



PUERTO RICO TEACHERS RETIREMENT SYSTEM MEDICAL INSURANCE PLAN CONTRIBUTION BENEFIT

GASB 75 EXPENSE

Measurement Year: July 1, 2016 to June 30, 2017

Reporting Year: July 1, 2017 to June 30, 2018

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This work product was prepared solely for the Puerto Rico Teachers Retirement System ("PRTRS") for the purposes described herein and may not be appropriate to use for other purposes. Milliman and PRTRS do not intend to benefit and assume no duty or liability to other parties who receive this work. Milliman and PRTRS recommend that any third party recipient be aided by its own actuary or other qualified professional when reviewing the Milliman work product.

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GASB 75 Expense for Measurement Year Ending June 30, 2017

Puerto Rico Teachers Retirement System Medical Insurance Plan Contribution Benefit

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Certification

Actuarial computations presented in this report under Statement No. 75 of the Governmental Accounting Standards Board are for purposes of assisting the Puerto Rico Teachers Retirement System ("PRTRS") in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for measurement year July 1, 2016 to June 30, 2017 for reporting periods ending June 30, 2017 through June 30, 2018. The measurement date for determining plan assets and obligations is June 30, 2017. The calculations enclosed in this report have been made on a basis consistent with our understanding of the plan provisions. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security or meeting employer funding requirements.

In preparing this report, we relied, without audit, on information as of July 1, 2016 and June 30, 2017 furnished by PRTRS. This information includes, but is not limited to, statutory provisions, member census data, and financial information. Please see Milliman's June 30, 2017 valuation report dated March 24, 2020 for more information on the plan's participants as of July 1, 2016 as well as a summary of the plan provisions and a summary of the actuarial methods and assumptions used for GASB 45 (the outgoing standard).

We performed a limited review of the census and financial information used directly in our analysis and have found them to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

We hereby certify that, to the best of our knowledge, this report, including all costs and liabilities based on actuarial assumptions and methods developed by Milliman in conjunction with PRTRS, is complete and accurate and determined in conformance with generally recognized and accepted actuarial principles and practices, which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Code of Professional Conduct, amplifying Opinions and supporting Recommendations of the American Academy of Actuaries.

This valuation report is only an estimate of the plan's financial condition as of a single date. It can neither predict the plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of plan benefits, only the timing of plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurements.

Certification

Milliman's work is prepared solely for the internal use and benefit of Puerto Rico Teachers Retirement System ("PRTRS"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to the Plan Sponsor's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the PRTRS; and (b) the Plan Sponsor may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their specific needs.

The results shown in this report were developed using models intended for valuations that use standard actuarial techniques.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and has been prepared in accordance with generally recognized accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.



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Overview of GASB 74 and GASB 75

The Governmental Accounting Standards Board (GASB) released new accounting standards for public postemployment benefit plans other than pension (OPEB) and participating employers in 2015. These standards, GASB Statements No. 74 and 75, have substantially revised the accounting requirements previously mandated under GASB Statements No. 43 and 45. The most notable change is the that the Annual Required Contribution (ARC) has been eliminated and the Net OPEB Liability will be an item on the employer's financial statement rather than a footnote entry.

GASB 74 applies to financial reporting for public OPEB plans funded by OPEB trusts and is required to be implemented for plan fiscal years beginning after June 15, 2016. Note that a plan's fiscal year might not be the same as the employer's fiscal year. Even if the plan does not issue standalone financial statements, but rather is considered a trust fund of a government, it is subject to GASB 74. Under GASB 74, enhancements to the financial statement disclosures are required, along with certain required supplementary information.

GASB 75 governs the specifics of accounting for public OPEB plan obligations for participating employers and is required to be implemented for employer fiscal years beginning after June 15, 2017. GASB 75 requires a liability for OPEB obligations, known as the Net OPEB Liability (Total OPEB Liability for unfunded plans), to be recognized on the balance sheets of participating employers. Changes in the Net OPEB Liability (Total OPEB Liability for unfunded plans) will be immediately recognized as OPEB Expense on the income statement or reported as deferred inflows/outflows of resources depending on the nature of the change.

Because the medical insurance plan contribution benefit provided to PRTRS members is not funded by an OPEB trust, GASB 74 does not apply.

Executive Summary

Relationship Between Valuation Date, Measurement Date, and Reporting Date

The Valuation Date is July 1, 2016. This is the date as of which the actuarial valuation is performed. The Measurement Date is June 30, 2017. This is the date as of which the total OPEB liability is determined. The Reporting Date is June 30, 2018 for GASB 75. This is the plan's and/or employer's fiscal year ending date. PRTRS has adopted this measurement date for the following fiscal year.

Significant Changes

There have been no significant changes between the valuation date and measurement year end.

Participant Data as of July 1, 2016

Actives	0
Retirees	36,881
Beneficiaries	<u>0</u>
Total	36,881
Spouses of Retirees	0

Total OPEB Liability

Total OPEB Liability	June 30, 2016	June 30, 2017
Total OPEB liability	\$531,150,062	\$468,810,284
Covered payroll	N/A	N/A
Total OPEB liability as a % of covered payroll	N/A	N/A

The total OPEB liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below, and was then projected forward to the measurement date. Any significant changes during this period have been reflected as prescribed by GASB 75.

Discount Rate

Discount rate	2.85%	3.58%
20 Year Tax-Exempt Municipal Bond Yield	2.85%	3.58%

The discount rate was based on the Bond Buyer General Obligation 20-Bond Municipal Index.

Other Key Actuarial Assumptions

Except for the discount rate, please refer to Milliman's June 30, 2017 valuation dated March 24, 2020 for the other actuarial assumptions used.

Valuation date	July 1, 2016	July 1, 2016
Measurement date	June 30, 2016	June 30, 2017
Actuarial cost method	Entry Age Normal	Entry Age Normal
Medical Trend Rate	not applicable	not applicable

Changes in Total OPEB Liability

	Increase (Decrease) Total OPEB Liability
Changes in Total OPEB Liability	
Balance as of June 30, 2016	\$531,150,062
Changes for the year:	
Service cost	0
Interest on total OPEB liability	14,621,405
Effect of plan changes	0
Effect of economic/demographic gains or losses	(750,378)
Effect of assumptions changes or inputs	(39,717,805)
Benefit payments	(36,493,000)
Balance as of June 30, 2017	468,810,284

Sensitivity Analysis

The following presents the total OPEB liability of the PRTRS, calculated using the discount rate of 3.58%, as well as what the PRTRS's total OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.58%) or 1 percentage point higher (4.58%) than the current rate.

	1% Decrease 2.58%	Discount Rate 3.58%	1% Increase 4.58%
Total OPEB Liability as of June 30, 2017	\$518,536,024	\$468,810,284	\$426,952,559

The following presents the total OPEB liability of the PRTRS, calculated using the current healthcare cost trend rates as well as what the PRTRS's total OPEB liability would be if it were calculated using trend rates that are 1 percentage point lower or 1 percentage point higher than the current trend rates.

	1% Decrease	Current Trend Rate	1% Increase
Total OPEB Liability as of June 30, 2017	\$468,810,284	\$468,810,284	\$468,810,284

Schedule of Changes in Total OPEB Liability and Related Ratios
(in 1,000s)

	Measurement Year Ending June 30									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service cost	\$0	N/A								
Interest on total OPEB liability	14,621	N/A								
Effect of plan changes	0	N/A								
Effect of economic/demographic gains or (losses)	(750)	N/A								
Effect of assumption changes or inputs	(39,718)	N/A								
Benefit payments	(36,493)	N/A								
Net change in total OPEB liability	(62,340)	N/A								
Total OPEB liability, beginning	531,150	N/A								
Total OPEB liability, ending (a)	468,810	N/A								
Covered payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total OPEB liability as a % of covered payroll	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the current GASB standards, they should not be reported.

OPEB Expense

OPEB Expense	July 1, 2016 to June 30, 2017
Service cost	\$0
Interest on total OPEB liability	14,621,405
Effect of plan changes	0
Recognition of Deferred Inflows/Outflows of Resources	
Recognition of economic/demographic gains or losses	(750,378)
Recognition of assumption changes or inputs	(39,717,805)
OPEB Expense	(25,846,778)

As of June 30, 2017, the deferred inflows and outflows of resources are as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$0	\$0
Changes of assumptions	0	0
Total	0	0

Amounts currently reported as deferred outflows of resources and deferred inflows of resources related to other postemployment benefits will be recognized in OPEB expense as follows:

Year ended June 30:	
2018	\$0
2019	0
2020	0
2021	0
2022	0
Thereafter*	0

* Note that additional future deferred inflows and outflows of resources may impact these numbers.

Schedule of Deferred Inflows and Outflows of Resources

	Original Amount	Date Established	Original Rec. Period*	Amount Recognized in Expense for MYE 06/30/2017	Amount Recognized in Expense through 06/30/2017	Balance of Deferred Inflows 06/30/2017	Balance of Deferred Outflows 06/30/2017
Economic/ demographic (gains) or losses	(\$750,378)	06/30/2017	1.0	(\$750,378)	(\$750,378)	\$0	\$0
		Total		(750,378)	(750,378)	0	0
Assumption changes or inputs	(39,717,805)	06/30/2017	1.0	(39,717,805)	(39,717,805)	0	0
		Total		(39,717,805)	(39,717,805)	0	0
Total deferred (inflows)/outflows						0	0
Total net deferrals							0

* Economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members.

Summary Chart

	Total OPEB Liability	Deferred Inflows	Deferred Outflows	Net Deferrals	Total OPEB Liability plus Net Deferrals	Annual Expense
Balances as of June 30, 2016	(\$531,150,062)	\$0	\$0	\$0	(\$531,150,062)	
Service cost	0					0
Interest on total OPEB liability	(14,621,405)					14,621,405
Effect of plan changes	0					0
Effect of liability gains or losses	750,378	(750,378)		(750,378)		
Effect of assumption changes or inputs	39,717,805	(39,717,805)		(39,717,805)		
Benefit payments	36,493,000				36,493,000	
Recognition of liability gains or losses		750,378		750,378		(750,378)
Recognition of assumption changes or inputs		39,717,805		39,717,805		(39,717,805)
Annual expense					25,846,778	(25,846,778)
Balances as of June 30, 2017	(468,810,284)	0	0	0	(468,810,284)	

Net OPEB Obligation

The following exhibit includes the information needed to comply with GASB Statement No. 45, "Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions", for the fiscal year ending June 30, 2017, along with the prior-period adjustment necessary to transition to GASB 75.

Net OPEB obligation/(asset) on June 30, 2016	\$58,055,803
Annual OPEB cost	35,010,813
Contributions made	36,493,000
Net OPEB obligation/(asset) on June 30, 2017	56,573,616
Prior-period adjustment	474,576,446
Net OPEB liability* on June 30, 2017	531,150,062

* Equal to total OPEB liability as of June 30, 2016 due to one-year lookback under GASB 75.

Glossary

Actuarially Determined Contribution	The employer does not pre-fund benefits. The current funding policy is to pay benefits directly from general assets on a pay-as-you-go basis.
Deferred Inflows/Outflows of Resources	Portion of changes in net OPEB liability that is not immediately recognized in OPEB Expense. These changes include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on plan investments.
Discount Rate	Single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the sum of: <ol style="list-style-type: none">1) The actuarial present value of benefit payments projected to be made in future periods where the plan assets are projected to be sufficient to meet benefit payments, calculated using the Long-Term Expected Rate of Return.2) The actuarial present value of projected benefit payments not included in (1), calculated using the Municipal Bond Rate.
Municipal Bond Rate	Yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
Projected Benefit Payments	All benefits estimated to be payable through the OPEB plan to current active and inactive employees as a result of their past service and expected future service.
Service Cost	The portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total OPEB Liability	The portion of actuarial present value of projected benefit payments that is attributable to past periods of member service using the Entry Age Normal cost method based on the requirements of GASB 74 and 75.