

LEOFF 2 Board Actuarial Audit

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Your Milliman Team

Nick & Daniel (supported by team of actuaries and analysts)

Experienced public retirement plan consultants with significant involvement with actuarial audits

Familiar with Washington State Retirement Systems

Serve some of the nation's largest public plans including Oregon PERS, CalSTRS, Los Angeles County Employees Retirement Association, Texas County & District Retirement System, and Florida Retirement System



Nick Collier



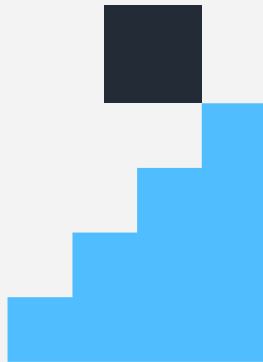
Daniel Wade



Gary Deeth

Purpose and Scope

Purpose:
Review OSA's work and confirm that the results of the valuation are reasonable



----- Scope -----

1

Evaluation of the data used in the valuation

2

Evaluation of the reasonableness of the assumptions

3

Full independent replication of assets and liabilities

4

Confirmation of calculated contribution rates

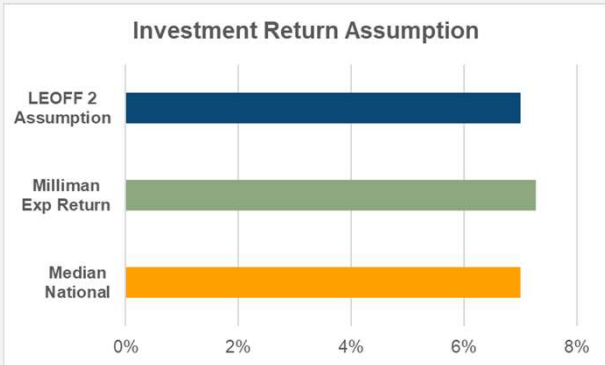
Bottom Line

OSA valuation and resulting contribution rate calculations are accurate and based on reasonable assumptions

No changes recommended to OSA's 2023 valuation



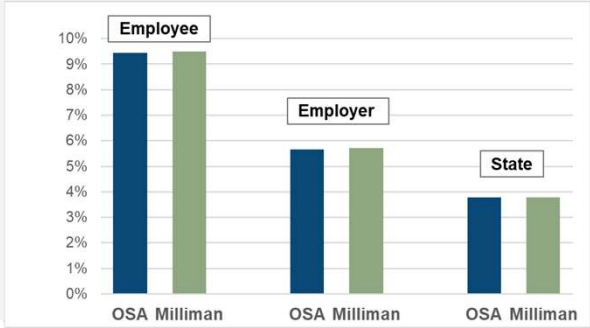
Assumptions are reasonable



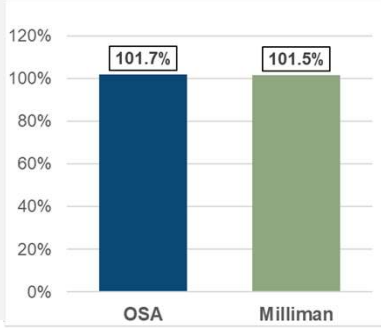
Data is consistent



Calc. cont. rates are reasonable



LEOFF 2 funded status is accurate



Benefits, Assumptions and Methods

Valuation is based on current law and reasonable assumptions and methods



1

Benefits in RCW are appropriately reflected in the valuation

Valuation reflects changes under SHB 1701

2

Methods and assumptions used in valuation are reasonable

Assumptions reviewed in detail by Milliman with 2020 audit

Additional review of economic assumptions completed this year with focus on investment return assumption

Based on Milliman's capital market assumptions and WSIB's target asset allocation, we calculated the median expected return fractionally above the 7.0% assumption used in the valuation

The 7.0% investment return assumption is in line with the median assumption for large public retirement systems

Results: Membership Data

Data supplied by DRS was reviewed

Reviewed for reasonableness

Confirmed that all necessary information was included

Data used in OSA's valuation was reviewed

Performed independent data editing of data supplied by DRS

Compared with OSA's valuation data and found high level of consistency

Conclusion

Data used by OSA in valuation looks good

LEOFF 2

	OSA	Milliman	Ratio OSA/Milliman
Active Members			
Total Number	19,311	19,311	100.0%
Total Salaries (millions)	\$ 2,637	\$ 2,637	100.0%
Average Age	41.1	41.1	100.0%
Average Service	11.8	11.8	100.0%
Average Salary	\$ 136,552	\$ 136,552	100.0%
Retirees and Survivors			
Total Number	9,460	9,460	100.0%
Average Monthly Pension	\$ 5,137	\$ 5,142	99.9%
Terminated Members			
Total Number Vested	1,434	1,434	100.0%
Total Number Non-Vested	3,067	3,067	100.0%

Results: Assets

Assets used in valuation are reasonable



1

Asset data provided by DRS

Totals, cash flows, and breakdown by Plan taken from DRS data

2

Independent calculation by Milliman of actuarial assets based on sources of data

Actuarial asset calculation is accurate and based on a reasonable method

Results: Liabilities

Good match with OSA on independent replication (99.8%)

Present Value of Benefits

Accrued Liability under Entry Age cost method

Conclusion

Valuation liabilities are accurate

(in \$Millions)	LEOFF 2 Results		
	OSA	Milliman	O / M Ratio
Present Value All Future Benefits			
Retirement	\$13,850.9	\$13,872.7	99.8%
Termination	403.9	406.3	99.4%
Death	237.6	232.6	102.1%
Disability	<u>744.5</u>	<u>747.1</u>	<u>99.7%</u>
Total Actives	\$15,236.9	\$15,258.7	99.9%
Terminated Vested	\$499.3	\$504.5	99.0%
Terminated Not Vested	<u>28.9</u>	<u>28.9</u>	<u>100.0%</u>
Total Inactive, not in Payment	\$528.2	\$533.4	99.0%
Total Annuitants	\$9,626.3	\$9,658.0	99.7%
All Members	\$25,391.4	\$25,450.1	99.8%
Entry Age Normal Accrued Liability			
All Members	\$18,992.4	\$19,039.4	99.8%

Calculations are prior to consideration of post-valuation changes in legislation.

Results: Contribution Rates

Contribution rates calculated using Milliman's independently determined liabilities and normal cost rates

Well within expected tolerances for actuarial audits

Milliman's calculations are for comparison purposes only

Contribution rates calculated under the Aggregate method are less than the Entry Age Normal Cost rate, but greater than Minimum rate (Entry Age Normal Cost rate minus offset calculated pursuant to SHB 1701).

Contribution rate under the Aggregate method reflects asset values at the actuarial valuation date and will tend to be more volatile than Entry Age Normal Cost rate.

(in \$Millions)	LEOFF 2 Results		
	OSA	Milliman	O / M Ratio
Potential Employee Contribution Rates			
Aggregate Normal Cost Rate	18.78%	18.95%	99.1%
a. 50% of Aggregate NC%	9.39%	9.48%	99.1%
Entry Age Normal Cost Rate	19.94%	19.90%	100.2%
50% of Entry Age NC%	9.97%	9.95%	100.2%
Plan Funded Status	101.7%	101.5%	100.2%
Offset under SHB 1701	0.75%	0.75%	100.0%
Minimum Adjustment	100%	100%	100.0%
b. Minimum Employee Rate	9.22%	9.20%	100.2%
Greater of a. and b.	9.39%	9.48%	99.1%
Adjustment for Post-Val Changes	0.04%	0.04%	100.0%
Employee Contribution Rate	9.43%	9.52%	99.1%
Potential Contribution Rates with Post-Val Changes			
Employee (50%)	9.43%	9.52%	99.1%
Employer (30%)	5.66%	5.71%	99.1%
State (20%)	3.77%	3.81%	99.1%

Key Changes Since Prior Actuarial Audit

Benefit increases under SHB 1701

Accurately reflected in liabilities and normal cost rates

Offset to minimum contribution rate under SHB 1701

Approach appears reasonable to us



Conclusion

OSA valuation and resulting contribution rates calculations are accurate and based on reasonable assumptions

No changes recommended to OSA's 2023 valuation



Caveats and Disclaimers

Milliman's work product was prepared exclusively for the LEOFF Plan 2 Board for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning OSA, DRS and LEOFF Plan 2 operations, and uses DRS data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third-party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product but should engage qualified professionals for advice appropriate to its own specific needs.



Thank you

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