PORT OF HOUSTON AUTHORITY
POST-RETIREMENT MEDICAL PLAN

GASB 74 and 75 DISCLOSURE
Fiscal Year: January 1, 2017 to December 31, 2017

Prepared by

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Certification

Actuarial computations presented in this report under Statements No. 74 and 75 of the Governmental Accounting Standards Board are for purposes of assisting the Port of Houston in fulfilling its financial accounting requirements. No attempt is being made to offer any accounting opinion or advice. This report is for fiscal year January 1, 2017 to December 31, 2017. The reporting date for determining plan assets and obligations is December 31, 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 January 1, 2017 and December 31, 2017 furnished by the Port of Houston. This information includes, but is not limited to, statutory provisions, member census data, and financial information. The membership as of January 1, 2017 includes 524 active participants, 357 retirees, and 199 spouses of current retirees.

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, 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

Certification

Milliman's work is prepared solely for the internal use and benefit of the Port of Houston Authority. 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 Fund; 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 consultants who worked on this assignment are pension 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 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 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, to be recognized on the balance sheets of participating employers. Changes in the Net OPEB Liability 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.

Executive Summary

Relationship Between Valuation Date, Measurement Date, and Reporting Date

The Valuation Date is January 1, 2017. This is the date as of which the actuarial valuation is performed. The Measurement Date is December 31, 2017. This is the date as of which the net OPEB liability is determined. The Reporting Date is December 31, 2017. This is the plan's and/or employer's fiscal year ending date.

Significant Changes

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

Schedule of Employer Contributions

Fiscal Year Ending December 31	Actuarially Determined Contribution*	Actual Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll	Contribution as a % of Covered Payroll
2008	$12,290,460	$2,784,478	$9,505,982	$26,285,979	10.59%
2009	14,579,926	2,372,511	12,207,415	32,309,636	7.34%
2010	14,579,926	2,896,994	11,682,932	32,309,636	8.97%
2011	8,114,532	10,535,646	(2,421,114)	34,938,502	30.15%
2012	7,913,103	10,775,727	(2,862,624)	34,938,502	30.84%
2013	6,908,528	11,226,443	(4,317,915)	34,615,344	32.43%
2014	6,568,490	11,363,303	(4,794,813)	33,689,999	33.73%
2015	5,536,880	11,202,847	(5,665,967)	38,906,511	28.79%
2016	5,798,101	8,772,355	(2,974,254)	38,906,511	22.55%
2017	5,216,660	9,454,403	(4,237,743)	40,287,296	23.47%

* Annual Required Contribution (ARC) under GASB 45 for fiscal 2016 and prior.

Actuarial Methods and Assumptions Used for Funding Policy

The employer pre-funds benefits through contributions to the trust. The current funding policy is to contribute the Actuarially Determined Contribution as calculated by the actuary. The Actuarially Determined Contribution is the sum of the current year's normal cost plus an amount necessary to amortize the unfunded liability over a closed 10 year period. The following actuarial methods and assumptions were used to calculate the January 1, 2017 Actuarially Determined Contribution.

Valuation Timing	Actuarial valuations for funding purposes are performed biennially as of January 1. The most recent valuation was performed as of January 1, 2017.
Actuarial Cost Method	Entry Age Normal
Amortization Method	
Level percent or level dollar	Level dollar
Closed, open, or layered periods	Open
Amortization period at January 1, 2017	10 years
Amortization growth rate	0.00%
Asset Valuation Method	Market Value
Inflation	2.50%
Salary Increases	Age based
Discount Rate	6.75%
Healthcare Cost Trend Rates	8.1% for 2017, gradually decreasing to an ultimate rate of 4.4% for 2071 and beyond.
Retirement	See Appendices to this report
Turnover	See Appendices to this report
Mortality	RP-2006 Mortality for Employees, Healthy Annuitants, and Disabled Annuitants with generational projection per Scale MP-2016

Actuarially Determined Contribution

The following exhibit provides the detailed calculation of the Actuarially Determined Contribution for the January 1, 2017 plan year.

	January 1, 2017
Normal Cost	$3,081,474
Unfunded Actuarial Accrued Liability	
Actuarial Accrued Liability	66,759,384
Assets	53,065,814
Unfunded Actuarial Accrued Liability	13,693,570
Amortization	
Period (years)	10
Amount	1,805,327
Interest to December 31, 2017	329,859
Actuarially Determined Contribution	$5,216,660
Sum of Normal Cost, Amortization, and Interest	

Statement of Fiduciary Net Position

	December 31, 2016	December 31, 2017
Assets		
Cash and cash equivalents	$19,769	$25,163
Receivables and prepaid expenses:		
Receivable contributions	0	0
Receivable investment income	0	0
Receivables from brokers for unsettled trades	0	0
Prepaid expenses	0	0
Total receivables	0	0
Investments:		
Fixed income	23,682,372	28,595,099
Stocks	21,140,011	26,485,498
Short-term investments	0	0
Real estate	2,713,002	3,016,728
Alternative investments	5,510,660	6,456,960
Total investments	53,046,045	64,554,285
Invested securities lending cash collateral	0	0
Capital assets net of accumulated depreciation	0	0
Total assets	53,065,814	64,579,448
Liabilities		
Accrued expenses and benefits payable	0	0
Securities lending cash collateral	0	0
Payable to brokers for unsettled trades	0	0
Total liabilities	0	0
Net position restricted for postemployment benefits other than pensions	$53,065,814	$64,579,448

Statement of Changes in Fiduciary Net Position

	December 31, 2017
Additions	
Member contributions	$0
Employer contributions	9,454,403
Total contributions	9,454,403
Investment income (loss):	
Interest	0
Dividends	0
Equity fund income, net	0
Net increase in fair value of investments	5,713,634
Securities lending income	0
Less investment expenses:	
Direct investment expense	0
Securities lending management fees	0
Securities lending borrower rebates	0
Net investment income	5,713,634
Other income	0
Total additions	15,168,037
Deductions	
Service benefits	3,654,403
Disability benefits	N/A
Death benefits	N/A
Refunds of member contributions	N/A
Administrative expenses	0
Total deductions	3,654,403
Net increase (decrease)	11,513,634
Net position restricted for postemployment benefits other than pensions	
Beginning of year (December 31, 2016)	53,065,814
End of year (December 31, 2017)	$64,579,448

Money-Weighted Rate of Return

Fiscal Year Ending December 31	Net Money-Weighted Rate of Return
2008	N/A
2009	N/A
2010	N/A
2011	N/A
2012	N/A
2013	N/A
2014	N/A
2015	N/A
2016	10.50%
2017	10.90%

Calculation of Money-Weighted Rate of Return

The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amount of plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the beginning of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows With Interest
Beginning Value - January 1, 2017	$53,065,814	12.00	1.00	$58,847,853
Monthly net external cash flows:				
January	(304,534)	12.00	1.00	(337,716)
February	(304,533)	11.00	0.92	(334,932)
March	(304,534)	10.00	0.83	(331,830)
April	(304,533)	9.00	0.75	(329,095)
May	(304,534)	8.00	0.67	(326,384)
June	(304,533)	7.00	0.58	(323,359)
July	(304,534)	6.00	0.50	(320,696)
August	(304,533)	5.00	0.42	(318,053)
September	(304,534)	4.00	0.33	(315,107)
October	1,271,201	3.00	0.25	1,304,497
November	3,634,801	2.00	0.17	3,699,272
December	3,634,800	1.00	0.08	3,664,998
Ending Value - December 31, 2017	64,579,448			64,579,448
Money-Weighted Rate of Return	10.90%			

Long-Term Expected Rate of Return

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2017.

Asset Class	Index	Target Allocation*	Long-Term Expected Arithmetic Real Rate of Return	Long-Term Expected Geometric Real Rate of Return
Core Fixed Income	Barclays Aggregate	40.00%	1.60%	1.49%
High Yield Bonds	Barclays High Yield	5.00%	4.11%	3.59%
Large Cap US Equities	S&P 500	15.00%	4.14%	2.98%
Mid Cap US Equities	Russell Microcaps	7.50%	4.49%	2.96%
Small Cap US Equities	Russell 2000	10.00%	5.18%	3.29%
Developed Foreign Equities	MSCI EAFE NR	7.50%	4.96%	3.38%
Private Equity	Cambridge Associates	10.00%	4.08%	2.73%
Real Estate (REITS)	FTSE NAREIT Equity REIT	5.00%	4.73%	3.00%
Assumed Inflation - Mean			2.30%	2.30%
Assumed Inflation - Standard Deviation			1.85%	1.85%
Portfolio Real Mean Return			3.34%	2.90%
Portfolio Nominal Mean Return			5.65%	5.26%
Portfolio Standard Deviation			9.36%	2.08%
Long-Term Expected Rate of Return				**6.75%**

* As outlined in the Plan's investment policy dated July 25, 2017

Depletion Date Projection

GASB 74 and 75 generally require that a blended discount rate be used to measure the Total OPEB Liability (the Actuarial Accrued Liability calculated using the Individual Entry Age Normal Cost Method). The long-term expected return on plan investments may be used to discount liabilities to the extent that the plan's Fiduciary Net Position (fair market value of assets) is projected to cover benefit payments and administrative expenses. A 20-year tax-exempt municipal bond yield or index rate must be used for periods where the Fiduciary Net Position is not projected to cover benefit payments and administrative expenses. Determining the discount rate under GASB 74 and 75 will often require that the actuary perform complex projections of future benefit payments and asset values. GASB 74 and 75 (paragraph 29) do allow for alternative evaluations of projected solvency, if such evaluation can reliably be made. GASB does not contemplate a specific method for making an alternative evaluation of sufficiency; it is left to professional judgment.

The following circumstances justify an alternative evaluation of sufficiency for the Port of Houston Authority:

- The Port of Houston Authority has at least a 5-year history of paying at least 100% of the Actuarially Determined Contribution (previously termed the Annual Required Contribution).

- The Actuarially Determined Contribution is based on a closed amortization period, which means that payment of the Actuarially Determined Contribution each year will bring the plan to a 100% funded position by the end of the amortization period.

- GASB 74 and 75 specify that the projections regarding future solvency assume that plan assets earn the assumed rate of return and there are no future changes in the plan provisions or actuarial methods and assumptions, which means that the projections would not reflect any adverse future experience which might impact the plan's funded position

Based on these circumstances, it is our professional opinion that the detailed depletion date projections outlined in GASB 74 and 75 will show that the Fiduciary Net Position is always projected to be sufficient to cover benefit payments and administrative expenses.

Net OPEB Liability

Net OPEB Liability	January 1, 2017	December 31, 2017
Total OPEB liability	$66,759,384	$70,779,391
Fiduciary net position	53,065,814	64,579,448
Net OPEB liability	13,693,570	6,199,943
Fiduciary net position as a % of total OPEB liability	79.49%	91.24%
Covered payroll	38,906,511	40,287,296
Net OPEB liability as a % of covered payroll	35.20%	15.39%

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. There have been no significant changes between the valuation date and the fiscal year end. Any significant changes during this period must be reflected as prescribed by GASB 74 and 75.

Discount Rate

Discount rate	6.75%	6.75%
Long-term expected rate of return, net of investment expense	6.75%	6.75%
Municipal bond rate	N/A	N/A

The plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the discount rate for calculating the total OPEB liability is equal to the long-term expected rate of return.

Other Key Actuarial Assumptions

The actuarial assumptions that determined the total OPEB liability as of December 31, 2017 were based on the results of an actuarial experience study for the period July 1, 2007 - July 1, 2012.

Valuation date	January 1, 2017
Measurement date	December 31, 2017
Inflation	2.50%
Salary increases including inflation	Age based
Mortality	RP-2006 Mortality for Employees, Healthy Annuitants, and Disabled Annuitants with generational projection per Scale MP-2016
Actuarial cost method	Entry Age Normal

Changes in Net OPEB Liability

Changes in Net OPEB Liability	Increase (Decrease) Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balances as of December 31, 2016	$66,759,384	$53,065,814	$13,693,570
Changes for the year:			
Service cost	3,081,474		3,081,474
Interest on total OPEB liability	4,592,936		4,592,936
Effect of plan changes	0		0
Effect of economic/demographic gains or losses	0		0
Effect of assumptions changes or inputs	0		0
Benefit payments	(3,654,403)	(3,654,403)	0
Employer contributions		9,454,403	(9,454,403)
Member contributions		0	0
Net investment income		5,713,634	(5,713,634)
Adminstrative expenses		0	0
Balances as of December 31, 2017	70,779,391	64,579,448	6,199,943

Sensitivity Analysis

The following presents the net OPEB liability of the Port of Houston, calculated using the discount rate of 6.75%, as well as what the Port of Houston's net OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower (5.75%) or 1 percentage point higher (7.75%) than the current rate.

	1%	Current	1%
	1% Decrease 5.75%	Discount Rate 6.75%	1% Increase 7.75%
Total OPEB liability	$79,699,424	$70,779,391	$63,396,224
Fiduciary net position	64,579,448	64,579,448	64,579,448
Net OPEB liability	15,119,976	6,199,943	(1,183,224)

The following presents the net OPEB liability of the Port of Houston, calculated using the current healthcare cost trend rates as well as what the Port of Houston's net 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	$62,087,039	$70,779,391	$81,523,041
Fiduciary net position	64,579,448	64,579,448	64,579,448
Net OPEB liability	(2,492,409)	6,199,943	16,943,593

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

	Fiscal Year Ending December 31									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Total OPEB Liability										
Service cost	$3,081	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Interest on total OPEB liability	4,593	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Changes of benefit terms	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Effect of economic/demographic (gains) or losses	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Effect of assumption changes or inputs	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benefit payments	(3,654)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net change in total OPEB liability	4,020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total OPEB liability, beginning	66,759	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total OPEB liability, ending (a)	70,779	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fiduciary Net Position										
Employer contributions	$9,454	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net Investment income	5,714	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benefit payments	(3,654)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Administrative expenses	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net change in plan fiduciary net position	11,514	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fiduciary net position, beginning	53,066	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fiduciary net position, ending (b)	64,579	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net OPEB liability, ending = (a) - (b)	$6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fiduciary net position as a % of total OPEB liability	91.24%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Covered payroll	$40,287	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net OPEB liability as a % of covered payroll	15.39%	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.

Notes to Schedule:

Changes of benefit terms. None in 2017.

Changes of assumptions. None in 2017.

Schedule of Port of Houston Contributions
(in 1,000s)

	Fiscal Year Ending December 31									
	2017	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Actuarially Determined Contribution*	$5,217	$5,798	$5,537	$6,568	$6,909	$7,913	$8,115	$14,580	$14,580	$12,290
Contributions in relation to the Actuarially Determined Contribution	9,454	8,772	11,203	11,363	11,226	10,776	10,536	2,897	2,373	2,784
Contribution deficiency/(excess)	($4,238)	($2,974)	($5,666)	($4,795)	($4,318)	($2,863)	($2,421)	$11,683	$12,207	$9,506
Covered payroll	40,287	38,907	38,907	33,690	34,615	34,939	34,939	32,310	32,310	26,286
Contributions as a percentage of covered payroll	23.47%	22.55%	28.79%	33.73%	32.43%	30.84%	30.15%	8.97%	7.34%	10.59%

* Annual Required Contribution (ARC) under GASB 45 for 2016 and prior.

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.

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 December 31, 2016, along with the prior-period adjustment necessary to transition to GASB 75.

Net OPEB obligation/(asset) on December 31, 2015	$21,775,876
Annual Required Contribution	5,798,101
Interest on net OPEB obligation/(asset)	1,469,872
Adjustment to Annual Required Contribution	1,602,789
Annual OPEB cost	5,665,184
Contributions made	8,772,355
Increase in net OPEB obligation/(asset)	(3,107,171)
Net OPEB obligation/(asset) on December 31, 2016	18,668,705
Prior-period adjustment	(4,975,135)
Net OPEB liability on January 1, 2017	13,693,570

OPEB Expense

OPEB Expense	January 1, 2016 to December 31, 2016	January 1, 2017 to December 31, 2017
Service cost	N/A	$3,081,474
Interest on total OPEB liability	N/A	4,592,936
Effect of plan changes	N/A	0
Administrative expenses	N/A	0
Member contributions	N/A	0
Expected investment return net of investment expenses	N/A	(3,774,496)
Recognition of Deferred Inflows/Outflows of Resources		
Recognition of economic/demographic gains or losses	N/A	0
Recognition of assumption changes or inputs	N/A	0
Recognition of investment gains or losses	N/A	(387,828)
OPEB Expense	N/A	3,512,086

As of December 31, 2017, the deferred inflows and outflows of resources are as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resouces	Deferred Outflows of Resouces
Differences between expected and actual experience	$0	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings	(1,551,310)	0
Contributions made subsequent to measurement date	0	0
Total	(1,551,310)	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	($387,828)
2019	(387,828)
2020	(387,828)
2021	(387,826)
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 Recognition Period*	Amount Recognized in 12/31/2017 Expense	Balance of Deferred Inflows 12/31/2017	Balance of Deferred Outflows 12/31/2017
Investment (gains) or losses	($1,939,138)	12/31/2017	5.0	($387,828)	($1,551,310)	$0
		Total		(387,828)	(1,551,310)	0
Economic/demographic (gains) or losses	0	12/31/2017	0.0	0	0	0
		Total		0	0	0
Assumption changes or inputs	0	12/31/2017	0.0	0	0	0
		Total		0	0	0

* Investment (gains)/losses are recognized in OPEB expense over a period of five years; economic/demographic (gains)/losses and assumption changes or inputs are recognized over the average remaining service life for all active and inactive members.

Summary

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Deferred Inflows	Deferred Outflows	Net Deferrals	Net OPEB Liability plus Net Deferrals	Annual Expense
Balances as of January 1, 2017	($66,759,384)	$53,065,814	($13,693,570)	$0	$0	$0	($13,693,570)	
Service cost	(3,081,474)		(3,081,474)					3,081,474
Interest on total OPEB liability	(4,592,936)		(4,592,936)					4,592,936
Effect of plan changes	0		0					0
Effect of liability gains or losses	0		0			0		
Effect of assumption changes or inputs	0		0			0		
Benefit payments	3,654,403	(3,654,403)	0					
Administrative expenses		0	0					0
Member contributions		0	0					0
Expected investment income (net of inv expenses)		3,774,496	3,774,496					(3,774,496)
Investment gains or losses		1,939,138	1,939,138	(1,939,138)		(1,939,138)		
Employer contributions		9,454,403	9,454,403				9,454,403	
Recognition of liability gains or losses						0		0
Recognition of assumption changes or inputs						0		0
Recognition of investment gains or losses				387,828		387,828		(387,828)

Annual expense							(3,512,086)	3,512,086
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Balances as of December 31, 2017	(70,779,391)	64,579,448	(6,199,943)	(1,551,310)	0	(1,551,310)	(7,751,253)	

Glossary

Actuarially Determined Contribution	A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined based on the funding policy and most recent measurement available when the contribution for the reporting period was adopted.
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: 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.
Fiduciary Net Position	Equal to market value of assets.
Long-Term Expected Rate of Return	Long-term expected rate of return on plan investments expected to be used to finance the payment of benefits, net of investment expenses.
Money-Weighted Rate of Return	The internal rate of return on plan investments, net of investment expenses.
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.
Net OPEB Liability	Total OPEB Liability minus the Plan's Fiduciary Net Position.
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.

Appendix A. Actuarial Cost Method and Assumptions

The actuarial cost method used for determining the benefit obligations is the Entry Age Normal Cost Method. Under this method, a projected retirement benefit at assumed retirement age is computed for each participant using anticipated future pay increases. The normal cost for each participant is computed as the level percentage of pay, which if paid from each participant's date of employment by the employer or any predecessor employer (thus, entry age) to his assumed retirement date, would accumulate with interest at the rate assumed in the valuation to an amount sufficient to fund his projected retirement benefit. The normal cost for the plan is the total of the individually computed normal costs for all participants including the costs for any death or disability benefits under the plan.

The accrued liability at any point in time for an active participant is the theoretical fund that would have been accumulated on his behalf from his normal cost payments and the earnings thereon for all prior years if the plan had always been in effect. For persons receiving benefits or entitled to a deferred vested retirement income, the accrued liability cost is equal to the present value of their future benefit payments. The accrued liability for the plan is the total of the individually computed accrued liability for all participants. The unfunded accrued liability for the plan is the excess of the accrued liability over the assets which have been accumulated for the plan.

It should be noted that the accrued liability as of any date is not the actuarially computed present value of accrued or accumulated plan benefits as of that date. The accrued liability is the portion of the ultimate cost assigned to prior years by the cost method being used.

Economic Assumptions

Discount Rate (liabilities)

January 1, 2017: 6.75% effective annual rate
December 31, 2017: 6.75% effective annual rate
The discount rate is based expected long term return on assets as selected by the employer.

Retiree Premium Increases

N/A.

Salary Increases

Age	*Rate*
20	10.0%
25	7.3%
30	6.8%
35	5.2%
40	4.2%
45	4.5%
50	4.5%
55	3.7%
60	3.7%
65	2.7%

Demographic Assumptions

Healthy Mortality

For Salaried participants, RP-2014 White Collar Mortality Table adjusted backward to 2006 with MP-2014 and projected with Scale MP-2016 for males and females. For Hourly participants, RP-2014 Blue Collar Mortality Table adjusted backward to 2006 with MP-2014 and projected with Scale MP-2016 for males and females. Adopted January 1, 2017.

Disabled Mortality

RP-2014 Disabled Mortality Table adjusted backward to 2006 with MP-2014 and projected with Scale MP-2016 for males and females. Adopted January 1, 2017.

Disability

Selected rates are as follows.

Male		*Female*	
Ages	***Rates***	***Ages***	***Rates***
20	0.10%	20	0.17%
25	0.11%	25	0.18%
30	0.12%	30	0.19%
35	0.13%	35	0.21%
40	0.16%	40	0.26%
45	0.25%	45	0.39%
50	0.47%	50	0.77%
55	0.94%	55	1.46%
60	1.38%	60	2.24%

Retirement

Ages	*Rates*
55-56	10%
57-58	15%
59-60	20%
61-64	25%
65-69	50%
70+	100%

Withdrawal

Ages	*Rates*
25	5.00%
30	6.80%
35	5.60%
40	4.50%
45	4.20%
50	2.20%
55	3.60%
60	1.10%
65	0.00%

Coverage at Retirement

100% of active employees are assumed to elect continued coverage in retirement. Pre-65 retirees are assumed to be covered in the BCBS Basic PPO and post-65 retirees are assumed to be covered in the AETNA Medicare Choice PPO 20/20 Plan.

Spouse Coverage

80% of employees are assumed to have a covered spouse in retirement (no dependent children are assumed).

Spouse Age

If spouse age is not available, female spouses are assumed to be three years younger than male spouses.

Health Costs by Age/Gender

Following is a table for ages 45 to 85 at five year intervals:

Medical Per Capita Health Costs (Annual)

	Retiree		Spouse	
Age	Male	Female	Male	Female
45	17,866	20,363	11,236	13,615
50	15,701	17,823	12,883	14,926
55	16,730	17,570	15,028	16,464
60	20,511	19,984	18,092	18,788
65	1,651	1,614	1,651	1,614
70	2,003	1,893	2,003	1,893
75	2,396	2,208	2,396	2,208
80	2,784	2,544	2,784	2,544
85	3,184	2,911	3,184	2,911

Healthcare Inflation Rate

To determine our future trend rate assumptions, we considered both near term and long term expectations of healthcare inflation. For the near term, we selected trend rates within the range of factors included in Milliman's *Health Cost Guidelines* for 2016 based on industry data. For the long term, we used trend rates from the Getzen model for projecting long-term healthcare trends. The Getzen model was developed by the Society of Actuaries (SOA) as a resource for the estimation of reportable liabilities for retiree healthcare benefits. Our resulting health care inflation rate assumption is shown below:

Year	Pre-65	Post-65
2017	8.1%	8.6%
2018	5.2%	5.5%
2019	8.6%	5.4%
2020	5.9%	5.5%
2021-2023	6.0%	5.5%
2024	6.0%	5.4%
2025-2029	6.0%	5.5%
2030	5.9%	5.5%
2031-2032	6.0%	5.5%
2033-2034	5.9%	5.5%

2035	5.9%	5.6%
2036	5.9%	5.5%
2037	5.7%	5.4%
2038	5.7%	5.3%
2039-2040	5.6%	5.3%
2041-2043	5.5%	5.2%
2044-2047	5.4%	5.2%
2048	5.4%	5.1%
2049-2055	5.3%	5.1%
2056-2061	5.2%	5.1%
…	…	
2094 and after	4.4%	4.9%

Appendix B. Summary of Benefits

The following description of retiree health benefits is intended to be only a brief summary. For details, reference should be made to the 2017 Employee Retirement Guide for the Port of Houston.

Eligibility
For employees hired prior to January 1, 2010, retiree medical insurance coverage is provided with no years of service requirement. For employees hired on or after January 1, 2010, retiree medical insurance coverage is available after 12 years of service upon retirement. Retirees and eligible dependents over the age of 65, or disabled retirees or dependents who qualify for Social Security disability benefits, must have Medicare Part A and Part B to be eligible for any Port Authority medical plans.

Dependent Eligibility
Spouses of eligible retirees at the time of retirement are eligible for coverage as well.

Health Benefits
Coverage for pre-65 eligible retirees and spouses is offered through the AETNA Open Access plan. Post-65 retirees and spouses may choose between the AETNA Medicare Choice 20/20 PPO and the AETNA Medicare ESA PPO 20 plans.

Retiree Contributions
Retirees pay 0% of the total premium and the Port Authority pays 100%. For spouses of eligible retirees, the retiree or spouse pays 0% of the total premium and the Port Authority pays 100% of the premium.

Current monthly premiums are illustrated below **(paid in full by Houston Port Authority)**:

Category	Retiree	Retiree plus Spouse
Under age 65	$696.52	$2,259.81
Over age 65 (varies by state)		
Texas ESA	$273.06	$273.06

Retiree Life Insurance
$15,000 payable upon death of retiree.

Appendix C. Summary of Participant Data

The following were included in our analysis as of January 1, 2017 based on information provided by the Port of Houston Authority.

Number of members	
Actives	524
Retired and disabled members	357
Covered spouses of retirees	199
Total	1,080
Average age	
Active	45.5
Retired members and spouses	70.8
Disabled members	58.9