+	100%

Disability (Sample Rates)

Age	Rate
35	0.00%
40	0.01%
45	0.06%
50	0.11%
55	0.16%
60	0.21%
65+	0.00%

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.

Withdrawal/Termination

Years of Service	Males	Females
0	11.0%	13.8%
1	9.4%	11.7%
2	7.9%	9.9%
3	6.8%	8.4%
4	5.7%	7.2%
5	4.9%	6.1%
6	4.1%	5.2%
7	3.5%	4.4%
8	3.0%	3.7%
9	2.5%	3.2%
10	2.2%	2.7%
11	1.8%	2.3%
12	1.6%	2.0%
13	1.3%	1.7%
14	1.1%	1.4%
15+	1.0%	1.2%

Method and Assumption Changes

- Per-capita cost assumptions were updated to reflect actual experience and available information regarding healthcare costs.
- Demographic assumptions (rates of mortality, retirement, termination, and disability) were updated based on the Retirement Plan experience study.

Prior Demographic Assumptions (7/1/2019)**Mortality**

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

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.

15 Year Projection of Cash Flows

The projections shown below are based on only one scenario, in which there are no gains or losses from investments or otherwise. The actual figures will be based on actual experience during this time frame and will differ from what is shown in the table.

WSSC Water OPEB Fund

Year Beginning <u>July 1</u>	Plan Assets Beginning <u>of Year</u>	Trust <u>Contribution~</u>	Expected Benefit <u>Payments~</u>	Estimated Investment <u>Income*</u>	Net Increase <u>in Fund</u>	Actuarial Accrued <u>Liability</u>	Funding <u>Ratio</u>
2021	\$199,104,061	\$7,567,555	\$14,611,734	\$13,444,192	\$6,400,012	\$244,426,234	81%
2022	205,504,073	7,729,875	14,975,166	13,878,115	6,632,824	250,156,640	82%
2023	212,136,897	7,899,445	15,362,411	14,327,175	6,864,209	256,075,388	83%
2024	219,001,106	8,076,610	15,909,457	14,781,778	6,948,931	262,178,155	84%
2025	225,950,037	8,262,167	16,407,717	15,246,314	7,100,764	268,319,959	84%
2026	233,050,801	8,456,265	16,919,889	15,721,102	7,257,478	274,561,764	85%
2027	240,308,280	8,659,269	17,288,528	16,217,531	7,588,272	280,904,278	86%
2028	247,896,552	8,871,016	17,681,284	16,736,040	7,925,772	287,511,478	86%
2029	255,822,324	9,091,915	18,187,482	17,270,873	8,175,306	294,385,772	87%
2030	263,997,630	9,322,713	18,890,856	17,810,064	8,241,921	301,437,721	88%
2031	272,239,551	9,564,520	19,456,369	18,364,339	8,472,491	308,485,412	88%
2032	280,712,042	9,817,228	19,933,287	18,941,719	8,825,660	315,681,185	89%
2033	289,537,701	10,080,887	20,592,662	19,531,815	9,020,040	323,137,520	90%
2034	298,557,741	10,356,670	21,225,973	20,138,191	9,268,887	330,694,849	90%
2035	307,826,628	10,644,934	21,711,405	20,773,211	9,706,740	338,398,609	91%

*Assuming 7.00% returns each year.

~Actuarially Determined Contribution assumed to be contributed and benefits assumed to be paid from trust each year.