Milliman
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September 2016

Gaston Rural Fire Protection District/2608
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Gaston Rural Fire Protection District/2608

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Gaston Rural Fire Protection District -- #2608

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Gaston Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Gaston Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Gaston Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.76%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	3.15%	3.15%	3.15%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.18%**	**12.44%**	**17.21%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.68%**	**12.87%**	**17.64%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 80%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.91%	16.91%
Minimum 2019-2021 Rate	13.53%	10.15%
Maximum 2019-2021 Rate	20.29%	23.67%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$341,306	$375,975	$34,669	91%	$100,211	35%
12/31/2011	330,317	371,521	41,204	89%	100,398	41%
12/31/2012	365,393	380,080	14,687	96%	101,729	14%
12/31/2013	402,978	416,448	13,470	97%	108,497	12%
12/31/2014	408,532	484,761	76,229	84%	108,279	70%
12/31/2015	400,926	502,365	101,438	80%	142,046	71%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Gaston Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$101,439	$76,229
Allocated pooled OPSRP UAL	20,194	12,379
Side account	0	0
Net unfunded pension actuarial accrued liability	121,633	88,608
Combined valuation payroll	142,046	108,279
Net pension UAL as a percentage of payroll	86%	82%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$690	$861

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$141	$171
Tier 1/Tier 2 valuation payroll	1,025	1,180
Tier 1/Tier 2 pension normal cost rate	13.76%	14.49%
Tier 1/ Tier 2 Actuarial accrued liability	$502,365	$484,761
Actuarial asset value	400,927	408,532
Tier 1/Tier 2 Unfunded actuarial accrued liability	101,439	76,229
Tier 1/ Tier 2 Funded status	80%	84%
Combined valuation payroll	$142,046	$108,279
Tier 1/Tier 2 UAL as a percentage of payroll	71%	70%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	3.15%	2.42%
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	2	2

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	142,046	108,279
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$47,622	$45,211
2. Employer reserves	246,226	241,950
3. Benefits in force reserve	107,079	121,372
4. Total market value of assets ***(1. + 2. + 3.)***	**$400,927**	**$408,532**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$408,532
2.	Regular employer contributions	(316)
3.	Benefit payments and expense	(19,472)
4.	Adjustments [1]	3,830
5.	Interest credited	8,353
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$400,927**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$43	$0
Tier 1 General Service	0	88
Tier 2 Police & Fire	98	83
Tier 2 General Service	0	0
Total	**$141**	**$171**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$141	$141	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$209,787	$191,795
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	27,042	29,083
▪ Tier 2 General Service	32,542	26,668
▪ **Total Active Members**	**$269,371**	**$247,546**
Dormant Members	1,790	1,757
Retired Members and Beneficiaries	231,204	235,458
Total Actuarial Accrued Liability	**$502,365**	**$484,761**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$502,365	$502,365	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$502,365	$484,761
2. Actuarial value of assets	400,927	408,532
3. Unfunded accrued liability *(1. – 2.)*	101,439	76,229
4. Funded percentage *(2. ÷ 1.)*	80%	84%
5. Combined valuation payroll	$142,046	$108,279
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	71%	70%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$13,498	$1,011	$972	$13,459	$1,046
December 31, 2015	N/A	N/A	N/A	$87,980	$6,366
Total				**$101,439**	**$7,412**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$484,761
b. Normal cost at December 31, 2014 (excluding assumed expenses)	171
c. Benefit payments during 2015	(19,322)
d. Interest at 7.50% to December 31, 2015	35,639
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	501,249
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	501,249
2. Actuarial accrued liability at December 31, 2015	502,365
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(1,116)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	408,532
b. Contributions for 2015[1]	(316)
c. Benefit payments and expenses during 2015	(19,472)
d. Interest at 7.50% to December 31, 2015	29,898
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	418,642
5. Actuarial value of assets at December 31, 2015	400,927
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(17,715)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($18,831)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$76,229**
2. Expected increase	6,379
3. Liability (gain)/loss	1,116
4. Asset (gain)/loss	17,715
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$101,439**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$43	$245	17.55%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	88	501	17.56%
Tier 2 Police & Fire	98	780	12.56%	83	679	12.22%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$141**	**$1,025**	**13.76%**	**$171**	**$1,180**	**14.49%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$101,439	$76,229
2. Next year's Tier 1/Tier 2 UAL payment	7,412	5,550
3. Combined valuation payroll	142,046	108,279
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	5.22%	5.13%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.76%	14.49%
b. Tier 1/Tier 2 UAL rate	5.22%	5.13%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	19.13%	19.77%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.91%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.91%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.78%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	80%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.91%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.91%
7.	July 1, 2017 total pension rate, before adjustment	19.13%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(2.22%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	5.22%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	3.00%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.91%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.76%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.76%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.91%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.76%	14.49%
b. Tier 1/Tier 2 UAL rate	3.00%	2.27%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.91%	16.91%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$245	$245
Tier 2	0	780	780
Tier 1/Tier 2 valuation payroll	0	1,025	1,025
OPSRP valuation payroll	38,730	102,291	141,021
Combined valuation payroll	**$38,730**	**$103,316**	**$142,046**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	3	3	0	0	3	3
Total	0	0	4	4	0	0	4	4
Active Members with previous service segments with the employer								
General Service	1	1	N/A	2	1	1	N/A	2
Police & Fire	4	3	N/A	7	3	3	N/A	6
Total	5	4	N/A	9	4	4	N/A	8
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	0	1	0	1	0	1
Total	0	1	0	1	0	1	0	1
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	2	0	0	2	2	0	0	2
Total	2	0	0	2	2	0	0	2
Grand Total Number of Members	**7**	**5**	**4**	**16**	**6**	**5**	**4**	**15**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	0	0	0	0	0	0	0

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59	1	149
60-64		
65-69		
70-74		
75+		
Total	1	149

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69	1	160
70-74		
75-79		
80-84	1	2,173
85-89		
90-94		
95-99		
100+		
Total	2	1,166

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Gearhart/2309
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Gearhart/2309

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Gearhart -- #2309

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Gearhart to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Gearhart.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Gearhart

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.11%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(3.40%)	(3.40%)	(3.40%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**15.98%**	**5.89%**	**10.66%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.48%**	**6.32%**	**11.09%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 80%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.71%	14.71%
Minimum 2019-2021 Rate	11.71%	8.71%
Maximum 2019-2021 Rate	17.71%	20.71%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,485,727	$1,457,065	($28,662)	102%	$423,943	(7%)
12/31/2011	1,434,130	1,606,043	171,913	89%	386,443	44%
12/31/2012	1,613,357	1,749,495	136,138	92%	519,547	26%
12/31/2013	1,831,231	1,837,530	6,299	100%	542,410	1%
12/31/2014	1,926,215	2,250,898	324,683	86%	540,688	60%
12/31/2015	1,947,561	2,437,415	489,854	80%	574,759	85%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Gearhart

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$489,854	$324,683
Allocated pooled OPSRP UAL	81,710	61,812
Side account	0	0
Net unfunded pension actuarial accrued liability	571,564	386,495
Combined valuation payroll	574,759	540,688
Net pension UAL as a percentage of payroll	99%	71%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$2,791	$4,298

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$62,100	$58,691
Tier 1/Tier 2 valuation payroll	342,894	318,923
Tier 1/Tier 2 pension normal cost rate	18.11%	18.40%
Tier 1/ Tier 2 Actuarial accrued liability	$2,437,415	$2,250,898
Actuarial asset value	1,947,561	1,926,215
Tier 1/Tier 2 Unfunded actuarial accrued liability	489,854	324,683
Tier 1/ Tier 2 Funded status	80%	86%
Combined valuation payroll	$574,759	$540,688
Tier 1/Tier 2 UAL as a percentage of payroll	85%	60%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(3.40%)	(3.69%)
Tier 1/Tier 2 active members [1]	4	4
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	2	2

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	574,759	540,688
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$139,101	$131,181
2. Employer reserves	1,474,595	1,425,403
3. Benefits in force reserve	333,866	369,631
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,947,561**	**$1,926,215**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$1,926,215
2. Regular employer contributions	21,356
3. Benefit payments and expense	(60,714)
4. Adjustments [1]	21,216
5. Interest credited	39,488
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,947,561**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$35,848	$34,229
Tier 1 General Service	0	0
Tier 2 Police & Fire	18,672	17,344
Tier 2 General Service	7,580	7,118
Total	**$62,100**	**$58,691**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$62,100	$62,100	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$1,214,471	$1,109,418
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	322,988	273,262
▪ Tier 2 General Service	179,076	151,143
▪ **Total Active Members**	**$1,716,535**	**$1,533,823**
Dormant Members	0	0
Retired Members and Beneficiaries	720,880	717,075
Total Actuarial Accrued Liability	**$2,437,415**	**$2,250,898**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$2,437,415	$2,437,415	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$2,437,415	$2,250,898
2. Actuarial value of assets	1,947,561	1,926,215
3. Unfunded accrued liability *(1. – 2.)*	489,854	324,683
4. Funded percentage *(2. ÷ 1.)*	80%	86%
5. Combined valuation payroll	$574,759	$540,688
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	85%	60%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$6,312	$473	$455	$6,294	$489
December 31, 2015	N/A	N/A	N/A	$483,560	$34,990
Total				**$489,854**	**$35,479**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$2,250,898
b. Normal cost at December 31, 2014 (excluding assumed expenses)	56,143
c. Benefit payments during 2015	(60,245)
d. Interest at 7.50% to December 31, 2015	168,664
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	2,415,460
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	2,415,460
2. Actuarial accrued liability at December 31, 2015	2,437,415
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(21,955)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,926,215
b. Contributions for 2015[1]	21,356
c. Benefit payments and expenses during 2015	(60,714)
d. Interest at 7.50% to December 31, 2015	142,990
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	2,029,847
5. Actuarial value of assets at December 31, 2015	1,947,561
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(82,286)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($104,241)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$324,683**
2. Expected increase	60,930
3. Liability (gain)/loss	21,955
4. Asset (gain)/loss	82,286
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$489,854**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$35,848	$178,748	20.06%	$34,229	$168,786	20.28%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	18,672	87,522	21.33%	17,344	78,984	21.96%
Tier 2 General Service	7,580	76,624	9.89%	7,118	71,153	10.00%
Total	**$62,100**	**$342,894**	**18.11%**	**$58,691**	**$318,923**	**18.40%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$489,854	$324,683
2. Next year's Tier 1/Tier 2 UAL payment	35,479	23,510
3. Combined valuation payroll	574,759	540,688
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.17%	4.35%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.11%	18.40%
b. Tier 1/Tier 2 UAL rate	6.17%	4.35%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	24.43%	22.90%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	11.71%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	11.71%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.34%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	80%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	8.71%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	14.71%
7.	July 1, 2017 total pension rate, before adjustment	24.43%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(9.72%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.17%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(3.55%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	14.71%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	18.11%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.11%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	14.71%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.11%	18.40%
b. Tier 1/Tier 2 UAL rate	(3.55%)	(3.84%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	14.71%	14.71%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$178,748	$178,748
Tier 2	76,624	87,522	164,146
Tier 1/Tier 2 valuation payroll	76,624	266,270	342,894
OPSRP valuation payroll	177,081	54,784	231,865
Combined valuation payroll	**$253,705**	**$321,054**	**$574,759**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	3	4	0	1	3	4
Police & Fire	2	1	1	4	2	1	1	4
Total	2	2	4	8	2	2	4	8
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	2	0	0	2	2	0	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	0	2	2	0	0	2
Grand Total Number of Members	**4**	**2**	**4**	**10**	**4**	**2**	**4**	**10**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39				1						**1**
40-44										
45-49				1						**1**
50-54										
55-59							1			**1**
60-64				1						**1**
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**4**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	1,789
65-69	1	2,387
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	2	2,088

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Gervais/2264
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Gervais/2264

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Gervais -- #2264

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Gervais to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Gervais.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Gervais

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	11.87%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.50%	1.50%	1.50%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**14.64%**	**10.79%**	**15.56%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**15.14%**	**11.22%**	**15.99%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 82%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	13.37%	13.37%
Minimum 2019-2021 Rate	10.37%	7.37%
Maximum 2019-2021 Rate	16.37%	19.37%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$908,919	$1,046,214	$137,295	87%	$365,611	38%
12/31/2011	925,700	1,131,043	205,343	82%	365,206	56%
12/31/2012	1,033,510	1,188,572	155,062	87%	548,250	28%
12/31/2013	1,100,555	1,090,245	(10,310)	101%	483,330	(2%)
12/31/2014	1,168,826	1,329,370	160,544	88%	618,303	26%
12/31/2015	1,199,137	1,454,329	255,192	82%	577,782	44%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Gervais

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$255,192	$160,544
Allocated pooled OPSRP UAL	82,140	70,685
Side account	0	0
Net unfunded pension actuarial accrued liability	337,332	231,229
Combined valuation payroll	577,782	618,303
Net pension UAL as a percentage of payroll	58%	37%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$2,806	$4,915

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$22,611	$21,675
Tier 1/Tier 2 valuation payroll	190,419	184,072
Tier 1/Tier 2 pension normal cost rate	11.87%	11.78%
Tier 1/ Tier 2 Actuarial accrued liability	$1,454,329	$1,329,370
Actuarial asset value	1,199,137	1,168,826
Tier 1/Tier 2 Unfunded actuarial accrued liability	255,192	160,544
Tier 1/ Tier 2 Funded status	82%	88%
Combined valuation payroll	$577,782	$618,303
Tier 1/Tier 2 UAL as a percentage of payroll	44%	26%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	1.50%	1.59%
Tier 1/Tier 2 active members [1]	3	3
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	5	5

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	577,782	618,303
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$223,083	$207,310
2. Employer reserves	845,832	816,989
3. Benefits in force reserve	130,222	144,526
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,199,137**	**$1,168,826**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$1,168,826
2.	Regular employer contributions	13,221
3.	Benefit payments and expense	(23,681)
4.	Adjustments [1]	9,598
5.	Interest credited	31,174
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,199,137**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	22,611	21,675
Total	**$22,611**	**$21,675**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$22,611	$22,611	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$639,660	$582,979
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	73,183	63,595
▪ Tier 2 General Service	348,115	299,039
▪ **Total Active Members**	**$1,060,958**	**$945,613**
Dormant Members	112,197	103,379
Retired Members and Beneficiaries	281,174	280,378
Total Actuarial Accrued Liability	**$1,454,329**	**$1,329,370**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,454,329	$1,454,329	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,454,329	$1,329,370
2. Actuarial value of assets	1,199,137	1,168,826
3. Unfunded accrued liability *(1. – 2.)*	255,192	160,544
4. Funded percentage *(2. ÷ 1.)*	82%	88%
5. Combined valuation payroll	$577,782	$618,303
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	44%	26%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($10,332)	($774)	($744)	($10,302)	($801)
December 31, 2015	N/A	N/A	N/A	$265,494	$19,211
Total				**$255,192**	**$18,410**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,329,370
b. Normal cost at December 31, 2014 (excluding assumed expenses)	20,734
c. Benefit payments during 2015	(23,498)
d. Interest at 7.50% to December 31, 2015	99,599
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,426,205
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,426,205
2. Actuarial accrued liability at December 31, 2015	1,454,329
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(28,124)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,168,826
b. Contributions for 2015[1]	13,221
c. Benefit payments and expenses during 2015	(23,681)
d. Interest at 7.50% to December 31, 2015	87,270
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,245,635
5. Actuarial value of assets at December 31, 2015	1,199,137
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(46,498)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($74,622)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$160,544**
2. Expected increase	20,026
3. Liability (gain)/loss	28,124
4. Asset (gain)/loss	46,498
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$255,192**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	22,611	190,419	11.87%	21,675	184,072	11.78%
Total	**$22,611**	**$190,419**	**11.87%**	**$21,675**	**$184,072**	**11.78%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$255,192	$160,544
2. Next year's Tier 1/Tier 2 UAL payment	18,410	11,590
3. Combined valuation payroll	577,782	618,303
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	3.19%	1.87%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.87%	11.78%
b. Tier 1/Tier 2 UAL rate	3.19%	1.87%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	15.21%	13.80%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	10.37%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	10.37%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	2.07%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	82%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	7.37%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	13.37%
7. July 1, 2017 total pension rate, before adjustment	15.21%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(1.84%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	3.19%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	1.35%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	13.37%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	11.87%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	11.87%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	13.37%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.87%	11.78%
b. Tier 1/Tier 2 UAL rate	1.35%	1.44%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	13.37%	13.37%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	190,419	0	190,419
Tier 1/Tier 2 valuation payroll	190,419	0	190,419
OPSRP valuation payroll	161,500	225,863	387,363
Combined valuation payroll	**$351,919**	**$225,863**	**$577,782**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	3	3	6	0	3	5	8
Police & Fire	0	0	4	4	0	0	4	4
Total	0	3	7	10	0	3	9	12
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	7	1	N/A	8	7	1	N/A	8
Total	7	1	N/A	8	7	1	N/A	8
Dormant Members								
General Service	0	0	1	1	0	0	1	1
Police & Fire	1	0	0	1	1	0	0	1
Total	1	0	1	2	1	0	1	2
Retired Members and Beneficiaries								
General Service	4	0	0	4	4	0	0	4
Police & Fire	1	0	0	1	1	0	0	1
Total	5	0	0	5	5	0	0	5
Grand Total Number of Members	**13**	**4**	**8**	**25**	**13**	**4**	**10**	**27**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1							1
45-49										
50-54										
55-59				1						1
60-64			1							1
65-69										
70-74										
75+										
Total	0	0	2	1	0	0	0	0	0	3

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64	1	667
65-69		
70-74		
75+		
Total	1	667

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	258
60-64	1	782
65-69		
70-74	1	186
75-79	1	447
80-84	1	106
85-89		
90-94		
95-99		
100+		
Total	5	356

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Gold Beach/2250
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Gold Beach/2250

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Gold Beach/2250

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Gold Beach -- #2250

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Gold Beach to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Gold Beach.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Gold Beach

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	14.69%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.29%	1.29%	1.29%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**17.25%**	**10.58%**	**15.35%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**17.75%**	**11.01%**	**15.78%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 92%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.98%	15.98%
Minimum 2019-2021 Rate	12.78%	9.58%
Maximum 2019-2021 Rate	19.18%	22.38%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$2,416,858	$2,808,705	$391,847	86%	$665,234	59%
12/31/2011	2,267,242	2,685,284	418,042	84%	725,790	58%
12/31/2012	2,589,998	2,775,002	185,004	93%	668,568	28%
12/31/2013	2,977,221	2,935,300	(41,921)	101%	755,161	(6%)
12/31/2014	3,129,706	3,375,595	245,889	93%	698,676	35%
12/31/2015	3,100,733	3,361,294	260,561	92%	796,047	33%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Gold Beach

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$260,561	$245,889
Allocated pooled OPSRP UAL	113,169	79,874
Side account	0	0
Net unfunded pension actuarial accrued liability	373,730	325,763
Combined valuation payroll	796,047	698,676
Net pension UAL as a percentage of payroll	47%	47%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$3,865	$5,553

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$61,631	$58,040
Tier 1/Tier 2 valuation payroll	419,435	393,287
Tier 1/Tier 2 pension normal cost rate	14.69%	14.76%
Tier 1/ Tier 2 Actuarial accrued liability	$3,361,294	$3,375,595
Actuarial asset value	3,100,733	3,129,706
Tier 1/Tier 2 Unfunded actuarial accrued liability	260,561	245,889
Tier 1/ Tier 2 Funded status	92%	93%
Combined valuation payroll	$796,047	$698,676
Tier 1/Tier 2 UAL as a percentage of payroll	33%	35%
Tier 1/Tier 2 UAL rate	1.29%	1.22%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	7	7
Tier 1/Tier 2 dormant members	3	3
Tier 1/Tier 2 retirees and beneficiaries	22	24

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	796,047	698,676
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

1 *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$434,795	$405,976
2. Employer reserves	1,927,920	1,831,025
3. Benefits in force reserve	738,018	892,705
4. Total market value of assets ***(1. + 2. + 3.)***	**$3,100,733**	**$3,129,706**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$3,129,706
2.	Regular employer contributions	60,478
3.	Benefit payments and expense	(134,210)
4.	Adjustments [1]	(27,982)
5.	Interest credited	72,741
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$3,100,733**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	18,244	17,324
Tier 2 Police & Fire	23,967	22,260
Tier 2 General Service	19,420	18,456
Total	**$61,631**	**$58,040**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$61,631	$61,631	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$247,171	$43,716
▪ Tier 1 General Service	384,169	341,481
▪ Tier 2 Police & Fire	402,138	339,906
▪ Tier 2 General Service	362,294	311,642
▪ **Total Active Members**	**$1,395,772**	**$1,036,745**
Dormant Members	371,999	607,024
Retired Members and Beneficiaries	1,593,523	1,731,826
Total Actuarial Accrued Liability	**$3,361,294**	**$3,375,595**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$3,361,294	$3,361,294	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$3,361,294	$3,375,595
2. Actuarial value of assets	3,100,733	3,129,706
3. Unfunded accrued liability *(1. – 2.)*	260,561	245,889
4. Funded percentage *(2. ÷ 1.)*	92%	93%
5. Combined valuation payroll	$796,047	$698,676
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	33%	35%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($42,011)	($3,147)	($3,025)	($41,889)	($3,257)
December 31, 2015	N/A	N/A	N/A	$302,450	$21,885
Total				**$260,561**	**$18,628**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$3,375,595
b. Normal cost at December 31, 2014 (excluding assumed expenses)	55,520
c. Benefit payments during 2015	(133,173)
d. Interest at 7.50% to December 31, 2015	250,258
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	3,548,200
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	3,548,200
2. Actuarial accrued liability at December 31, 2015	3,361,294
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	186,906
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	3,129,706
b. Contributions for 2015[1]	60,478
c. Benefit payments and expenses during 2015	(134,210)
d. Interest at 7.50% to December 31, 2015	231,963
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	3,287,938
5. Actuarial value of assets at December 31, 2015	3,100,733
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(187,204)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($298)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$245,889**
2. Expected increase	14,374
3. Liability (gain)/loss	(186,906)
4. Asset (gain)/loss	187,204
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$260,561**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	18,244	140,345	13.00%	17,324	132,744	13.05%
Tier 2 Police & Fire	23,967	124,966	19.18%	22,260	116,135	19.17%
Tier 2 General Service	19,420	154,124	12.60%	18,456	144,408	12.78%
Total	**$61,631**	**$419,435**	**14.69%**	**$58,040**	**$393,287**	**14.76%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$260,561	$245,889
2. Next year's Tier 1/Tier 2 UAL payment	18,628	17,685
3. Combined valuation payroll	796,047	698,676
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	2.34%	2.53%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.69%	14.76%
b. Tier 1/Tier 2 UAL rate	2.34%	2.53%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	17.18%	17.44%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	12.98%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.98%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.60%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	92%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.98%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.98%
7.	July 1, 2017 total pension rate, before adjustment	17.18%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(1.20%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	2.34%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	1.14%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.98%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	14.69%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	14.69%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.98%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.69%	14.76%
b. Tier 1/Tier 2 UAL rate	1.14%	1.07%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.98%	15.98%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$140,345	$0	$140,345
Tier 2	154,124	124,966	279,090
Tier 1/Tier 2 valuation payroll	294,469	124,966	419,435
OPSRP valuation payroll	274,912	101,700	376,612
Combined valuation payroll	**$569,381**	**$226,666**	**$796,047**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	3	7	12	2	3	7	12
Police & Fire	0	2	2	4	0	2	1	3
Total	2	5	9	16	2	5	8	15
Active Members with previous service segments with the employer								
General Service	1	0	N/A	1	2	0	N/A	2
Police & Fire	2	2	N/A	4	1	2	N/A	3
Total	3	2	N/A	5	3	2	N/A	5
Dormant Members								
General Service	2	0	0	2	1	0	0	1
Police & Fire	1	0	1	2	2	0	1	3
Total	3	0	1	4	3	0	1	4
Retired Members and Beneficiaries								
General Service	7	0	0	7	9	0	0	9
Police & Fire	14	1	1	16	14	1	0	15
Total	21	1	1	23	23	1	0	24
Grand Total Number of Members	**29**	**8**	**11**	**48**	**31**	**8**	**9**	**48**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1							**1**
45-49			1	1		1				**3**
50-54				2						**2**
55-59				1						**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**2**	**4**	**0**	**1**	**0**	**0**	**0**	**7**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54	1	3,359
55-59	1	0
60-64	1	40
65-69		
70-74		
75+		
Total	3	1,133

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	3	396
60-64	5	442
65-69	3	428
70-74	4	689
75-79	6	490
80-84	1	924
85-89		
90-94		
95-99		
100+		
Total	22	514

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Gresham/2114
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
City of Gresham/2114

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Gresham -- #2114

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Gresham to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Gresham.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Gresham

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.38%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.68%)	(0.68%)	(0.68%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	(4.08%)	(4.08%)	(4.08%)
Net pension contribution rate	**14.89%**	**4.53%**	**9.30%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**15.39%**	**4.96%**	**9.73%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 72%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	17.70%	17.70%
Minimum 2019-2021 Rate	14.16%	10.62%
Maximum 2019-2021 Rate	21.24%	24.78%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$201,010,560	$214,467,396	$13,456,836	94%	$39,906,096	34%
12/31/2011	198,059,438	225,555,045	27,495,606	88%	38,944,096	71%
12/31/2012	217,937,233	227,671,406	9,734,173	96%	39,541,683	25%
12/31/2013	236,982,167	241,803,112	4,820,945	98%	40,300,650	12%
12/31/2014	243,563,554	288,545,125	44,981,571	84%	41,761,187	108%
12/31/2015	235,510,218	303,426,971	67,916,753	78%	42,933,712	158%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Gresham

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$84,556,205	$62,882,711
Allocated pooled OPSRP UAL	6,103,626	4,774,213
Side account	16,639,452	17,901,140
Net unfunded pension actuarial accrued liability	74,020,379	49,755,784
Combined valuation payroll	42,933,712	41,761,187
Net pension UAL as a percentage of payroll	172%	119%
Calculated side account rate relief	(4.08%)	(4.24%)
Allocated pooled RHIA UAL	$208,471	$331,942

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$4,190,943	$4,559,520
Tier 1/Tier 2 valuation payroll	22,798,803	24,367,194
Tier 1/Tier 2 pension normal cost rate	18.38%	18.71%
Tier 1/ Tier 2 Actuarial accrued liability	$303,426,971	$288,545,125
Actuarial asset value	218,870,766	225,662,414
Tier 1/Tier 2 Unfunded actuarial accrued liability	84,556,205	62,882,711
Tier 1/ Tier 2 Funded status	72%	78%
Combined valuation payroll	$42,933,712	$41,761,187
Tier 1/Tier 2 UAL as a percentage of payroll	197%	151%
Tier 1/Tier 2 UAL rate	(0.68%)	(1.01%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	248	270
Tier 1/Tier 2 dormant members	118	127
Tier 1/Tier 2 retirees and beneficiaries	465	433

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**	**$17,901,140**	**$17,901,140**
2. Deposits made during 2015		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2015		(1,632,289)	(1,632,289)
5. Side account earnings during 2015		371,601	371,601
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***		**$16,639,452**	**$16,639,452**

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$16,639,452	$17,901,140
Side account 2	0	0
Side account 3	0	0
Total	**$16,639,452**	**$17,901,140**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$16,639,452	$17,901,140
2. Combined valuation payroll	42,933,712	41,761,187
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	(4.08%)	(4.24%)

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$28,936,118	$31,561,044
2. Employer reserves	106,387,894	111,648,440
3. Benefits in force reserve	83,546,755	82,452,930
4. Total market value of assets ***(1. + 2. + 3.)***	**$218,870,766**	**$225,662,414**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$225,662,414
2.	Regular employer contributions	1,343,234
3.	Benefit payments and expense	(15,193,082)
4.	Adjustments [1]	(24,060)
5.	Interest credited	5,449,971
6.	Total transferred from side accounts	1,632,289
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$218,870,766**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$1,370,718	$1,657,257
Tier 1 General Service	994,149	1,109,987
Tier 2 Police & Fire	1,176,131	1,127,325
Tier 2 General Service	649,945	664,951
Total	**$4,190,943**	**$4,559,520**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$4,190,943	$4,190,943	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$42,721,882	$50,302,797
▪ Tier 1 General Service	27,324,793	27,600,071
▪ Tier 2 Police & Fire	21,804,259	19,212,053
▪ Tier 2 General Service	14,444,482	13,357,784
▪ **Total Active Members**	**$106,295,416**	**$110,472,705**
Dormant Members	16,738,117	18,115,779
Retired Members and Beneficiaries	180,393,438	159,956,641
Total Actuarial Accrued Liability	**$303,426,971**	**$288,545,125**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$303,426,971	$303,426,971	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$303,426,971	$288,545,125
2. Actuarial value of assets	218,870,766	225,662,414
3. Unfunded accrued liability *(1. – 2.)*	84,556,205	62,882,711
4. Funded percentage *(2. ÷ 1.)*	72%	78%
5. Combined valuation payroll	$42,933,712	$41,761,187
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	197%	151%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$22,859,587	$1,712,329	$1,646,060	$22,793,318	$1,772,282
December 31, 2015	N/A	N/A	N/A	$61,762,887	$4,469,095
Total				**$84,556,205**	**$6,241,377**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$288,545,125
b. Normal cost at December 31, 2014 (excluding assumed expenses)	4,361,134
c. Benefit payments during 2015	(15,075,733)
d. Interest at 7.50% to December 31, 2015	21,239,087
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	299,069,613
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	299,069,613
2. Actuarial accrued liability at December 31, 2015	303,426,971
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(4,357,358)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	225,662,414
b. Contributions for 2015[1]	2,975,523
c. Benefit payments and expenses during 2015	(15,193,082)
d. Interest at 7.50% to December 31, 2015	16,466,523
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	229,911,377
5. Actuarial value of assets at December 31, 2015	218,870,766
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(11,040,611)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($15,397,969)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$62,882,711**
2. Expected increase	6,275,525
3. Liability (gain)/loss	4,357,358
4. Asset (gain)/loss	11,040,611
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$84,556,205**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$1,370,718	$5,975,756	22.94%	$1,657,257	$7,205,750	23.00%
Tier 1 General Service	994,149	5,336,113	18.63%	1,109,987	5,951,292	18.65%
Tier 2 Police & Fire	1,176,131	6,284,029	18.72%	1,127,325	6,014,409	18.74%
Tier 2 General Service	649,945	5,202,905	12.49%	664,951	5,195,743	12.80%
Total	**$4,190,943**	**$22,798,803**	**18.38%**	**$4,559,520**	**$24,367,194**	**18.71%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$84,556,205	$62,882,711
2. Next year's Tier 1/Tier 2 UAL payment	6,241,377	4,608,358
3. Combined valuation payroll	42,933,712	41,761,187
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	14.54%	11.04%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.38%	18.71%
b. Tier 1/Tier 2 UAL rate	14.54%	11.04%
c. Multnomah Fire District #10 rate	0.30%	0.30%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	33.22%	30.05%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		10.53%
2. Employer contribution rate attributable to side accounts		(4.17%)
3. Current employer Tier 1/Tier 2 pension contribution rate	*(1. – 2.)*	14.70%
4. Size of rate collar		
a. 20% of current employer contribution rate	*(20% x 3.)*	2.94%
b. Preliminary size of rate collar	*(maximum of 3% or a.)*	3.00%
c. Funded percentage		72%
d. Size of rate collar	*(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate	*(3. – 4.d. but not < 0%)*	11.70%
6. July 1, 2017 maximum employer contribution rate	*(3. + 4.d.)*	17.70%
7. July 1, 2017 total pension rate, before adjustment		33.22%
8. Net adjustment due to rate collar	*(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(15.52%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		14.54%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	*(8. + 9.)*	(0.98%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		17.70%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum	*(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		18.38%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment	*(13. + 14.)*	18.38%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	*(11. + 13.)*	17.70%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.38%	18.71%
b. Tier 1/Tier 2 UAL rate	(0.98%)	(1.31%)
c. Multnomah Fire District #10 rate	0.30%	0.30%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	17.70%	17.70%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$5,336,113	$5,975,756	$11,311,869
Tier 2	5,202,905	6,284,029	11,486,934
Tier 1/Tier 2 valuation payroll	10,539,018	12,259,785	22,798,803
OPSRP valuation payroll	10,772,007	9,362,902	20,134,909
Combined valuation payroll	**$21,311,025**	**$21,622,687**	**$42,933,712**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	68	71	162	301	77	73	146	296
Police & Fire	51	58	101	210	62	58	89	209
Total	119	129	263	511	139	131	235	505
Active Members with previous service segments with the employer								
General Service	32	41	N/A	73	33	42	N/A	75
Police & Fire	12	13	N/A	25	14	13	N/A	27
Total	44	54	N/A	98	47	55	N/A	102
Dormant Members								
General Service	48	43	22	113	52	44	15	111
Police & Fire	16	11	1	28	20	11	1	32
Total	64	54	23	141	72	55	16	143
Retired Members and Beneficiaries								
General Service	270	31	2	303	261	25	1	287
Police & Fire	151	13	1	165	143	4	1	148
Total	421	44	3	468	404	29	2	435
Grand Total Number of Members	**648**	**281**	**289**	**1,218**	**662**	**270**	**253**	**1,185**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34			1							1
35-39		1	8	12						21
40-44			12	27	2					41
45-49			11	13	10	2				36
50-54			7	17	19	17	2			62
55-59		1	3	10	10	13	8	2		47
60-64			4	5	11	6	1	1		28
65-69			1	4	3	2	1			11
70-74				1						1
75+										
Total	0	2	47	89	55	40	12	3	0	248

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	6	514
40-44	13	1,220
45-49	22	1,179
50-54	27	1,517
55-59	22	1,164
60-64	17	1,021
65-69	8	1,828
70-74	1	478
75+	2	47
Total	118	1,220

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	3	1,786
45-49	2	2,935
50-54	20	4,568
55-59	41	3,087
60-64	123	2,484
65-69	135	2,218
70-74	77	2,345
75-79	37	1,718
80-84	18	1,467
85-89	5	600
90-94	1	2,848
95-99	2	462
100+	1	1,002
Total	465	2,392

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Halsey Shedd Rural Fire Protection District/2698
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Halsey Shedd Rural Fire Protection District/2698

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Halsey Shedd Rural Fire Protection District -- #2698

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Halsey Shedd Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Halsey Shedd Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Halsey Shedd Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	20.72%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(9.34%)	(9.34%)	(9.34%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.65%**	**0.00%**	**4.72%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.15%**	**0.43%**	**5.15%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 111%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.38%	11.38%
Minimum 2019-2021 Rate	8.38%	5.38%
Maximum 2019-2021 Rate	14.38%	17.38%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$530,634	$425,296	($105,338)	125%	$81,326	(130%)
12/31/2011	547,694	449,945	(97,749)	122%	108,670	(90%)
12/31/2012	613,020	480,877	(132,143)	127%	139,713	(95%)
12/31/2013	698,072	521,710	(176,362)	134%	144,016	(122%)
12/31/2014	742,316	639,782	(102,534)	116%	148,848	(69%)
12/31/2015	761,391	684,803	(76,588)	111%	153,442	(50%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Halsey Shedd Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($76,588)	($102,534)
Allocated pooled OPSRP UAL	21,814	17,017
Side account	0	0
Net unfunded pension actuarial accrued liability	(54,774)	(85,517)
Combined valuation payroll	153,442	148,848
Net pension UAL as a percentage of payroll	(36%)	(57%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$745	$1,183

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$19,571	$19,195
Tier 1/Tier 2 valuation payroll	94,438	91,302
Tier 1/Tier 2 pension normal cost rate	20.72%	21.02%
Tier 1/ Tier 2 Actuarial accrued liability	$684,803	$639,782
Actuarial asset value	761,391	742,316
Tier 1/Tier 2 Unfunded actuarial accrued liability	(76,588)	(102,534)
Tier 1/ Tier 2 Funded status	111%	116%
Combined valuation payroll	$153,442	$148,848
Tier 1/Tier 2 UAL as a percentage of payroll	(50%)	(69%)
Tier 1/Tier 2 UAL rate	(9.34%)	(9.64%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	2	2
Tier 1/Tier 2 dormant members	1	0
Tier 1/Tier 2 retirees and beneficiaries	2	2

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	153,442	148,848
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$176,956	$164,395
2. Employer reserves	535,846	524,263
3. Benefits in force reserve	48,589	53,658
4. Total market value of assets ***(1. + 2. + 3.)***	**$761,391**	**$742,316**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$742,316
2.	Regular employer contributions	1,401
3.	Benefit payments and expense	(8,836)
4.	Adjustments [1]	5,215
5.	Interest credited	21,296
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$761,391**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$17,233	$16,582
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	2,338	2,613
Total	**$19,571**	**$19,195**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$19,571	$19,571	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$527,157	$484,675
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	11,438
▪ Tier 2 General Service	46,510	39,573
▪ **Total Active Members**	**$573,667**	**$535,686**
Dormant Members	6,222	0
Retired Members and Beneficiaries	104,914	104,096
Total Actuarial Accrued Liability	**$684,803**	**$639,782**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$684,803	$684,803	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$684,803	$639,782
2. Actuarial value of assets	761,391	742,316
3. Unfunded accrued liability *(1. – 2.)*	(76,588)	(102,534)
4. Funded percentage *(2. ÷ 1.)*	111%	116%
5. Combined valuation payroll	$153,442	$148,848
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(50%)	(69%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($176,738)	($13,239)	($12,726)	($176,225)	($13,702)
December 31, 2015	N/A	N/A	N/A	$99,637	$7,210
Total				**($76,588)**	**($6,492)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$639,782
b. Normal cost at December 31, 2014 (excluding assumed expenses)	18,362
c. Benefit payments during 2015	(8,768)
d. Interest at 7.50% to December 31, 2015	48,343
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	697,719
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	697,719
2. Actuarial accrued liability at December 31, 2015	684,803
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	12,916
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	742,316
b. Contributions for 2015[1]	1,401
c. Benefit payments and expenses during 2015	(8,836)
d. Interest at 7.50% to December 31, 2015	55,395
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	790,276
5. Actuarial value of assets at December 31, 2015	761,391
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(28,884)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($15,968)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($102,534)**
2. Expected increase	9,978
3. Liability (gain)/loss	(12,916)
4. Asset (gain)/loss	28,884
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($76,588)**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$17,233	$76,799	22.44%	$16,582	$74,219	22.34%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	2,338	17,639	13.25%	2,613	17,083	15.30%
Total	**$19,571**	**$94,438**	**20.72%**	**$19,195**	**$91,302**	**21.02%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($76,588)	($102,534)
2. Next year's Tier 1/Tier 2 UAL payment	(6,492)	(7,870)
3. Combined valuation payroll	153,442	148,848
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(4.23%)	(5.29%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	20.72%	21.02%
b. Tier 1/Tier 2 UAL rate	(4.23%)	(5.29%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	16.64%	15.88%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.38%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.38%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.68%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	111%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.38%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.38%
7.	July 1, 2017 total pension rate, before adjustment	16.64%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(5.26%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(4.23%)
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(9.49%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.38%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	20.72%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	20.72%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.38%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	20.72%	21.02%
b. Tier 1/Tier 2 UAL rate	(9.49%)	(9.79%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.38%	11.38%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$76,799	$76,799
Tier 2	17,639	0	17,639
Tier 1/Tier 2 valuation payroll	17,639	76,799	94,438
OPSRP valuation payroll	0	59,004	59,004
Combined valuation payroll	**$17,639**	**$135,803**	**$153,442**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	0	1	0	1	0	1
Police & Fire	1	0	1	2	1	0	1	2
Total	1	1	1	3	1	1	1	3
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	1	N/A	1
Total	0	0	N/A	0	0	1	N/A	1
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	0	1	0	0	0	0
Total	0	1	0	1	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	2	0	0	2	2	0	0	2
Total	2	0	0	2	2	0	0	2
Grand Total Number of Members	**3**	**2**	**1**	**6**	**3**	**2**	**1**	**6**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54				1						**1**
55-59						1				**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	1	82
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total	1	82

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74	2	282
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	2	282

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Harbor Water PUD/2771
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Harbor Water PUD/2771

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Harbor Water PUD -- #2771

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Harbor Water PUD to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Harbor Water PUD.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Harbor Water PUD

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.98%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(5.94%)	(5.94%)	(5.94%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**13.31%**	**3.35%**	**8.12%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.81%**	**3.78%**	**8.55%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 112%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	12.04%	12.04%
Minimum 2019-2021 Rate	9.04%	6.04%
Maximum 2019-2021 Rate	15.04%	18.04%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$661,768	$565,410	($96,358)	117%	$243,658	(40%)
12/31/2011	685,356	635,506	(49,850)	108%	241,212	(21%)
12/31/2012	796,837	667,827	(129,010)	119%	285,733	(45%)
12/31/2013	919,744	695,744	(224,000)	132%	291,782	(77%)
12/31/2014	991,048	820,895	(170,153)	121%	327,589	(52%)
12/31/2015	1,030,209	916,708	(113,501)	112%	385,126	(29%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Harbor Water PUD

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($113,501)	($170,153)
Allocated pooled OPSRP UAL	54,751	37,451
Side account	0	0
Net unfunded pension actuarial accrued liability	(58,750)	(132,702)
Combined valuation payroll	385,126	327,589
Net pension UAL as a percentage of payroll	(15%)	(41%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,870	$2,604

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$42,764	$47,167
Tier 1/Tier 2 valuation payroll	237,799	225,291
Tier 1/Tier 2 pension normal cost rate	17.98%	20.94%
Tier 1/ Tier 2 Actuarial accrued liability	$916,708	$820,895
Actuarial asset value	1,030,209	991,048
Tier 1/Tier 2 Unfunded actuarial accrued liability	(113,501)	(170,153)
Tier 1/ Tier 2 Funded status	112%	121%
Combined valuation payroll	$385,126	$327,589
Tier 1/Tier 2 UAL as a percentage of payroll	(29%)	(52%)
Tier 1/Tier 2 UAL rate	(5.94%)	(8.90%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	3	3
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	1	1

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	385,126	327,589
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$273,741	$252,020
2. Employer reserves	732,686	712,510
3. Benefits in force reserve	23,781	26,518
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,030,209**	**$991,048**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$991,048
2.	Regular employer contributions	6,468
3.	Benefit payments and expense	(4,325)
4.	Adjustments [1]	4,510
5.	Interest credited	32,508
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,030,209**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	31,174	36,553
Tier 2 Police & Fire	0	0
Tier 2 General Service	11,590	10,614
Total	**$42,764**	**$47,167**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$42,764	$42,764	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	694,558	627,110
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	170,802	142,342
▪ **Total Active Members**	**$865,360**	**$769,452**
Dormant Members	0	0
Retired Members and Beneficiaries	51,348	51,443
Total Actuarial Accrued Liability	**$916,708**	**$820,895**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$916,708	$916,708	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$916,708	$820,895
2. Actuarial value of assets	1,030,209	991,048
3. Unfunded accrued liability *(1. – 2.)*	(113,501)	(170,153)
4. Funded percentage *(2. ÷ 1.)*	112%	121%
5. Combined valuation payroll	$385,126	$327,589
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(29%)	(52%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($224,478)	($16,815)	($16,164)	($223,827)	($17,404)
December 31, 2015	N/A	N/A	N/A	$110,326	$7,983
Total				**($113,501)**	**($9,421)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$820,895
b. Normal cost at December 31, 2014 (excluding assumed expenses)	45,119
c. Benefit payments during 2015	(4,291)
d. Interest at 7.50% to December 31, 2015	63,098
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	924,821
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	924,821
2. Actuarial accrued liability at December 31, 2015	916,708
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	8,113
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	991,048
b. Contributions for 2015[1]	6,468
c. Benefit payments and expenses during 2015	(4,325)
d. Interest at 7.50% to December 31, 2015	74,409
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,067,600
5. Actuarial value of assets at December 31, 2015	1,030,209
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(37,391)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($29,278)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($170,153)**
2. Expected increase	27,374
3. Liability (gain)/loss	(8,113)
4. Asset (gain)/loss	37,391
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($113,501)**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	31,174	164,315	18.97%	36,553	159,717	22.89%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	11,590	73,484	15.77%	10,614	65,574	16.19%
Total	**$42,764**	**$237,799**	**17.98%**	**$47,167**	**$225,291**	**20.94%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($113,501)	($170,153)
2. Next year's Tier 1/Tier 2 UAL payment	(9,421)	(12,884)
3. Combined valuation payroll	385,126	327,589
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(2.45%)	(3.93%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.98%	20.94%
b. Tier 1/Tier 2 UAL rate	(2.45%)	(3.93%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	15.68%	17.16%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		9.04%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate	*(1. – 2.)*	9.04%
4. Size of rate collar		
a. 20% of current employer contribution rate	*(20% x 3.)*	1.81%
b. Preliminary size of rate collar	*(maximum of 3% or a.)*	3.00%
c. Funded percentage		112%
d. Size of rate collar	*(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate	*(3. – 4.d. but not < 0%)*	6.04%
6. July 1, 2017 maximum employer contribution rate	*(3. + 4.d.)*	12.04%
7. July 1, 2017 total pension rate, before adjustment		15.68%
8. Net adjustment due to rate collar	*(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(3.64%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(2.45%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	*(8. + 9.)*	(6.09%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		12.04%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum	*(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		17.98%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment	*(13. + 14.)*	17.98%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	*(11. + 13.)*	12.04%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.98%	20.94%
b. Tier 1/Tier 2 UAL rate	(6.09%)	(9.05%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	12.04%	12.04%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$164,315	$0	$164,315
Tier 2	73,484	0	73,484
Tier 1/Tier 2 valuation payroll	237,799	0	237,799
OPSRP valuation payroll	147,327	0	147,327
Combined valuation payroll	**$385,126**	**$0**	**$385,126**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	1	3	6	2	1	2	5
Police & Fire	0	0	0	0	0	0	0	0
Total	2	1	3	6	2	1	2	5
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1
Grand Total Number of Members	**2**	**2**	**3**	**7**	**2**	**2**	**2**	**6**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54					1					**1**
55-59										
60-64			1							**1**
65-69					1					**1**
70-74										
75+										
Total	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**3**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69	1	363
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	1	363

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Helix/2210
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Helix/2210

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Helix -- #2210

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Helix to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Helix.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Helix

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.46%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(2.11%)	(2.11%)	(2.11%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.62%**	**7.18%**	**11.95%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.12%**	**7.61%**	**12.38%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 96%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.35%	11.35%
Minimum 2019-2021 Rate	8.35%	5.35%
Maximum 2019-2021 Rate	14.35%	17.35%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$97,418	$87,836	($9,582)	111%	$33,907	(28%)
12/31/2011	98,078	94,599	(3,479)	104%	34,741	(10%)
12/31/2012	111,566	106,424	(5,142)	105%	35,461	(15%)
12/31/2013	127,277	112,123	(15,154)	114%	36,262	(42%)
12/31/2014	135,067	135,102	35	100%	36,871	0%
12/31/2015	135,744	140,938	5,194	96%	36,832	14%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Helix

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$5,194	$35
Allocated pooled OPSRP UAL	5,236	4,215
Side account	0	0
Net unfunded pension actuarial accrued liability	10,430	4,250
Combined valuation payroll	36,832	36,871
Net pension UAL as a percentage of payroll	28%	12%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$179	$293

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$4,959	$4,917
Tier 1/Tier 2 valuation payroll	36,832	36,871
Tier 1/Tier 2 pension normal cost rate	13.46%	13.34%
Tier 1/ Tier 2 Actuarial accrued liability	$140,938	$135,102
Actuarial asset value	135,744	135,067
Tier 1/Tier 2 Unfunded actuarial accrued liability	5,194	35
Tier 1/ Tier 2 Funded status	96%	100%
Combined valuation payroll	$36,832	$36,871
Tier 1/Tier 2 UAL as a percentage of payroll	14%	0%
Tier 1/Tier 2 UAL rate	(2.11%)	(1.99%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	2	2

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	36,832	36,871
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$377	$366
2. Employer reserves	105,300	100,606
3. Benefits in force reserve	30,067	34,094
4. Total market value of assets ***(1. + 2. + 3.)***	**$135,744**	**$135,067**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$135,067
2.	Regular employer contributions	2,697
3.	Benefit payments and expense	(5,468)
4.	Adjustments [1]	965
5.	Interest credited	2,482
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$135,744**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	4,959	4,917
Total	**$4,959**	**$4,917**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$4,959	$4,959	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	76,018	68,959
▪ **Total Active Members**	**$76,018**	**$68,959**
Dormant Members	0	0
Retired Members and Beneficiaries	64,920	66,143
Total Actuarial Accrued Liability	**$140,938**	**$135,102**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$140,938	$140,938	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$140,938	$135,102
2. Actuarial value of assets	135,744	135,067
3. Unfunded accrued liability *(1. – 2.)*	5,194	35
4. Funded percentage *(2. ÷ 1.)*	96%	100%
5. Combined valuation payroll	$36,832	$36,871
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	14%	0%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($15,186)	($1,138)	($1,093)	($15,141)	($1,177)
December 31, 2015	N/A	N/A	N/A	$20,335	$1,471
Total				**$5,194**	**$294**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$135,102
b. Normal cost at December 31, 2014 (excluding assumed expenses)	4,704
c. Benefit payments during 2015	(5,425)
d. Interest at 7.50% to December 31, 2015	10,106
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	144,487
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	144,487
2. Actuarial accrued liability at December 31, 2015	140,938
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	3,549
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	135,067
b. Contributions for 2015[1]	2,697
c. Benefit payments and expenses during 2015	(5,468)
d. Interest at 7.50% to December 31, 2015	10,026
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	142,322
5. Actuarial value of assets at December 31, 2015	135,744
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(6,579)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($3,030)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$35**
2. Expected increase	2,129
3. Liability (gain)/loss	(3,549)
4. Asset (gain)/loss	6,579
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$5,194**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			**December 31, 2014**		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	4,959	36,832	13.46%	4,917	36,871	13.34%
Total	**$4,959**	**$36,832**	**13.46%**	**$4,917**	**$36,871**	**13.34%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$5,194	$35
2. Next year's Tier 1/Tier 2 UAL payment	294	(37)
3. Combined valuation payroll	36,832	36,871
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.80%	(0.10%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.46%	13.34%
b. Tier 1/Tier 2 UAL rate	0.80%	(0.10%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	14.41%	13.39%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.35%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.35%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.67%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	96%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.35%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.35%
7.	July 1, 2017 total pension rate, before adjustment	14.41%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(3.06%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	0.80%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(2.26%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.35%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.46%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.46%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.35%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.46%	13.34%
b. Tier 1/Tier 2 UAL rate	(2.26%)	(2.14%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.35%	11.35%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	36,832	0	36,832
Tier 1/Tier 2 valuation payroll	36,832	0	36,832
OPSRP valuation payroll	0	0	0
Combined valuation payroll	**$36,832**	**$0**	**$36,832**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	2	0	0	2	2	0	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	0	2	2	0	0	2
Grand Total Number of Members	**2**	**1**	**0**	**3**	**2**	**1**	**0**	**3**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54			1							**1**
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	344
60-64		
65-69	1	37
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	2	190

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Hermiston Rural Fire Protection District/2815
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Hermiston Rural Fire Protection District/2815

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Hermiston Rural Fire Protection District -- #2815

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Hermiston Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Hermiston Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Hermiston Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.82%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.09%	0.09%	0.09%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**21.18%**	**9.38%**	**14.15%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**21.68%**	**9.81%**	**14.58%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 66%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	19.91%	19.91%
Minimum 2019-2021 Rate	15.93%	11.95%
Maximum 2019-2021 Rate	23.89%	27.87%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$3,094,148	$3,421,790	$327,642	90%	$1,825,539	18%
12/31/2011	3,353,245	3,852,024	498,779	87%	1,943,699	26%
12/31/2012	4,033,745	4,582,248	548,503	88%	2,169,710	25%
12/31/2013	4,709,799	4,971,080	261,281	95%	2,131,800	12%
12/31/2014	4,918,246	6,949,344	2,031,098	71%	2,207,387	92%
12/31/2015	5,059,626	7,676,772	2,617,146	66%	2,748,928	95%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Hermiston Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$2,617,146	$2,031,098
Allocated pooled OPSRP UAL	390,798	252,352
Side account	0	0
Net unfunded pension actuarial accrued liability	3,007,944	2,283,450
Combined valuation payroll	2,748,928	2,207,387
Net pension UAL as a percentage of payroll	109%	103%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$13,348	$17,546

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$284,071	$278,028
Tier 1/Tier 2 valuation payroll	1,433,490	1,440,780
Tier 1/Tier 2 pension normal cost rate	19.82%	19.30%
Tier 1/ Tier 2 Actuarial accrued liability	$7,676,772	$6,949,344
Actuarial asset value	5,059,626	4,918,246
Tier 1/Tier 2 Unfunded actuarial accrued liability	2,617,146	2,031,098
Tier 1/ Tier 2 Funded status	66%	71%
Combined valuation payroll	$2,748,928	$2,207,387
Tier 1/Tier 2 UAL as a percentage of payroll	95%	92%
Tier 1/Tier 2 UAL rate	0.09%	(0.63%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	16	15
Tier 1/Tier 2 dormant members	3	4
Tier 1/Tier 2 retirees and beneficiaries	10	9

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,748,928	2,207,387
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$424,470	$419,506
2. Employer reserves	3,517,708	3,301,699
3. Benefits in force reserve	1,117,448	1,197,041
4. Total market value of assets ***(1. + 2. + 3.)***	**$5,059,626**	**$4,918,246**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$4,918,246
2. Regular employer contributions	206,631
3. Benefit payments and expense	(203,209)
4. Adjustments [1]	36,423
5. Interest credited	101,535
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$5,059,626**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$79,424	$99,085
Tier 1 General Service	12,677	12,125
Tier 2 Police & Fire	191,275	166,818
Tier 2 General Service	695	0
Total	**$284,071**	**$278,028**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$284,071	$284,071	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$1,931,140	$1,636,804
▪ Tier 1 General Service	204,480	180,007
▪ Tier 2 Police & Fire	3,053,474	2,635,639
▪ Tier 2 General Service	37,661	32,750
▪ **Total Active Members**	**$5,226,755**	**$4,485,200**
Dormant Members	37,233	141,915
Retired Members and Beneficiaries	2,412,784	2,322,229
Total Actuarial Accrued Liability	**$7,676,772**	**$6,949,344**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$7,676,772	$7,676,772	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$7,676,772	$6,949,344
2. Actuarial value of assets	5,059,626	4,918,246
3. Unfunded accrued liability *(1. – 2.)*	2,617,146	2,031,098
4. Funded percentage *(2. ÷ 1.)*	66%	71%
5. Combined valuation payroll	$2,748,928	$2,207,387
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	95%	92%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$261,839	$19,613	$18,854	$261,080	$20,300
December 31, 2015	N/A	N/A	N/A	$2,356,066	$170,482
Total				**$2,617,146**	**$190,782**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$6,949,344
b. Normal cost at December 31, 2014 (excluding assumed expenses)	265,955
c. Benefit payments during 2015	(201,640)
d. Interest at 7.50% to December 31, 2015	523,613
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	7,537,272
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	7,537,272
2. Actuarial accrued liability at December 31, 2015	7,676,772
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(139,500)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4,918,246
b. Contributions for 2015[1]	206,631
c. Benefit payments and expenses during 2015	(203,209)
d. Interest at 7.50% to December 31, 2015	368,997
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	5,290,664
5. Actuarial value of assets at December 31, 2015	5,059,626
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(231,038)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($370,538)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$2,031,098**
2. Expected increase	215,510
3. Liability (gain)/loss	139,500
4. Asset (gain)/loss	231,038
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$2,617,146**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$79,424	$403,299	19.69%	$99,085	$486,447	20.37%
Tier 1 General Service	12,677	67,719	18.72%	12,125	64,927	18.67%
Tier 2 Police & Fire	191,275	958,671	19.95%	166,818	889,406	18.76%
Tier 2 General Service	695	3,801	18.28%	0	0	0.00%
Total	**$284,071**	**$1,433,490**	**19.82%**	**$278,028**	**$1,440,780**	**19.30%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$2,617,146	$2,031,098
2. Next year's Tier 1/Tier 2 UAL payment	190,782	147,635
3. Combined valuation payroll	2,748,928	2,207,387
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.94%	6.69%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.82%	19.30%
b. Tier 1/Tier 2 UAL rate	6.94%	6.69%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	26.91%	26.14%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	15.56%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	15.56%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.11%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.11%
	c. Funded percentage	66%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	4.35%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	11.21%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	19.91%
7.	July 1, 2017 total pension rate, before adjustment	26.91%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(7.00%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.94%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.06%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	19.91%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.82%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.82%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	19.91%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.82%	19.30%
b. Tier 1/Tier 2 UAL rate	(0.06%)	(0.78%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	19.91%	18.67%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$67,719	$403,299	$471,018
Tier 2	3,801	958,671	962,472
Tier 1/Tier 2 valuation payroll	71,520	1,361,970	1,433,490
OPSRP valuation payroll	46,426	1,269,012	1,315,438
Combined valuation payroll	**$117,946**	**$2,630,982**	**$2,748,928**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	0	1	2	1	0	1	2
Police & Fire	4	11	17	32	4	10	9	23
Total	5	11	18	34	5	10	10	25
Active Members with previous service segments with the employer								
General Service	1	3	N/A	4	1	1	N/A	2
Police & Fire	1	6	N/A	7	1	5	N/A	6
Total	2	9	N/A	11	2	6	N/A	8
Dormant Members								
General Service	0	1	0	1	0	1	0	1
Police & Fire	1	1	1	3	2	1	1	4
Total	1	2	1	4	2	2	1	5
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	10	0	0	10	9	0	0	9
Total	10	0	0	10	9	0	0	9
Grand Total Number of Members	**18**	**22**	**19**	**59**	**18**	**18**	**11**	**47**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39			3							**3**
40-44				2						**2**
45-49			2		2					**4**
50-54			2		1	1				**4**
55-59			1							**1**
60-64				1						**1**
65-69						1				**1**
70-74										
75+										
Total	**0**	**0**	**8**	**3**	**3**	**2**	**0**	**0**	**0**	**16**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	1	0
45-49	1	181
50-54	1	174
55-59		
60-64		
65-69		
70-74		
75+		
Total	3	118

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	2	2,586
55-59	2	253
60-64	4	1,755
65-69	1	1
70-74	1	449
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	10	1,315

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Hillsboro/2115
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Hillsboro/2115

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Hillsboro/2115

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Hillsboro -- #2115

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Hillsboro to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Hillsboro.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Hillsboro

	Payroll		
		OPSRP	
	Tier 1/Tier 2	**General Service**	**Police & Fire**
Pension			
Normal cost rate	16.02%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.85%	1.85%	1.85%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**19.14%**	**11.14%**	**15.91%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**19.64%**	**11.57%**	**16.34%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 73%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	17.87%	17.87%
Minimum 2019-2021 Rate	14.30%	10.73%
Maximum 2019-2021 Rate	21.44%	25.01%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$132,782,298	$155,805,361	$23,023,063	85%	$47,678,323	48%
12/31/2011	131,672,972	163,806,911	32,133,939	80%	49,565,888	65%
12/31/2012	146,542,313	171,483,160	24,940,847	85%	52,063,096	48%
12/31/2013	164,443,987	180,158,593	15,714,606	91%	54,358,247	29%
12/31/2014	172,759,359	219,498,006	46,738,647	79%	56,485,044	83%
12/31/2015	170,451,345	232,879,662	62,428,317	73%	59,034,284	106%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Hillsboro

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$62,428,317	$46,738,647
Allocated pooled OPSRP UAL	8,392,547	6,457,470
Side account	0	0
Net unfunded pension actuarial accrued liability	70,820,864	53,196,117
Combined valuation payroll	59,034,284	56,485,044
Net pension UAL as a percentage of payroll	120%	94%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$286,650	$448,976

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$4,691,287	$4,978,323
Tier 1/Tier 2 valuation payroll	29,284,922	30,735,153
Tier 1/Tier 2 pension normal cost rate	16.02%	16.20%
Tier 1/ Tier 2 Actuarial accrued liability	$232,879,662	$219,498,006
Actuarial asset value	170,451,345	172,759,359
Tier 1/Tier 2 Unfunded actuarial accrued liability	62,428,317	46,738,647
Tier 1/ Tier 2 Funded status	73%	79%
Combined valuation payroll	$59,034,284	$56,485,044
Tier 1/Tier 2 UAL as a percentage of payroll	106%	83%
Tier 1/Tier 2 UAL rate	1.85%	1.67%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	326	351
Tier 1/Tier 2 dormant members	139	137
Tier 1/Tier 2 retirees and beneficiaries	377	349

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	59,034,284	56,485,044
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$22,556,730	$25,297,338
2. Employer reserves	93,314,496	94,614,313
3. Benefits in force reserve	54,580,119	52,847,708
4. Total market value of assets ***(1. + 2. + 3.)***	**$170,451,345**	**$172,759,359**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$172,759,359
2.	Regular employer contributions	4,250,619
3.	Benefit payments and expense	(9,925,463)
4.	Adjustments [1]	(701,539)
5.	Interest credited	4,068,369
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$170,451,345**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$1,021,313	$1,184,218
Tier 1 General Service	948,945	1,042,581
Tier 2 Police & Fire	1,578,258	1,558,649
Tier 2 General Service	1,142,771	1,192,875
Total	**$4,691,287**	**$4,978,323**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$4,691,287	$4,691,287	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$27,937,809	$32,046,428
▪ Tier 1 General Service	24,714,540	26,402,902
▪ Tier 2 Police & Fire	28,596,153	25,651,055
▪ Tier 2 General Service	24,070,200	22,535,640
▪ **Total Active Members**	**$105,318,702**	**$106,636,025**
Dormant Members	9,712,032	10,338,737
Retired Members and Beneficiaries	117,848,928	102,523,244
Total Actuarial Accrued Liability	**$232,879,662**	**$219,498,006**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$232,879,662	$232,879,662	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$232,879,662	$219,498,006
2. Actuarial value of assets	170,451,345	172,759,359
3. Unfunded accrued liability *(1. – 2.)*	62,428,317	46,738,647
4. Funded percentage *(2. ÷ 1.)*	73%	79%
5. Combined valuation payroll	$59,034,284	$56,485,044
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	106%	83%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$15,748,136	$1,179,636	$1,133,982	$15,702,482	$1,220,938
December 31, 2015	N/A	N/A	N/A	$46,725,835	$3,381,030
Total				**$62,428,317**	**$4,601,968**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$219,498,006
b. Normal cost at December 31, 2014 (excluding assumed expenses)	4,762,107
c. Benefit payments during 2015	(9,848,800)
d. Interest at 7.50% to December 31, 2015	16,271,599
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	230,682,912
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	230,682,912
2. Actuarial accrued liability at December 31, 2015	232,879,662
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(2,196,750)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	172,759,359
b. Contributions for 2015[1]	4,250,619
c. Benefit payments and expenses during 2015	(9,925,463)
d. Interest at 7.50% to December 31, 2015	12,744,145
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	179,828,660
5. Actuarial value of assets at December 31, 2015	170,451,345
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(9,377,315)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($11,574,065)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$46,738,647**
2. Expected increase	4,115,605
3. Liability (gain)/loss	2,196,750
4. Asset (gain)/loss	9,377,315
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$62,428,317**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$1,021,313	$4,919,341	20.76%	$1,184,218	$5,613,101	21.10%
Tier 1 General Service	948,945	5,910,153	16.06%	1,042,581	6,343,789	16.43%
Tier 2 Police & Fire	1,578,258	8,663,817	18.22%	1,558,649	8,620,100	18.08%
Tier 2 General Service	1,142,771	9,791,611	11.67%	1,192,875	10,158,163	11.74%
Total	**$4,691,287**	**$29,284,922**	**16.02%**	**$4,978,323**	**$30,735,153**	**16.20%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$62,428,317	$46,738,647
2. Next year's Tier 1/Tier 2 UAL payment	4,601,968	3,422,075
3. Combined valuation payroll	59,034,284	56,485,044
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	7.80%	6.06%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.02%	16.20%
b. Tier 1/Tier 2 UAL rate	7.80%	6.06%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	23.97%	22.41%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	14.87%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	14.87%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.97%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	73%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	11.87%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	17.87%
7.	July 1, 2017 total pension rate, before adjustment	23.97%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(6.10%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	7.80%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	1.70%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	17.87%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.02%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.02%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	17.87%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.02%	16.20%
b. Tier 1/Tier 2 UAL rate	1.70%	1.52%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	17.87%	17.87%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$5,910,153	$4,919,341	$10,829,494
Tier 2	9,791,611	8,663,817	18,455,428
Tier 1/Tier 2 valuation payroll	15,701,764	13,583,158	29,284,922
OPSRP valuation payroll	22,056,333	7,693,029	29,749,362
Combined valuation payroll	**$37,758,097**	**$21,276,187**	**$59,034,284**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	72	127	405	604	80	136	349	565
Police & Fire	44	83	83	210	52	83	79	214
Total	116	210	488	814	132	219	428	779
Active Members with previous service segments with the employer								
General Service	72	103	N/A	175	76	108	N/A	184
Police & Fire	9	11	N/A	20	11	10	N/A	21
Total	81	114	N/A	195	87	118	N/A	205
Dormant Members								
General Service	52	68	39	159	55	62	34	151
Police & Fire	13	6	5	24	12	8	5	25
Total	65	74	44	183	67	70	39	176
Retired Members and Beneficiaries								
General Service	227	42	5	274	214	35	4	253
Police & Fire	99	9	1	109	97	3	1	101
Total	326	51	6	383	311	38	5	354
Grand Total Number of Members	**588**	**449**	**538**	**1,575**	**597**	**445**	**472**	**1,514**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34			1							1
35-39		2	25	11						38
40-44		1	19	25	4	1				50
45-49			14	48	17	4				83
50-54			11	29	20	8				68
55-59		2	5	16	11	4	3	2		43
60-64			6	10	8	4	2	1		31
65-69			1	4	7					12
70-74										
75+										
Total	0	5	82	143	67	21	5	3	0	326

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	11	471
40-44	16	429
45-49	34	846
50-54	25	747
55-59	24	899
60-64	18	419
65-69	5	268
70-74	5	506
75+	1	226
Total	139	667

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	4	2,051
45-49	2	1,231
50-54	14	3,551
55-59	41	2,371
60-64	94	2,082
65-69	113	1,939
70-74	55	1,458
75-79	24	1,178
80-84	16	967
85-89	10	1,221
90-94	4	1,117
95-99		
100+		
Total	377	1,891

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Jackson County Fire District #5/2556
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Jackson County Fire District #5/2556

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Jackson County Fire District #5 -- #2556

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Jackson County Fire District #5 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Jackson County Fire District #5.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Jackson County Fire District #5

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	20.43%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	3.21%	3.21%	3.21%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**24.91%**	**12.50%**	**17.27%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**25.41%**	**12.93%**	**17.70%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 67%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	23.64%	23.64%
Minimum 2019-2021 Rate	18.91%	14.18%
Maximum 2019-2021 Rate	28.37%	33.10%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$12,338,988	$14,587,295	$2,248,307	85%	$2,158,071	104%
12/31/2011	11,630,678	14,920,503	3,289,825	78%	2,094,912	157%
12/31/2012	12,643,144	15,114,250	2,471,106	84%	2,256,324	110%
12/31/2013	14,169,543	15,674,310	1,504,767	90%	2,407,905	62%
12/31/2014	14,840,834	18,877,511	4,036,677	79%	2,255,075	179%
12/31/2015	13,145,707	19,673,311	6,527,604	67%	2,380,009	274%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Jackson County Fire District #5

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$6,527,604	$4,036,677
Allocated pooled OPSRP UAL	338,351	257,804
Side account	0	0
Net unfunded pension actuarial accrued liability	6,865,955	4,294,481
Combined valuation payroll	2,380,009	2,255,075
Net pension UAL as a percentage of payroll	288%	190%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$11,557	$17,925

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$226,088	$251,604
Tier 1/Tier 2 valuation payroll	1,106,663	1,221,306
Tier 1/Tier 2 pension normal cost rate	20.43%	20.60%
Tier 1/ Tier 2 Actuarial accrued liability	$19,673,311	$18,877,511
Actuarial asset value	13,145,707	14,840,834
Tier 1/Tier 2 Unfunded actuarial accrued liability	6,527,604	4,036,677
Tier 1/ Tier 2 Funded status	67%	79%
Combined valuation payroll	$2,380,009	$2,255,075
Tier 1/Tier 2 UAL as a percentage of payroll	274%	179%
Tier 1/Tier 2 UAL rate	3.21%	1.91%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	11	14
Tier 1/Tier 2 dormant members	1	2
Tier 1/Tier 2 retirees and beneficiaries	28	23

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,380,009	2,255,075
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,052,518	$1,789,370
2. Employer reserves	5,586,888	7,398,904
3. Benefits in force reserve	6,506,301	5,652,561
4. Total market value of assets ***(1. + 2. + 3.)***	**$13,145,707**	**$14,840,834**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$14,840,834
2.	Regular employer contributions	197,764
3.	Benefit payments and expense	(1,183,179)
4.	Adjustments [1]	(1,032,473)
5.	Interest credited	322,761
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$13,145,707**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$96,129	$117,214
Tier 1 General Service	0	0
Tier 2 Police & Fire	129,959	125,835
Tier 2 General Service	0	8,555
Total	**$226,088**	**$251,604**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$226,088	$226,088	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$3,474,818	$4,305,423
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	2,031,333	1,784,172
▪ Tier 2 General Service	0	176,962
▪ **Total Active Members**	**$5,506,151**	**$6,266,557**
Dormant Members	118,812	1,645,126
Retired Members and Beneficiaries	14,048,348	10,965,828
Total Actuarial Accrued Liability	**$19,673,311**	**$18,877,511**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$19,673,311	$19,673,311	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$19,673,311	$18,877,511
2. Actuarial value of assets	13,145,707	14,840,834
3. Unfunded accrued liability *(1. – 2.)*	6,527,604	4,036,677
4. Funded percentage *(2. ÷ 1.)*	67%	79%
5. Combined valuation payroll	$2,380,009	$2,255,075
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	274%	179%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$1,507,978	$112,957	$108,586	$1,503,607	$116,912
December 31, 2015	N/A	N/A	N/A	$5,023,997	$363,531
Total				**$6,527,604**	**$480,443**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$18,877,511
b. Normal cost at December 31, 2014 (excluding assumed expenses)	240,649
c. Benefit payments during 2015	(1,174,040)
d. Interest at 7.50% to December 31, 2015	1,380,811
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	19,324,931
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	19,324,931
2. Actuarial accrued liability at December 31, 2015	19,673,311
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(348,380)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	14,840,834
b. Contributions for 2015[1]	197,764
c. Benefit payments and expenses during 2015	(1,183,179)
d. Interest at 7.50% to December 31, 2015	1,076,110
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	14,931,529
5. Actuarial value of assets at December 31, 2015	13,145,707
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(1,785,822)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($2,134,202)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$4,036,677**
2. Expected increase	356,725
3. Liability (gain)/loss	348,380
4. Asset (gain)/loss	1,785,822
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$6,527,604**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$96,129	$407,314	23.60%	$117,214	$480,581	24.39%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	129,959	699,349	18.58%	125,835	680,294	18.50%
Tier 2 General Service	0	0	0.00%	8,555	60,431	14.16%
Total	**$226,088**	**$1,106,663**	**20.43%**	**$251,604**	**$1,221,306**	**20.60%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$6,527,604	$4,036,677
2. Next year's Tier 1/Tier 2 UAL payment	480,443	295,931
3. Combined valuation payroll	2,380,009	2,255,075
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	20.19%	13.12%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	20.43%	20.60%
b. Tier 1/Tier 2 UAL rate	20.19%	13.12%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	40.77%	33.87%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	18.76%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	18.76%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.75%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.75%
	c. Funded percentage	67%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	4.88%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	13.88%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	23.64%
7.	July 1, 2017 total pension rate, before adjustment	40.77%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(17.13%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	20.19%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	3.06%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	23.64%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	20.43%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	20.43%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	23.64%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	20.43%	20.60%
b. Tier 1/Tier 2 UAL rate	3.06%	1.76%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	23.64%	22.51%
(a. + b. + c., minimum of 5.50%)		

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$407,314	$407,314
Tier 2	0	699,349	699,349
Tier 1/Tier 2 valuation payroll	0	1,106,663	1,106,663
OPSRP valuation payroll	11,362	1,261,984	1,273,346
Combined valuation payroll	**$11,362**	**$2,368,647**	**$2,380,009**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	1	1	0	1	1	2
Police & Fire	4	7	15	26	6	7	12	25
Total	4	7	16	27	6	8	13	27
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	1	1	N/A	2	1	1	N/A	2
Total	1	1	N/A	2	1	1	N/A	2
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	0	1	1	1	0	2
Total	0	1	0	1	1	1	0	2
Retired Members and Beneficiaries								
General Service	4	0	0	4	3	0	0	3
Police & Fire	21	3	0	24	20	0	0	20
Total	25	3	0	28	23	0	0	23
Grand Total Number of Members	**30**	**12**	**16**	**58**	**31**	**10**	**13**	**54**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1	2						3
45-49			1	2						3
50-54				1	1	1				3
55-59						1	1			2
60-64										
65-69										
70-74										
75+										
Total	0	0	2	5	1	2	1	0	0	11

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	1,346
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total	1	1,346

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	1	845
45-49		
50-54	1	293
55-59	7	3,545
60-64	10	3,294
65-69	5	3,664
70-74	3	2,204
75-79		
80-84		
85-89	1	236
90-94		
95-99		
100+		
Total	28	3,002

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Jacksonville/2222
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Jacksonville/2222

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Jacksonville -- #2222

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Jacksonville to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Jacksonville.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Jacksonville

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.36%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(2.40%)	(2.40%)	(2.40%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.23%**	**6.89%**	**11.66%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.73%**	**7.32%**	**12.09%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 82%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.96%	16.96%
Minimum 2019-2021 Rate	13.57%	10.18%
Maximum 2019-2021 Rate	20.35%	23.74%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$3,089,410	$3,322,938	$233,528	93%	$939,937	25%
12/31/2011	3,132,652	3,510,590	377,938	89%	877,859	43%
12/31/2012	3,582,220	3,837,033	254,814	93%	989,332	26%
12/31/2013	4,093,913	4,052,248	(41,665)	101%	902,763	(5%)
12/31/2014	4,234,587	4,753,921	519,334	89%	1,038,429	50%
12/31/2015	4,229,016	5,147,899	918,883	82%	1,119,701	82%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Jacksonville

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$918,883	$519,334
Allocated pooled OPSRP UAL	159,181	118,715
Side account	0	0
Net unfunded pension actuarial accrued liability	1,078,064	638,049
Combined valuation payroll	1,119,701	1,038,429
Net pension UAL as a percentage of payroll	96%	61%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$5,437	$8,254

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$102,879	$98,859
Tier 1/Tier 2 valuation payroll	531,423	495,285
Tier 1/Tier 2 pension normal cost rate	19.36%	19.96%
Tier 1/ Tier 2 Actuarial accrued liability	$5,147,899	$4,753,921
Actuarial asset value	4,229,016	4,234,587
Tier 1/Tier 2 Unfunded actuarial accrued liability	918,883	519,334
Tier 1/ Tier 2 Funded status	82%	89%
Combined valuation payroll	$1,119,701	$1,038,429
Tier 1/Tier 2 UAL as a percentage of payroll	82%	50%
Tier 1/Tier 2 UAL rate	(2.40%)	(3.00%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	10	10
Tier 1/Tier 2 dormant members	5	5
Tier 1/Tier 2 retirees and beneficiaries	14	13

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,119,701	1,038,429
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$796,829	$787,983
2. Employer reserves	2,622,922	2,687,669
3. Benefits in force reserve	809,265	758,936
4. Total market value of assets ***(1. + 2. + 3.)***	**$4,229,016**	**$4,234,587**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$4,234,587
2.	Regular employer contributions	42,872
3.	Benefit payments and expense	(147,166)
4.	Adjustments [1]	(11,138)
5.	Interest credited	109,861
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$4,229,016**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$55,653	$53,747
Tier 1 General Service	24,794	23,911
Tier 2 Police & Fire	9,406	8,700
Tier 2 General Service	13,026	12,501
Total	**$102,879**	**$98,859**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$102,879	$102,879	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$1,110,698	$990,729
▪ Tier 1 General Service	1,060,116	947,700
▪ Tier 2 Police & Fire	215,143	406,499
▪ Tier 2 General Service	400,741	360,404
▪ **Total Active Members**	**$2,786,698**	**$2,705,332**
Dormant Members	613,842	576,272
Retired Members and Beneficiaries	1,747,359	1,472,317
Total Actuarial Accrued Liability	**$5,147,899**	**$4,753,921**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$5,147,899	$5,147,899	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$5,147,899	$4,753,921
2. Actuarial value of assets	4,229,016	4,234,587
3. Unfunded accrued liability *(1. – 2.)*	918,883	519,334
4. Funded percentage *(2. ÷ 1.)*	82%	89%
5. Combined valuation payroll	$1,119,701	$1,038,429
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	82%	50%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($41,754)	($3,128)	($3,007)	($41,633)	($3,237)
December 31, 2015	N/A	N/A	N/A	$960,516	$69,502
Total				**$918,883**	**$66,265**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$4,753,921
b. Normal cost at December 31, 2014 (excluding assumed expenses)	94,548
c. Benefit payments during 2015	(146,029)
d. Interest at 7.50% to December 31, 2015	354,614
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	5,057,054
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	5,057,054
2. Actuarial accrued liability at December 31, 2015	5,147,899
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(90,845)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4,234,587
b. Contributions for 2015[1]	42,872
c. Benefit payments and expenses during 2015	(147,166)
d. Interest at 7.50% to December 31, 2015	313,683
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	4,443,976
5. Actuarial value of assets at December 31, 2015	4,229,016
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(214,960)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($305,805)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$519,334**
2. Expected increase	93,744
3. Liability (gain)/loss	90,845
4. Asset (gain)/loss	214,960
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$918,883**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$55,653	$217,351	25.61%	$53,747	$193,925	27.72%
Tier 1 General Service	24,794	172,669	14.36%	23,911	168,063	14.23%
Tier 2 Police & Fire	9,406	46,881	20.06%	8,700	43,305	20.09%
Tier 2 General Service	13,026	94,522	13.78%	12,501	89,992	13.89%
Total	**$102,879**	**$531,423**	**19.36%**	**$98,859**	**$495,285**	**19.96%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$918,883	$519,334
2. Next year's Tier 1/Tier 2 UAL payment	66,265	37,472
3. Combined valuation payroll	1,119,701	1,038,429
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	5.92%	3.61%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.36%	19.96%
b. Tier 1/Tier 2 UAL rate	5.92%	3.61%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	25.43%	23.72%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.96%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.96%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.79%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	82%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.96%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.96%
7.	July 1, 2017 total pension rate, before adjustment	25.43%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(8.47%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	5.92%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(2.55%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.96%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.36%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.36%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.96%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.36%	19.96%
b. Tier 1/Tier 2 UAL rate	(2.55%)	(3.15%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.96%	16.96%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$172,669	$217,351	$390,020
Tier 2	94,522	46,881	141,403
Tier 1/Tier 2 valuation payroll	267,191	264,232	531,423
OPSRP valuation payroll	253,272	335,006	588,278
Combined valuation payroll	**$520,463**	**$599,238**	**$1,119,701**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	3	2	7	12	3	2	6	11
Police & Fire	4	1	8	13	4	1	7	12
Total	7	3	15	25	7	3	13	23
Active Members with previous service segments with the employer								
General Service	2	2	N/A	4	2	2	N/A	4
Police & Fire	3	3	N/A	6	3	4	N/A	7
Total	5	5	N/A	10	5	6	N/A	11
Dormant Members								
General Service	3	1	1	5	3	1	0	4
Police & Fire	1	0	1	2	1	0	1	2
Total	4	1	2	7	4	1	1	6
Retired Members and Beneficiaries								
General Service	6	2	0	8	6	2	0	8
Police & Fire	5	1	0	6	5	0	0	5
Total	11	3	0	14	11	2	0	13
Grand Total Number of Members	**27**	**12**	**17**	**56**	**27**	**12**	**14**	**53**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						1
45-49			1							1
50-54				1	4					5
55-59					1					1
60-64				1	1					2
65-69										
70-74										
75+										
Total	0	0	1	3	6	0	0	0	0	10

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	2	630
45-49	1	715
50-54		
55-59	1	2,840
60-64		
65-69	1	12
70-74		
75+		
Total	5	966

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	1,374
60-64	5	660
65-69	4	348
70-74	2	654
75-79	1	2,663
80-84		
85-89	1	580
90-94		
95-99		
100+		
Total	14	758

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Jefferson County Rural Fire Protection District #1/2575
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Jefferson County Rural Fire Protection District #1/2575

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Jefferson County Rural Fire Protection District #1 -- #2575

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Jefferson County Rural Fire Protection District #1 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Jefferson County Rural Fire Protection District #1.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Jefferson County Rural Fire Protection District #1

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	14.84%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.22%	1.22%	1.22%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**17.33%**	**10.51%**	**15.28%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**17.83%**	**10.94%**	**15.71%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 80%.

Funded Status as of December 31, 2017	**70% to 130%**	**Under 60% or Over 140%**
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.06%	16.06%
Minimum 2019-2021 Rate	12.85%	9.64%
Maximum 2019-2021 Rate	19.27%	22.48%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,682,599	$1,644,460	($38,139)	102%	$256,314	(15%)
12/31/2011	1,590,509	1,837,042	246,533	87%	304,654	81%
12/31/2012	1,740,658	1,800,503	59,845	97%	300,941	20%
12/31/2013	1,872,829	1,921,988	49,159	97%	298,613	16%
12/31/2014	1,945,969	2,295,670	349,701	85%	310,549	113%
12/31/2015	1,748,017	2,189,466	441,449	80%	331,004	133%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Jefferson County Rural Fire Protection District #1

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$441,449	$349,701
Allocated pooled OPSRP UAL	47,057	35,503
Side account	0	0
Net unfunded pension actuarial accrued liability	488,506	385,204
Combined valuation payroll	331,004	310,549
Net pension UAL as a percentage of payroll	148%	124%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,607	$2,468

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$10,200	$9,882
Tier 1/Tier 2 valuation payroll	68,718	66,842
Tier 1/Tier 2 pension normal cost rate	14.84%	14.78%
Tier 1/ Tier 2 Actuarial accrued liability	$2,189,466	$2,295,670
Actuarial asset value	1,748,017	1,945,969
Tier 1/Tier 2 Unfunded actuarial accrued liability	441,449	349,701
Tier 1/ Tier 2 Funded status	80%	85%
Combined valuation payroll	$331,004	$310,549
Tier 1/Tier 2 UAL as a percentage of payroll	133%	113%
Tier 1/Tier 2 UAL rate	1.22%	1.28%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	2
Tier 1/Tier 2 dormant members	2	2
Tier 1/Tier 2 retirees and beneficiaries	6	6

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	331,004	310,549
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$63,289	$138,187
2. Employer reserves	826,408	875,607
3. Benefits in force reserve	858,320	932,175
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,748,017**	**$1,945,969**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$1,945,969
2. Regular employer contributions	14,724
3. Benefit payments and expense	(156,087)
4. Adjustments [1]	(97,561)
5. Interest credited	40,972
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,748,017**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	10,200	9,882
Tier 2 General Service	0	0
Total	**$10,200**	**$9,882**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$10,200	$10,200	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	181,880
▪ Tier 2 Police & Fire	167,105	147,647
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$167,105**	**$329,527**
Dormant Members	169,084	157,747
Retired Members and Beneficiaries	1,853,277	1,808,396
Total Actuarial Accrued Liability	**$2,189,466**	**$2,295,670**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$2,189,466	$2,189,466	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$2,189,466	$2,295,670
2. Actuarial value of assets	1,748,017	1,945,969
3. Unfunded accrued liability *(1. – 2.)*	441,449	349,701
4. Funded percentage *(2. ÷ 1.)*	80%	85%
5. Combined valuation payroll	$331,004	$310,549
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	133%	113%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$49,264	$3,690	$3,547	$49,121	$3,819
December 31, 2015	N/A	N/A	N/A	$392,328	$28,388
Total				**$441,449**	**$32,207**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$2,295,670
b. Normal cost at December 31, 2014 (excluding assumed expenses)	9,453
c. Benefit payments during 2015	(154,881)
d. Interest at 7.50% to December 31, 2015	166,722
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	2,316,964
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	2,316,964
2. Actuarial accrued liability at December 31, 2015	2,189,466
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	127,498
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,945,969
b. Contributions for 2015[1]	14,724
c. Benefit payments and expenses during 2015	(156,087)
d. Interest at 7.50% to December 31, 2015	140,647
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,945,253
5. Actuarial value of assets at December 31, 2015	1,748,017
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(197,236)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($69,738)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$349,701**
2. Expected increase	22,010
3. Liability (gain)/loss	(127,498)
4. Asset (gain)/loss	197,236
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$441,449**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	10,200	68,718	14.84%	9,882	66,842	14.78%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$10,200**	**$68,718**	**14.84%**	**$9,882**	**$66,842**	**14.78%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$441,449	$349,701
2. Next year's Tier 1/Tier 2 UAL payment	32,207	25,429
3. Combined valuation payroll	331,004	310,549
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.73%	8.19%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.84%	14.78%
b. Tier 1/Tier 2 UAL rate	9.73%	8.19%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	24.72%	23.12%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		13.06%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*		13.06%
4. Size of rate collar		
a. 20% of current employer contribution rate *(20% x 3.)*		2.61%
b. Preliminary size of rate collar *(maximum of 3% or a.)*		3.00%
c. Funded percentage		80%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*		3.00%
5. July 1, 2017 minimum employer contribution rate	*(3. – 4.d. but not < 0%)*	10.06%
6. July 1, 2017 maximum employer contribution rate	*(3. + 4.d.)*	16.06%
7. July 1, 2017 total pension rate, before adjustment		24.72%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*		(8.66%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		9.73%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	*(8. + 9.)*	1.07%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		16.06%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		14.84%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*		14.84%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	*(11. + 13.)*	16.06%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.84%	14.78%
b. Tier 1/Tier 2 UAL rate	1.07%	1.13%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.06%	16.06%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	68,718	68,718
Tier 1/Tier 2 valuation payroll	0	68,718	68,718
OPSRP valuation payroll	0	262,286	262,286
Combined valuation payroll	**$0**	**$331,004**	**$331,004**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	1	0	0	1
Police & Fire	0	1	4	5	0	1	3	4
Total	0	1	4	5	1	1	3	5
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	1	0	0	1	1	0	0	1
Police & Fire	1	0	0	1	1	0	0	1
Total	2	0	0	2	2	0	0	2
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	6	0	1	7	6	0	1	7
Total	6	0	1	7	6	0	1	7
Grand Total Number of Members	**8**	**1**	**5**	**14**	**9**	**1**	**4**	**14**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1							**1**
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	1,991
50-54		
55-59	1	0
60-64		
65-69		
70-74		
75+		
Total	2	996

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	1	1,154
55-59	1	2,813
60-64	3	1,869
65-69	1	158
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	6	1,622

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Jefferson County Soil & Water Conservation District/2841
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
Jefferson County Soil & Water Conservation District/2841

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Jefferson County Soil & Water Conservation District/2841

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Jefferson County Soil & Water Conservation District -- #2841

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Jefferson County Soil & Water Conservation District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Jefferson County Soil & Water Conservation District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Jefferson County Soil & Water Conservation District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	10.28%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.13%	1.13%	1.13%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.68%**	**10.42%**	**15.19%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.18%**	**10.85%**	**15.62%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 78%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.41%	11.41%
Minimum 2019-2021 Rate	8.41%	5.41%
Maximum 2019-2021 Rate	14.41%	17.41%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$134,596	$126,517	($8,079)	106%	$115,888	(7%)
12/31/2011	132,805	131,462	(1,343)	101%	140,343	(1%)
12/31/2012	147,933	162,410	14,477	91%	185,702	8%
12/31/2013	167,632	175,485	7,853	96%	111,298	7%
12/31/2014	174,278	208,639	34,361	84%	191,735	18%
12/31/2015	174,898	225,571	50,673	78%	202,093	25%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Jefferson County Soil & Water Conservation District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$50,673	$34,361
Allocated pooled OPSRP UAL	28,730	21,919
Side account	0	0
Net unfunded pension actuarial accrued liability	79,403	56,280
Combined valuation payroll	202,093	191,735
Net pension UAL as a percentage of payroll	39%	29%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$981	$1,524

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$6,609	$6,431
Tier 1/Tier 2 valuation payroll	64,277	62,151
Tier 1/Tier 2 pension normal cost rate	10.28%	10.35%
Tier 1/ Tier 2 Actuarial accrued liability	$225,571	$208,639
Actuarial asset value	174,898	174,278
Tier 1/Tier 2 Unfunded actuarial accrued liability	50,673	34,361
Tier 1/ Tier 2 Funded status	78%	84%
Combined valuation payroll	$202,093	$191,735
Tier 1/Tier 2 UAL as a percentage of payroll	25%	18%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	1.13%	1.06%
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	1	1

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	202,093	191,735
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$19,784	$19,460
2. Employer reserves	117,772	113,003
3. Benefits in force reserve	37,342	41,815
4. Total market value of assets ***(1. + 2. + 3.)***	**$174,898**	**$174,278**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$174,278
2.	Regular employer contributions	2,743
3.	Benefit payments and expense	(6,791)
4.	Adjustments [1]	1,703
5.	Interest credited	2,964
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$174,898**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	6,609	6,431
Total	**$6,609**	**$6,431**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$6,609	$6,609	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	144,944	127,519
▪ **Total Active Members**	**$144,944**	**$127,519**
Dormant Members	0	0
Retired Members and Beneficiaries	80,627	81,120
Total Actuarial Accrued Liability	**$225,571**	**$208,639**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$225,571	$225,571	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$225,571	$208,639
2. Actuarial value of assets	174,898	174,278
3. Unfunded accrued liability *(1. – 2.)*	50,673	34,361
4. Funded percentage *(2. ÷ 1.)*	78%	84%
5. Combined valuation payroll	$202,093	$191,735
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	25%	18%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$7,870	$590	$567	$7,847	$610
December 31, 2015	N/A	N/A	N/A	$42,826	$3,099
Total				**$50,673**	**$3,709**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$208,639
b. Normal cost at December 31, 2014 (excluding assumed expenses)	6,152
c. Benefit payments during 2015	(6,738)
d. Interest at 7.50% to December 31, 2015	15,626
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	223,679
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	223,679
2. Actuarial accrued liability at December 31, 2015	225,571
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(1,892)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	174,278
b. Contributions for 2015[1]	2,743
c. Benefit payments and expenses during 2015	(6,791)
d. Interest at 7.50% to December 31, 2015	12,919
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	183,150
5. Actuarial value of assets at December 31, 2015	174,898
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(8,252)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($10,144)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$34,361**
2. Expected increase	6,168
3. Liability (gain)/loss	1,892
4. Asset (gain)/loss	8,252
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$50,673**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	6,609	64,277	10.28%	6,431	62,151	10.35%
Total	**$6,609**	**$64,277**	**10.28%**	**$6,431**	**$62,151**	**10.35%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$50,673	$34,361
2. Next year's Tier 1/Tier 2 UAL payment	3,709	2,507
3. Combined valuation payroll	202,093	191,735
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	1.84%	1.31%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.28%	10.35%
b. Tier 1/Tier 2 UAL rate	1.84%	1.31%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	12.27%	11.81%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.41%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.41%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.68%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	78%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.41%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.41%
7.	July 1, 2017 total pension rate, before adjustment	12.27%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(0.86%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	1.84%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.98%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.41%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	10.28%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	10.28%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.41%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	10.28%	10.35%
b. Tier 1/Tier 2 UAL rate	0.98%	0.91%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.41%	11.41%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	64,277	0	64,277
Tier 1/Tier 2 valuation payroll	64,277	0	64,277
OPSRP valuation payroll	137,816	0	137,816
Combined valuation payroll	**$202,093**	**$0**	**$202,093**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	3	4	0	1	3	4
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	3	4	0	1	3	4
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	1	1	2	0	1	1	2
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	1	1	2
Grand Total Number of Members	**0**	**2**	**4**	**6**	**0**	**2**	**4**	**6**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						1
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	1	0	0	0	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74	1	637
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	1	637

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Jefferson County/2006
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Jefferson County/2006

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Jefferson County -- #2006

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Jefferson County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Jefferson County.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Jefferson County

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.23%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.85%	0.85%	0.85%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**19.35%**	**10.14%**	**14.91%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**19.85%**	**10.57%**	**15.34%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 82%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	18.08%	18.08%
Minimum 2019-2021 Rate	14.46%	10.84%
Maximum 2019-2021 Rate	21.70%	25.32%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$26,047,852	$28,853,513	$2,805,661	90%	$5,776,442	49%
12/31/2011	25,322,119	30,409,250	5,087,131	83%	5,991,100	85%
12/31/2012	28,079,743	30,329,042	2,249,299	93%	5,795,860	39%
12/31/2013	30,314,168	30,961,235	647,067	98%	5,612,190	12%
12/31/2014	30,949,852	36,202,532	5,252,680	85%	6,002,205	88%
12/31/2015	30,378,123	37,234,295	6,856,172	82%	5,949,011	115%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Jefferson County

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$6,856,172	$5,252,680
Allocated pooled OPSRP UAL	845,735	686,183
Side account	0	0
Net unfunded pension actuarial accrued liability	7,701,907	5,938,863
Combined valuation payroll	5,949,011	6,002,205
Net pension UAL as a percentage of payroll	129%	99%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$28,886	$47,709

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$352,467	$359,847
Tier 1/Tier 2 valuation payroll	2,045,428	2,108,964
Tier 1/Tier 2 pension normal cost rate	17.23%	17.06%
Tier 1/ Tier 2 Actuarial accrued liability	$37,234,295	$36,202,532
Actuarial asset value	30,378,123	30,949,852
Tier 1/Tier 2 Unfunded actuarial accrued liability	6,856,172	5,252,680
Tier 1/ Tier 2 Funded status	82%	85%
Combined valuation payroll	$5,949,011	$6,002,205
Tier 1/Tier 2 UAL as a percentage of payroll	115%	88%
Tier 1/Tier 2 UAL rate	0.85%	1.02%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	36	39
Tier 1/Tier 2 dormant members	72	72
Tier 1/Tier 2 retirees and beneficiaries	195	190

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	5,949,011	6,002,205
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$4,634,919	$4,547,661
2. Employer reserves	15,817,788	15,641,102
3. Benefits in force reserve	9,925,416	10,761,089
4. Total market value of assets ***(1. + 2. + 3.)***	**$30,378,123**	**$30,949,852**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$30,949,852
2. Regular employer contributions	337,134
3. Benefit payments and expense	(1,804,949)
4. Adjustments [1]	142,535
5. Interest credited	753,551
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$30,378,123**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$54,953	$52,573
Tier 1 General Service	96,426	108,810
Tier 2 Police & Fire	84,510	67,976
Tier 2 General Service	116,578	130,488
Total	**$352,467**	**$359,847**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$352,467	$352,467	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$1,430,743	$1,343,511
▪ Tier 1 General Service	5,387,388	5,623,480
▪ Tier 2 Police & Fire	1,912,720	1,680,986
▪ Tier 2 General Service	3,205,503	3,080,848
▪ **Total Active Members**	**$11,936,354**	**$11,728,825**
Dormant Members	3,867,067	3,597,461
Retired Members and Beneficiaries	21,430,874	20,876,246
Total Actuarial Accrued Liability	**$37,234,295**	**$36,202,532**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$37,234,295	$37,234,295	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$37,234,295	$36,202,532
2. Actuarial value of assets	30,378,123	30,949,852
3. Unfunded accrued liability *(1. – 2.)*	6,856,172	5,252,680
4. Funded percentage *(2. ÷ 1.)*	82%	85%
5. Combined valuation payroll	$5,949,011	$6,002,205
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	115%	88%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$648,447	$48,573	$46,693	$646,567	$50,273
December 31, 2015	N/A	N/A	N/A	$6,209,605	$449,320
Total				**$6,856,172**	**$499,593**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$36,202,532
b. Normal cost at December 31, 2014 (excluding assumed expenses)	344,302
c. Benefit payments during 2015	(1,791,008)
d. Interest at 7.50% to December 31, 2015	2,660,938
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	37,416,764
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	37,416,764
2. Actuarial accrued liability at December 31, 2015	37,234,295
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	182,469
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	30,949,852
b. Contributions for 2015[1]	337,134
c. Benefit payments and expenses during 2015	(1,804,949)
d. Interest at 7.50% to December 31, 2015	2,266,196
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	31,748,233
5. Actuarial value of assets at December 31, 2015	30,378,123
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(1,370,110)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($1,187,641)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$5,252,680**
2. Expected increase	415,851
3. Liability (gain)/loss	(182,469)
4. Asset (gain)/loss	1,370,110
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$6,856,172**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$54,953	$216,032	25.44%	$52,573	$209,901	25.05%
Tier 1 General Service	96,426	555,199	17.37%	108,810	632,696	17.20%
Tier 2 Police & Fire	84,510	404,007	20.92%	67,976	338,604	20.08%
Tier 2 General Service	116,578	870,190	13.40%	130,488	927,763	14.06%
Total	**$352,467**	**$2,045,428**	**17.23%**	**$359,847**	**$2,108,964**	**17.06%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$6,856,172	$5,252,680
2. Next year's Tier 1/Tier 2 UAL payment	499,593	381,730
3. Combined valuation payroll	5,949,011	6,002,205
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	8.40%	6.36%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.23%	17.06%
b. Tier 1/Tier 2 UAL rate	8.40%	6.36%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	25.78%	23.57%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	15.07%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	15.07%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.01%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.01%
	c. Funded percentage	82%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.01%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	12.06%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	18.08%
7.	July 1, 2017 total pension rate, before adjustment	25.78%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(7.70%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	8.40%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.70%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	18.08%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.23%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.23%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	18.08%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.23%	17.06%
b. Tier 1/Tier 2 UAL rate	0.70%	0.87%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	18.08%	18.08%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$555,199	$216,032	$771,231
Tier 2	870,190	404,007	1,274,197
Tier 1/Tier 2 valuation payroll	1,425,389	620,039	2,045,428
OPSRP valuation payroll	2,502,096	1,401,487	3,903,583
Combined valuation payroll	**$3,927,485**	**$2,021,526**	**$5,949,011**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	9	17	51	77	11	19	52	82
Police & Fire	4	6	27	37	4	5	29	38
Total	13	23	78	114	15	24	81	120
Active Members with previous service segments with the employer								
General Service	28	31	N/A	59	33	30	N/A	63
Police & Fire	5	15	N/A	20	6	15	N/A	21
Total	33	46	N/A	79	39	45	N/A	84
Dormant Members								
General Service	21	38	13	72	21	39	12	72
Police & Fire	5	8	4	17	5	7	4	16
Total	26	46	17	89	26	46	16	88
Retired Members and Beneficiaries								
General Service	125	24	2	151	124	22	0	146
Police & Fire	42	4	0	46	41	3	0	44
Total	167	28	2	197	165	25	0	190
Grand Total Number of Members	**239**	**143**	**97**	**479**	**245**	**140**	**97**	**482**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
	Years of Service									
<20										
20-24										
25-29										
30-34			1							**1**
35-39										
40-44			1	3						**4**
45-49			1	3	1					**5**
50-54			4	1	1	2	1			**9**
55-59			2	2	4		1			**9**
60-64			2	3	1					**6**
65-69		1			1					**2**
70-74										
75+										
Total	**0**	**1**	**11**	**12**	**8**	**2**	**2**	**0**	**0**	**36**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	3	702
40-44	6	451
45-49	12	540
50-54	14	809
55-59	11	565
60-64	7	415
65-69	14	285
70-74	3	245
75+	2	131
Total	72	510

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	3	40
45-49	2	140
50-54	5	798
55-59	14	1,066
60-64	36	836
65-69	53	766
70-74	31	519
75-79	20	726
80-84	21	748
85-89	6	218
90-94	2	420
95-99	2	235
100+		
Total	195	713

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Joseph/2232
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
City of Joseph/2232

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Joseph -- #2232

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Joseph to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Joseph.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Joseph

	Payroll		
		OPSRP	
	Tier 1/Tier 2	**General Service**	**Police & Fire**
Pension			
Normal cost rate	12.29%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	7.21%	7.21%	7.21%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**20.77%**	**16.50%**	**21.27%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**21.27%**	**16.93%**	**21.70%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 70%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	19.50%	19.50%
Minimum 2019-2021 Rate	15.60%	11.70%
Maximum 2019-2021 Rate	23.40%	27.30%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$820,617	$992,526	$171,909	83%	$187,023	92%
12/31/2011	777,639	1,026,462	248,823	76%	133,837	186%
12/31/2012	855,476	1,025,082	169,606	83%	129,996	130%
12/31/2013	939,351	1,027,048	87,697	91%	141,268	62%
12/31/2014	903,550	1,183,083	279,533	76%	143,379	195%
12/31/2015	844,192	1,208,192	364,000	70%	141,255	258%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Joseph

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$364,000	$279,533
Allocated pooled OPSRP UAL	20,081	16,391
Side account	0	0
Net unfunded pension actuarial accrued liability	384,081	295,924
Combined valuation payroll	141,255	143,379
Net pension UAL as a percentage of payroll	272%	206%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$686	$1,140

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$4,947	$7,608
Tier 1/Tier 2 valuation payroll	40,256	54,902
Tier 1/Tier 2 pension normal cost rate	12.29%	13.86%
Tier 1/ Tier 2 Actuarial accrued liability	$1,208,192	$1,183,083
Actuarial asset value	844,192	903,550
Tier 1/Tier 2 Unfunded actuarial accrued liability	364,000	279,533
Tier 1/ Tier 2 Funded status	70%	76%
Combined valuation payroll	$141,255	$143,379
Tier 1/Tier 2 UAL as a percentage of payroll	258%	195%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	7.21%	5.64%
Tier 1/Tier 2 active members [1]	1	2
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	7	6

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	141,255	143,379
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$30,263	$49,844
2. Employer reserves	330,199	352,233
3. Benefits in force reserve	483,730	501,473
4. Total market value of assets ***(1. + 2. + 3.)***	**$844,192**	**$903,550**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$903,550
2.	Regular employer contributions	10,841
3.	Benefit payments and expense	(87,967)
4.	Adjustments [1]	174
5.	Interest credited	17,593
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$844,192**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	4,947	7,608
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$4,947**	**$7,608**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$4,947	$4,947	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	153,494	200,721
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$153,494**	**$200,721**
Dormant Members	10,232	9,516
Retired Members and Beneficiaries	1,044,466	972,846
Total Actuarial Accrued Liability	**$1,208,192**	**$1,183,083**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,208,192	$1,208,192	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,208,192	$1,183,083
2. Actuarial value of assets	844,192	903,550
3. Unfunded accrued liability *(1. – 2.)*	364,000	279,533
4. Funded percentage *(2. ÷ 1.)*	70%	76%
5. Combined valuation payroll	$141,255	$143,379
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	258%	195%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$87,885	$6,583	$6,328	$87,630	$6,814
December 31, 2015	N/A	N/A	N/A	$276,370	$19,998
Total				**$364,000**	**$26,812**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,183,083
b. Normal cost at December 31, 2014 (excluding assumed expenses)	7,278
c. Benefit payments during 2015	(87,287)
d. Interest at 7.50% to December 31, 2015	85,731
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,188,805
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,188,805
2. Actuarial accrued liability at December 31, 2015	1,208,192
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(19,387)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	903,550
b. Contributions for 2015[1]	10,841
c. Benefit payments and expenses during 2015	(87,967)
d. Interest at 7.50% to December 31, 2015	64,874
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	891,299
5. Actuarial value of assets at December 31, 2015	844,192
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(47,107)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($66,494)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$279,533**
2. Expected increase	17,973
3. Liability (gain)/loss	19,387
4. Asset (gain)/loss	47,107
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$364,000**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	4,947	40,256	12.29%	7,608	54,902	13.86%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$4,947**	**$40,256**	**12.29%**	**$7,608**	**$54,902**	**13.86%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$364,000	$279,533
2. Next year's Tier 1/Tier 2 UAL payment	26,812	20,450
3. Combined valuation payroll	141,255	143,379
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	18.98%	14.26%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.29%	13.86%
b. Tier 1/Tier 2 UAL rate	18.98%	14.26%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	31.42%	28.27%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	16.25%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	16.25%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.25%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.25%
	c. Funded percentage	70%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.25%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	13.00%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	19.50%
7.	July 1, 2017 total pension rate, before adjustment	31.42%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(11.92%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	18.98%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	7.06%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	19.50%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	12.29%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	12.29%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	19.50%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.29%	13.86%
b. Tier 1/Tier 2 UAL rate	7.06%	5.49%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	19.50%	19.50%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$40,256	$0	$40,256
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	40,256	0	40,256
OPSRP valuation payroll	100,999	0	100,999
Combined valuation payroll	**$141,255**	**$0**	**$141,255**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	0	4	5	2	0	3	5
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	4	5	2	0	3	5
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	1	1	2	0	1	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	1	0	1
Retired Members and Beneficiaries								
General Service	6	1	0	7	5	1	0	6
Police & Fire	0	0	0	0	0	0	0	0
Total	6	1	0	7	5	1	0	6
Grand Total Number of Members	**7**	**2**	**5**	**14**	**7**	**2**	**3**	**12**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49					1					1
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	0	1	0	0	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	1	374
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total	1	374

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	2	646
65-69	1	828
70-74	2	2,434
75-79	1	627
80-84	1	471
85-89		
90-94		
95-99		
100+		
Total	7	1,155

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Keizer/2279
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Keizer/2279

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Keizer -- #2279

September 2016

Secondary Employers

2539 Keizer Water District

CONTENTS

Executive Summary

Milliman has prepared this report for City of Keizer to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Keizer.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Keizer

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.37%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(2.42%)	(2.42%)	(2.42%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**17.22%**	**6.87%**	**11.64%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**17.72%**	**7.30%**	**12.07%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 76%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.95%	15.95%
Minimum 2019-2021 Rate	12.76%	9.57%
Maximum 2019-2021 Rate	19.14%	22.33%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$14,718,129	$14,359,732	($358,397)	103%	$5,955,156	(6%)
12/31/2011	14,874,482	15,789,873	915,391	94%	5,827,628	16%
12/31/2012	16,637,219	17,416,511	779,292	96%	5,961,984	13%
12/31/2013	18,121,330	18,330,016	208,686	99%	6,014,572	3%
12/31/2014	19,083,628	23,337,146	4,253,518	82%	6,419,498	66%
12/31/2015	18,807,213	24,863,283	6,056,070	76%	6,629,305	91%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Keizer

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$6,056,070	$4,253,518
Allocated pooled OPSRP UAL	942,448	733,888
Side account	0	0
Net unfunded pension actuarial accrued liability	6,998,518	4,987,406
Combined valuation payroll	6,629,305	6,419,498
Net pension UAL as a percentage of payroll	106%	78%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$32,190	$51,026

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$579,086	$610,955
Tier 1/Tier 2 valuation payroll	3,152,980	3,298,670
Tier 1/Tier 2 pension normal cost rate	18.37%	18.52%
Tier 1/ Tier 2 Actuarial accrued liability	$24,863,283	$23,337,146
Actuarial asset value	18,807,213	19,083,628
Tier 1/Tier 2 Unfunded actuarial accrued liability	6,056,070	4,253,518
Tier 1/ Tier 2 Funded status	76%	82%
Combined valuation payroll	$6,629,305	$6,419,498
Tier 1/Tier 2 UAL as a percentage of payroll	91%	66%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(2.42%)	(2.57%)
Tier 1/Tier 2 active members [1]	35	37
Tier 1/Tier 2 dormant members	6	4
Tier 1/Tier 2 retirees and beneficiaries	24	21

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	6,629,305	6,419,498
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$2,941,351	$3,320,801
2. Employer reserves	11,236,208	11,774,921
3. Benefits in force reserve	4,629,654	3,987,907
4. Total market value of assets *(1. + 2. + 3.)*	**$18,807,213**	**$19,083,628**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$19,083,628
2.	Regular employer contributions	255,043
3.	Benefit payments and expense	(841,908)
4.	Adjustments [1]	(206,505)
5.	Interest credited	516,955
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)***	**$18,807,213**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$348,035	$389,299
Tier 1 General Service	26,634	25,881
Tier 2 Police & Fire	141,060	134,964
Tier 2 General Service	63,357	60,811
Total	**$579,086**	**$610,955**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$579,086	$579,086	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$10,398,306	$11,768,429
▪ Tier 1 General Service	219,992	185,658
▪ Tier 2 Police & Fire	3,155,198	2,785,691
▪ Tier 2 General Service	694,145	586,180
▪ **Total Active Members**	**$14,467,641**	**$15,325,958**
Dormant Members	399,332	274,748
Retired Members and Beneficiaries	9,996,310	7,736,440
Total Actuarial Accrued Liability	**$24,863,283**	**$23,337,146**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$24,863,283	$24,863,283	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$24,863,283	$23,337,146
2. Actuarial value of assets	18,807,213	19,083,628
3. Unfunded accrued liability *(1. – 2.)*	6,056,070	4,253,518
4. Funded percentage *(2. ÷ 1.)*	76%	82%
5. Combined valuation payroll	$6,629,305	$6,419,498
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	91%	66%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$209,131	$15,665	$15,059	$208,525	$16,214
December 31, 2015	N/A	N/A	N/A	$5,847,545	$423,122
Total				**$6,056,070**	**$439,336**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$23,337,146
b. Normal cost at December 31, 2014 (excluding assumed expenses)	584,318
c. Benefit payments during 2015	(835,406)
d. Interest at 7.50% to December 31, 2015	1,740,870
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	24,826,928
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	24,826,928
2. Actuarial accrued liability at December 31, 2015	24,863,283
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(36,355)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	19,083,628
b. Contributions for 2015[1]	255,043
c. Benefit payments and expenses during 2015	(841,908)
d. Interest at 7.50% to December 31, 2015	1,409,265
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	19,906,028
5. Actuarial value of assets at December 31, 2015	18,807,213
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(1,098,814)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($1,135,169)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$4,253,518**
2. Expected increase	667,383
3. Liability (gain)/loss	36,355
4. Asset (gain)/loss	1,098,814
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$6,056,070**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$348,035	$1,579,264	22.04%	$389,299	$1,784,272	21.82%
Tier 1 General Service	26,634	199,556	13.35%	25,881	197,233	13.12%
Tier 2 Police & Fire	141,060	768,979	18.34%	134,964	737,196	18.31%
Tier 2 General Service	63,357	605,181	10.47%	60,811	579,969	10.49%
Total	**$579,086**	**$3,152,980**	**18.37%**	**$610,955**	**$3,298,670**	**18.52%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$6,056,070	$4,253,518
2. Next year's Tier 1/Tier 2 UAL payment	439,336	308,312
3. Combined valuation payroll	6,629,305	6,419,498
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.63%	4.80%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.37%	18.52%
b. Tier 1/Tier 2 UAL rate	6.63%	4.80%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	25.15%	23.47%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	12.95%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.95%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.59%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	76%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.95%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.95%
7.	July 1, 2017 total pension rate, before adjustment	25.15%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(9.20%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.63%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(2.57%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.95%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	18.37%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.37%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.95%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.37%	18.52%
b. Tier 1/Tier 2 UAL rate	(2.57%)	(2.72%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.95%	15.95%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$199,556	$1,579,264	$1,778,820
Tier 2	605,181	768,979	1,374,160
Tier 1/Tier 2 valuation payroll	804,737	2,348,243	3,152,980
OPSRP valuation payroll	2,678,386	797,939	3,476,325
Combined valuation payroll	**$3,483,123**	**$3,146,182**	**$6,629,305**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	7	44	53	2	7	40	49
Police & Fire	17	9	10	36	19	9	9	37
Total	19	16	54	89	21	16	49	86
Active Members with previous service segments with the employer								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	9	7	N/A	16	11	7	N/A	18
Total	10	7	N/A	17	12	7	N/A	19
Dormant Members								
General Service	0	0	1	1	0	0	0	0
Police & Fire	5	1	0	6	3	1	0	4
Total	5	1	1	7	3	1	0	4
Retired Members and Beneficiaries								
General Service	5	0	4	9	5	0	2	7
Police & Fire	19	0	0	19	16	0	0	16
Total	24	0	4	28	21	0	2	23
Grand Total Number of Members	**58**	**24**	**59**	**141**	**57**	**24**	**51**	**132**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			2	1						3
40-44			4	2						6
45-49			1	5	9	1				16
50-54					3	2				5
55-59			1		1					2
60-64			1	1						2
65-69		1								1
70-74										
75+										
Total	0	1	9	9	13	3	0	0	0	35

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	3	1,008
50-54	3	272
55-59		
60-64		
65-69		
70-74		
75+		
Total	6	640

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	1	88
45-49		
50-54	5	2,863
55-59	5	2,169
60-64	4	3,333
65-69	5	2,192
70-74	2	2,158
75-79	1	410
80-84		
85-89	1	2,463
90-94		
95-99		
100+		
Total	24	2,364

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Keno Rural Fire Protection District/2646
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Keno Rural Fire Protection District/2646

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Keno Rural Fire Protection District -- #2646

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Keno Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Keno Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Keno Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.20%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.12%	0.12%	0.12%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.59%**	**9.41%**	**14.18%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**19.09%**	**9.84%**	**14.61%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 78%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	17.32%	17.32%
Minimum 2019-2021 Rate	13.86%	10.40%
Maximum 2019-2021 Rate	20.78%	24.24%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$614,060	$632,015	$17,955	97%	$117,841	15%
12/31/2011	648,686	725,949	77,263	89%	130,385	59%
12/31/2012	751,036	752,159	1,123	100%	105,208	1%
12/31/2013	881,486	829,968	(51,518)	106%	113,276	(45%)
12/31/2014	960,286	1,014,651	54,365	95%	118,700	46%
12/31/2015	1,006,075	1,297,196	291,121	78%	148,894	196%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Keno Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$291,121	$54,365
Allocated pooled OPSRP UAL	21,167	13,570
Side account	0	0
Net unfunded pension actuarial accrued liability	312,288	67,935
Combined valuation payroll	148,894	118,700
Net pension UAL as a percentage of payroll	210%	57%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$723	$943

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$25,613	$23,216
Tier 1/Tier 2 valuation payroll	148,894	118,700
Tier 1/Tier 2 pension normal cost rate	17.20%	19.56%
Tier 1/ Tier 2 Actuarial accrued liability	$1,297,196	$1,014,651
Actuarial asset value	1,006,075	960,286
Tier 1/Tier 2 Unfunded actuarial accrued liability	291,121	54,365
Tier 1/ Tier 2 Funded status	78%	95%
Combined valuation payroll	$148,894	$118,700
Tier 1/Tier 2 UAL as a percentage of payroll	196%	46%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	0.12%	(2.24%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	3	3

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	148,894	118,700
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$219,104	$206,325
2. Employer reserves	747,342	710,167
3. Benefits in force reserve	39,629	43,794
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,006,075**	**$960,286**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$960,286
2. Regular employer contributions	22,865
3. Benefit payments and expense	(7,207)
4. Adjustments [1]	5,332
5. Interest credited	24,800
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,006,075**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$25,613	$23,216
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$25,613**	**$23,216**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$25,613	$25,613	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$1,209,890	$927,985
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	1,738	1,708
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$1,211,628**	**$929,693**
Dormant Members	0	0
Retired Members and Beneficiaries	85,568	84,958
Total Actuarial Accrued Liability	**$1,297,196**	**$1,014,651**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,297,196	$1,297,196	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,297,196	$1,014,651
2. Actuarial value of assets	1,006,075	960,286
3. Unfunded accrued liability *(1. – 2.)*	291,121	54,365
4. Funded percentage *(2. ÷ 1.)*	78%	95%
5. Combined valuation payroll	$148,894	$118,700
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	196%	46%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($51,628)	($3,867)	($3,718)	($51,479)	($4,003)
December 31, 2015	N/A	N/A	N/A	$342,600	$24,790
Total				**$291,121**	**$20,787**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,014,651
b. Normal cost at December 31, 2014 (excluding assumed expenses)	22,208
c. Benefit payments during 2015	(7,151)
d. Interest at 7.50% to December 31, 2015	76,663
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,106,371
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,106,371
2. Actuarial accrued liability at December 31, 2015	1,297,196
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(190,825)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	960,286
b. Contributions for 2015[1]	22,865
c. Benefit payments and expenses during 2015	(7,207)
d. Interest at 7.50% to December 31, 2015	72,609
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,048,552
5. Actuarial value of assets at December 31, 2015	1,006,075
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(42,477)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($233,302)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$54,365**
2. Expected increase	3,454
3. Liability (gain)/loss	190,825
4. Asset (gain)/loss	42,477
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$291,121**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$25,613	$148,894	17.20%	$23,216	$118,700	19.56%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$25,613**	**$148,894**	**17.20%**	**$23,216**	**$118,700**	**19.56%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$291,121	$54,365
2. Next year's Tier 1/Tier 2 UAL payment	20,787	3,803
3. Combined valuation payroll	148,894	118,700
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	13.96%	3.20%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.20%	19.56%
b. Tier 1/Tier 2 UAL rate	13.96%	3.20%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	31.31%	22.91%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	14.32%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	14.32%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	2.86%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	78%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	11.32%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	17.32%
7. July 1, 2017 total pension rate, before adjustment	31.31%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(13.99%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	13.96%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.03%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	17.32%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.20%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.20%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	17.32%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.20%	19.56%
b. Tier 1/Tier 2 UAL rate	(0.03%)	(2.39%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	17.32%	17.32%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$148,894	$148,894
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	148,894	148,894
OPSRP valuation payroll	0	0	0
Combined valuation payroll	**$0**	**$148,894**	**$148,894**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	0	1	1	0	0	1
Total	1	0	0	1	1	0	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	1	4	N/A	5	1	4	N/A	5
Total	1	4	N/A	5	1	4	N/A	5
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	1	0	0	1	1	0	0	1
Police & Fire	1	1	0	2	1	1	0	2
Total	2	1	0	3	2	1	0	3
Grand Total Number of Members	**4**	**5**	**0**	**9**	**4**	**5**	**0**	**9**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64							1			1
65-69										
70-74										
75+										
Total	0	0	0	0	0	0	1	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	461
60-64	1	1
65-69		
70-74		
75-79	1	25
80-84		
85-89		
90-94		
95-99		
100+		
Total	3	162

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Klamath County Fire District #1/2515
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Klamath County Fire District #1/2515

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Klamath County Fire District #1 -- #2515

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Klamath County Fire District #1 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Klamath County Fire District #1.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Klamath County Fire District #1

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.46%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	6.95%	6.95%	6.95%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**27.68%**	**16.24%**	**21.01%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**28.18%**	**16.67%**	**21.44%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	26.41%	26.41%
Minimum 2019-2021 Rate	21.13%	15.85%
Maximum 2019-2021 Rate	31.69%	36.97%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$28,009,421	$33,417,879	$5,408,458	84%	$5,205,087	104%
12/31/2011	27,401,974	35,883,765	8,481,791	76%	5,209,949	163%
12/31/2012	30,046,017	37,192,655	7,146,638	81%	5,617,966	127%
12/31/2013	32,664,639	37,839,742	5,175,103	86%	4,890,407	106%
12/31/2014	33,469,217	44,744,795	11,275,578	75%	5,000,010	226%
12/31/2015	32,653,714	47,964,445	15,310,731	68%	4,872,201	314%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Klamath County Fire District #1

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$15,310,731	$11,275,578
Allocated pooled OPSRP UAL	692,651	571,610
Side account	0	0
Net unfunded pension actuarial accrued liability	16,003,382	11,847,188
Combined valuation payroll	4,872,201	5,000,010
Net pension UAL as a percentage of payroll	328%	237%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$23,658	$39,743

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$417,549	$517,188
Tier 1/Tier 2 valuation payroll	2,145,952	2,480,505
Tier 1/Tier 2 pension normal cost rate	19.46%	20.85%
Tier 1/ Tier 2 Actuarial accrued liability	$47,964,445	$44,744,795
Actuarial asset value	32,653,714	33,469,217
Tier 1/Tier 2 Unfunded actuarial accrued liability	15,310,731	11,275,578
Tier 1/ Tier 2 Funded status	68%	75%
Combined valuation payroll	$4,872,201	$5,000,010
Tier 1/Tier 2 UAL as a percentage of payroll	314%	226%
Tier 1/Tier 2 UAL rate	6.95%	4.71%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	21	27
Tier 1/Tier 2 dormant members	3	3
Tier 1/Tier 2 retirees and beneficiaries	75	71

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	4,872,201	5,000,010
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$2,680,159	$3,541,981
2. Employer reserves	14,011,442	14,849,567
3. Benefits in force reserve	15,962,113	15,077,669
4. Total market value of assets ***(1. + 2. + 3.)***	**$32,653,714**	**$33,469,217**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$33,469,217
2.	Regular employer contributions	550,411
3.	Benefit payments and expense	(2,902,730)
4.	Adjustments [1]	820,570
5.	Interest credited	716,246
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$32,653,714**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$248,625	$324,068
Tier 1 General Service	0	0
Tier 2 Police & Fire	157,032	181,334
Tier 2 General Service	11,892	11,786
Total	**$417,549**	**$517,188**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$417,549	$417,549	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$9,120,070	$10,241,338
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	3,670,214	3,770,680
▪ Tier 2 General Service	200,102	180,489
▪ **Total Active Members**	**$12,990,386**	**$14,192,507**
Dormant Members	508,801	1,301,983
Retired Members and Beneficiaries	34,465,258	29,250,305
Total Actuarial Accrued Liability	**$47,964,445**	**$44,744,795**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$47,964,445	$47,964,445	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$47,964,445	$44,744,795
2. Actuarial value of assets	32,653,714	33,469,217
3. Unfunded accrued liability *(1. – 2.)*	15,310,731	11,275,578
4. Funded percentage *(2. ÷ 1.)*	68%	75%
5. Combined valuation payroll	$4,872,201	$5,000,010
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	314%	226%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$5,186,145	$388,475	$373,441	$5,171,111	$402,077
December 31, 2015	N/A	N/A	N/A	$10,139,620	$733,692
Total				**$15,310,731**	**$1,135,769**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$44,744,795
b. Normal cost at December 31, 2014 (excluding assumed expenses)	494,609
c. Benefit payments during 2015	(2,880,310)
d. Interest at 7.50% to December 31, 2015	3,266,396
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	45,625,490
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	45,625,490
2. Actuarial accrued liability at December 31, 2015	47,964,445
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(2,338,955)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	33,469,217
b. Contributions for 2015[1]	550,411
c. Benefit payments and expenses during 2015	(2,902,730)
d. Interest at 7.50% to December 31, 2015	2,421,979
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	33,538,877
5. Actuarial value of assets at December 31, 2015	32,653,714
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(885,163)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($3,224,118)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$11,275,578**
2. Expected increase	811,035
3. Liability (gain)/loss	2,338,955
4. Asset (gain)/loss	885,163
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$15,310,731**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$248,625	$1,162,178	21.39%	$324,068	$1,398,974	23.16%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	157,032	860,315	18.25%	181,334	958,882	18.91%
Tier 2 General Service	11,892	123,459	9.63%	11,786	122,649	9.61%
Total	**$417,549**	**$2,145,952**	**19.46%**	**$517,188**	**$2,480,505**	**20.85%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$15,310,731	$11,275,578
2. Next year's Tier 1/Tier 2 UAL payment	1,135,769	829,100
3. Combined valuation payroll	4,872,201	5,000,010
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	23.31%	16.58%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.46%	20.85%
b. Tier 1/Tier 2 UAL rate	23.31%	16.58%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	42.92%	37.58%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	21.30%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	21.30%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	4.26%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	4.26%
	c. Funded percentage	68%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	5.11%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	16.19%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	26.41%
7.	July 1, 2017 total pension rate, before adjustment	42.92%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(16.51%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	23.31%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	6.80%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	26.41%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.46%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.46%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	26.41%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.46%	20.85%
b. Tier 1/Tier 2 UAL rate	6.80%	4.56%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	26.41%	25.56%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$1,162,178	$1,162,178
Tier 2	123,459	860,315	983,774
Tier 1/Tier 2 valuation payroll	123,459	2,022,493	2,145,952
OPSRP valuation payroll	306,963	2,419,286	2,726,249
Combined valuation payroll	**$430,422**	**$4,441,779**	**$4,872,201**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	2	7	9	0	2	3	5
Police & Fire	10	9	27	46	14	11	30	55
Total	10	11	34	55	14	13	33	60
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	4	11	N/A	15	3	11	N/A	14
Total	4	11	N/A	15	3	11	N/A	14
Dormant Members								
General Service	0	1	1	2	0	1	1	2
Police & Fire	0	2	0	2	1	1	0	2
Total	0	3	1	4	1	2	1	4
Retired Members and Beneficiaries								
General Service	5	0	0	5	5	0	0	5
Police & Fire	60	10	1	71	60	6	1	67
Total	65	10	1	76	65	6	1	72
Grand Total Number of Members	**79**	**35**	**36**	**150**	**83**	**32**	**35**	**150**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			2	1						3
40-44			3	1	1					5
45-49			1	1	3	1				6
50-54				1		3				4
55-59			1			1	1			3
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**7**	**4**	**4**	**5**	**1**	**0**	**0**	**21**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	560
50-54	1	2,641
55-59		
60-64	1	415
65-69		
70-74		
75+		
Total	3	1,205

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	4	2,613
55-59	19	3,154
60-64	15	3,694
65-69	19	2,824
70-74	5	1,743
75-79	4	1,387
80-84	6	1,210
85-89	1	480
90-94	2	448
95-99		
100+		
Total	75	2,698

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Knappa Svensen Burnside Rural Fire Protection District/2760
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Knappa Svensen Burnside Rural Fire Protection District/2760

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Knappa Svensen Burnside Rural Fire Protection District -- #2760

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Knappa Svensen Burnside Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Knappa Svensen Burnside Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Knappa Svensen Burnside Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.82%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(5.46%)	(5.46%)	(5.46%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**15.63%**	**3.83%**	**8.60%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.13%**	**4.26%**	**9.03%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 81%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.36%	14.36%
Minimum 2019-2021 Rate	11.36%	8.36%
Maximum 2019-2021 Rate	17.36%	20.36%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$314,770	$288,809	($25,961)	109%	$72,007	(36%)
12/31/2011	331,085	326,025	(5,060)	102%	78,399	(6%)
12/31/2012	385,794	376,481	(9,313)	102%	83,896	(11%)
12/31/2013	446,356	423,729	(22,627)	105%	87,524	(26%)
12/31/2014	487,092	558,717	71,625	87%	96,567	74%
12/31/2015	512,926	631,796	118,870	81%	161,233	74%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Knappa Svensen Burnside Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$118,870	$71,625
Allocated pooled OPSRP UAL	22,922	11,040
Side account	0	0
Net unfunded pension actuarial accrued liability	141,792	82,665
Combined valuation payroll	161,233	96,567
Net pension UAL as a percentage of payroll	88%	86%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$783	$768

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$20,614	$19,661
Tier 1/Tier 2 valuation payroll	104,020	96,567
Tier 1/Tier 2 pension normal cost rate	19.82%	20.36%
Tier 1/ Tier 2 Actuarial accrued liability	$631,796	$558,717
Actuarial asset value	512,926	487,092
Tier 1/Tier 2 Unfunded actuarial accrued liability	118,870	71,625
Tier 1/ Tier 2 Funded status	81%	87%
Combined valuation payroll	$161,233	$96,567
Tier 1/Tier 2 UAL as a percentage of payroll	74%	74%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(5.46%)	(6.00%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	161,233	96,567
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$146,720	$134,783
2. Employer reserves	366,206	352,309
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**$512,926**	**$487,092**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$487,092
2.	Regular employer contributions	6,992
3.	Benefit payments and expense	0
4.	Adjustments [1]	1,848
5.	Interest credited	16,995
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$512,926**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$20,614	$19,661
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$20,614**	**$19,661**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$20,614	$20,614	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$631,796	$558,717
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$631,796**	**$558,717**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$631,796**	**$558,717**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$631,796	$631,796	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$631,796	$558,717
2. Actuarial value of assets	512,926	487,092
3. Unfunded accrued liability *(1. – 2.)*	118,870	71,625
4. Funded percentage *(2. ÷ 1.)*	81%	87%
5. Combined valuation payroll	$161,233	$96,567
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	74%	74%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($22,675)	($1,699)	($1,633)	($22,609)	($1,758)
December 31, 2015	N/A	N/A	N/A	$141,479	$10,237
Total				**$118,870**	**$8,479**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$558,717
b. Normal cost at December 31, 2014 (excluding assumed expenses)	18,808
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	42,609
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	620,134
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	620,134
2. Actuarial accrued liability at December 31, 2015	631,796
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(11,662)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	487,092
b. Contributions for 2015[1]	6,992
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	36,794
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	530,878
5. Actuarial value of assets at December 31, 2015	512,926
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(17,951)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($29,613)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$71,625**
2. Expected increase	17,632
3. Liability (gain)/loss	11,662
4. Asset (gain)/loss	17,951
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$118,870**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$20,614	$104,020	19.82%	$19,661	$96,567	20.36%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$20,614**	**$104,020**	**19.82%**	**$19,661**	**$96,567**	**20.36%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$118,870	$71,625
2. Next year's Tier 1/Tier 2 UAL payment	8,479	5,124
3. Combined valuation payroll	161,233	96,567
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	5.26%	5.31%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.82%	20.36%
b. Tier 1/Tier 2 UAL rate	5.26%	5.31%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	25.23%	25.82%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	11.36%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	11.36%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.27%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	81%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	8.36%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	14.36%
7.	July 1, 2017 total pension rate, before adjustment	25.23%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(10.87%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	5.26%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(5.61%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	14.36%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.82%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.82%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	14.36%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.82%	20.36%
b. Tier 1/Tier 2 UAL rate	(5.61%)	(6.15%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	14.36%	14.36%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$104,020	$104,020
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	104,020	104,020
OPSRP valuation payroll	0	57,213	57,213
Combined valuation payroll	**$0**	**$161,233**	**$161,233**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	1	2	1	0	0	1
Total	1	0	1	2	1	0	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**1**	**0**	**1**	**2**	**1**	**0**	**0**	**1**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59						1				**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

LaGrande Rural Fire Protection District/2879
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
LaGrande Rural Fire Protection District/2879

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

LaGrande Rural Fire Protection District -- #2879

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for LaGrande Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to LaGrande Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for LaGrande Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.15%	0.15%	0.15%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.13%**	**9.44%**	**14.21%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.63%**	**9.87%**	**14.64%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.86%	16.86%
Minimum 2019-2021 Rate	13.49%	10.12%
Maximum 2019-2021 Rate	20.23%	23.60%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$0	$0	$0	0%	$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	0	0	0	0%	0	0%
12/31/2013	0	0	0	0%	0	0%
12/31/2014	(2)	0	2	0%	75,446	0%
12/31/2015	(3)	0	3	0%	91,304	0%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

LaGrande Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$3	$2
Allocated pooled OPSRP UAL	12,980	8,625
Side account	0	0
Net unfunded pension actuarial accrued liability	12,983	8,627
Combined valuation payroll	91,304	75,446
Net pension UAL as a percentage of payroll	14%	11%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$443	$600

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$0	$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	$0	$0
Actuarial asset value	(3)	(2)
Tier 1/Tier 2 Unfunded actuarial accrued liability	3	2
Tier 1/ Tier 2 Funded status	0%	0%
Combined valuation payroll	$91,304	$75,446
Tier 1/Tier 2 UAL as a percentage of payroll	0%	0%
Tier 1/Tier 2 UAL rate	0.15%	0.15%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	91,304	75,446
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$0	$0
2. Employer reserves	(3)	(2)
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**($3)**	**($2)**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	($2)
2. Regular employer contributions	115
3. Benefit payments and expense	0
4. Adjustments [1]	(120)
5. Interest credited	4
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**($3)**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$0**	**$0**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$0**	**$0**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$0**	**$0**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$0	$0
2. Actuarial value of assets	(3)	(2)
3. Unfunded accrued liability *(1. – 2.)*	3	2
4. Funded percentage *(2. ÷ 1.)*	100%	100%
5. Combined valuation payroll	$91,304	$75,446
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	0%	0%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2015	N/A	N/A	N/A	$3	$0
Total				**$3**	**$0**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$0
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	0
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	0
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	0
2. Actuarial accrued liability at December 31, 2015	0
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	0
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	(2)
b. Contributions for 2015[1]	115
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	4
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	117
5. Actuarial value of assets at December 31, 2015	(3)
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(120)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($120)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$2**
2. Expected increase	(119)
3. Liability (gain)/loss	0
4. Asset (gain)/loss	120
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$3**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$0**	**$0**	**16.71%**	**$0**	**$0**	**17.01%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$3	$2
2. Next year's Tier 1/Tier 2 UAL payment	0	0
3. Combined valuation payroll	91,304	75,446
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.00%	0.00%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	16.86%	17.16%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	16.86%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	16.86%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	N/A
b. Preliminary size of rate collar *(maximum of 3% or a.)*	N/A
c. Funded percentage	N/A
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	N/A
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	N/A
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	N/A
7. July 1, 2017 total pension rate, before adjustment	N/A
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	N/A
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	N/A
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	N/A
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	N/A
12. Tier 1/Tier 2 retiree healthcare rate	N/A
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	N/A
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	N/A
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	N/A
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	N/A

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.86%	17.16%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	91,304	91,304
Combined valuation payroll	**$0**	**$91,304**	**$91,304**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	1	1	0	0	1	1
Total	0	0	1	1	0	0	1	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	0	0	0	0	0	0	0

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Lake Chinook Fire and Rescue District/2881
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Lake Chinook Fire and Rescue District/2881

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Lake Chinook Fire and Rescue District -- #2881

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Lake Chinook Fire and Rescue District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Lake Chinook Fire and Rescue District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Lake Chinook Fire and Rescue District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.15%	0.15%	0.15%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.13%**	**9.44%**	**14.21%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.63%**	**9.87%**	**14.64%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.86%	16.86%
Minimum 2019-2021 Rate	13.49%	10.12%
Maximum 2019-2021 Rate	20.23%	23.60%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$0	$0	$0	0%	$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	0	0	0	0%	0	0%
12/31/2013	0	0	0	0%	0	0%
12/31/2014	(13)	0	13	0%	35,652	0%
12/31/2015	(1)	0	1	0%	37,501	0%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Lake Chinook Fire and Rescue District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$1	$13
Allocated pooled OPSRP UAL	5,331	4,076
Side account	0	0
Net unfunded pension actuarial accrued liability	5,332	4,089
Combined valuation payroll	37,501	35,652
Net pension UAL as a percentage of payroll	14%	11%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$182	$283

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$0	$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	$0	$0
Actuarial asset value	(1)	(13)
Tier 1/Tier 2 Unfunded actuarial accrued liability	1	13
Tier 1/ Tier 2 Funded status	0%	0%
Combined valuation payroll	$37,501	$35,652
Tier 1/Tier 2 UAL as a percentage of payroll	0%	0%
Tier 1/Tier 2 UAL rate	0.15%	0.15%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	37,501	35,652
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$0	$0
2. Employer reserves	(1)	(13)
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**($1)**	**($13)**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	($13)
2. Regular employer contributions	59
3. Benefit payments and expense	0
4. Adjustments [1]	(49)
5. Interest credited	2
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**($1)**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$0**	**$0**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$0**	**$0**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$0**	**$0**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$0	$0
2. Actuarial value of assets	(1)	(13)
3. Unfunded accrued liability *(1. – 2.)*	1	13
4. Funded percentage *(2. ÷ 1.)*	100%	100%
5. Combined valuation payroll	$37,501	$35,652
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	0%	0%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2015	N/A	N/A	N/A	$1	$0
Total				**$1**	**$0**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$0
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	0
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	0
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	0
2. Actuarial accrued liability at December 31, 2015	0
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	0
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	(13)
b. Contributions for 2015[1]	59
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	1
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	47
5. Actuarial value of assets at December 31, 2015	(1)
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(49)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($49)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$13**
2. Expected increase	(61)
3. Liability (gain)/loss	0
4. Asset (gain)/loss	49
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$1**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$0**	**$0**	**16.71%**	**$0**	**$0**	**17.01%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$1	$13
2. Next year's Tier 1/Tier 2 UAL payment	0	1
3. Combined valuation payroll	37,501	35,652
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.00%	0.00%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	16.86%	17.16%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	16.86%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	16.86%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	N/A
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	N/A
	c. Funded percentage	N/A
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	N/A
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	N/A
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	N/A
7.	July 1, 2017 total pension rate, before adjustment	N/A
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	N/A
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	N/A
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	N/A
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	N/A
12.	Tier 1/Tier 2 retiree healthcare rate	N/A
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	N/A
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	N/A
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	N/A
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	N/A

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	0.00%	0.00%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.86%	17.16%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	37,501	37,501
Combined valuation payroll	**$0**	**$37,501**	**$37,501**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	1	1	0	0	1	1
Total	0	0	1	1	0	0	1	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	0	0	0	0	0	0	0

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Lakeside Water District/2644
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Lakeside Water District/2644

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Lakeside Water District -- #2644

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Lakeside Water District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Lakeside Water District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Lakeside Water District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	11.97%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	3.24%	3.24%	3.24%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**16.48%**	**12.53%**	**17.30%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.98%**	**12.96%**	**17.73%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 79%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.21%	15.21%
Minimum 2019-2021 Rate	12.17%	9.13%
Maximum 2019-2021 Rate	18.25%	21.29%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$486,366	$620,803	$134,437	78%	$113,608	118%
12/31/2011	476,386	632,094	155,708	75%	148,317	105%
12/31/2012	489,340	572,638	83,298	85%	150,540	55%
12/31/2013	559,083	602,151	43,068	93%	153,024	28%
12/31/2014	583,390	706,891	123,501	83%	161,166	77%
12/31/2015	575,421	724,912	149,491	79%	160,366	93%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Lakeside Water District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$149,491	$123,501
Allocated pooled OPSRP UAL	22,798	18,425
Side account	0	0
Net unfunded pension actuarial accrued liability	172,289	141,926
Combined valuation payroll	160,366	161,166
Net pension UAL as a percentage of payroll	107%	88%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$779	$1,281

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$9,468	$9,099
Tier 1/Tier 2 valuation payroll	79,092	76,067
Tier 1/Tier 2 pension normal cost rate	11.97%	11.96%
Tier 1/ Tier 2 Actuarial accrued liability	$724,912	$706,891
Actuarial asset value	575,421	583,390
Tier 1/Tier 2 Unfunded actuarial accrued liability	149,491	123,501
Tier 1/ Tier 2 Funded status	79%	83%
Combined valuation payroll	$160,366	$161,166
Tier 1/Tier 2 UAL as a percentage of payroll	93%	77%
Tier 1/Tier 2 UAL rate	3.24%	3.25%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	2	3
Tier 1/Tier 2 retirees and beneficiaries	7	5

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	160,366	161,166
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$59,269	$63,027
2. Employer reserves	323,198	313,546
3. Benefits in force reserve	192,954	206,817
4. Total market value of assets ***(1. + 2. + 3.)***	**$575,421**	**$583,390**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$583,390
2.	Regular employer contributions	11,932
3.	Benefit payments and expense	(35,089)
4.	Adjustments [1]	5,293
5.	Interest credited	9,895
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$575,421**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	9,468	9,099
Total	**$9,468**	**$9,099**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$9,468	$9,468	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	203,798	200,910
▪ **Total Active Members**	**$203,798**	**$200,910**
Dormant Members	104,490	104,762
Retired Members and Beneficiaries	416,624	401,219
Total Actuarial Accrued Liability	**$724,912**	**$706,891**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$724,912	$724,912	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$724,912	$706,891
2. Actuarial value of assets	575,421	583,390
3. Unfunded accrued liability *(1. – 2.)*	149,491	123,501
4. Funded percentage *(2. ÷ 1.)*	79%	83%
5. Combined valuation payroll	$160,366	$161,166
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	93%	77%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$43,160	$3,233	$3,108	$43,035	$3,346
December 31, 2015	N/A	N/A	N/A	$106,456	$7,703
Total				**$149,491**	**$11,049**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$706,891
b. Normal cost at December 31, 2014 (excluding assumed expenses)	8,704
c. Benefit payments during 2015	(34,818)
d. Interest at 7.50% to December 31, 2015	52,038
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	732,815
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	732,815
2. Actuarial accrued liability at December 31, 2015	724,912
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	7,903
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	583,390
b. Contributions for 2015[1]	11,932
c. Benefit payments and expenses during 2015	(35,089)
d. Interest at 7.50% to December 31, 2015	42,886
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	603,119
5. Actuarial value of assets at December 31, 2015	575,421
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(27,698)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($19,795)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$123,501**
2. Expected increase	6,195
3. Liability (gain)/loss	(7,903)
4. Asset (gain)/loss	27,698
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$149,491**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	9,468	79,092	11.97%	9,099	76,067	11.96%
Total	**$9,468**	**$79,092**	**11.97%**	**$9,099**	**$76,067**	**11.96%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$149,491	$123,501
2. Next year's Tier 1/Tier 2 UAL payment	11,049	9,046
3. Combined valuation payroll	160,366	161,166
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.89%	5.61%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.97%	11.96%
b. Tier 1/Tier 2 UAL rate	6.89%	5.61%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	19.01%	17.72%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	12.21%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.21%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	2.44%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	79%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.21%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.21%
7. July 1, 2017 total pension rate, before adjustment	19.01%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(3.80%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.89%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	3.09%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.21%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	11.97%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	11.97%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.21%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.97%	11.96%
b. Tier 1/Tier 2 UAL rate	3.09%	3.10%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.21%	15.21%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	79,092	0	79,092
Tier 1/Tier 2 valuation payroll	79,092	0	79,092
OPSRP valuation payroll	81,274	0	81,274
Combined valuation payroll	**$160,366**	**$0**	**$160,366**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	2	3	0	1	2	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	2	3	0	1	2	3
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	1	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	1	N/A	1
Dormant Members								
General Service	0	2	0	2	0	3	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	3	0	3
Retired Members and Beneficiaries								
General Service	5	2	0	7	5	0	0	5
Police & Fire	0	0	0	0	0	0	0	0
Total	5	2	0	7	5	0	0	5
Grand Total Number of Members	**5**	**5**	**2**	**12**	**5**	**5**	**2**	**12**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54				1						**1**
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54	1	1,143
55-59		
60-64	1	0
65-69		
70-74		
75+		
Total	2	571

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	8
65-69	2	134
70-74	3	455
75-79		
80-84	1	1,273
85-89		
90-94		
95-99		
100+		
Total	7	416

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Lane County/2008
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Lane County/2008

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Lane County -- #2008

September 2016

Secondary Employers

2047 Lane County Fair Board

CONTENTS

Executive Summary

Milliman has prepared this report for Lane County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Lane County.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Lane County

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.35%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.62%	0.62%	0.62%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.24%**	**9.91%**	**14.68%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.74%**	**10.34%**	**15.11%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 78%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.97%	16.97%
Minimum 2019-2021 Rate	13.58%	10.19%
Maximum 2019-2021 Rate	20.36%	23.75%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$530,061,782	$608,521,838	$78,460,056	87%	$82,587,626	95%
12/31/2011	511,461,459	623,549,175	112,087,716	82%	81,017,355	138%
12/31/2012	550,497,247	610,507,495	60,010,248	90%	75,072,561	80%
12/31/2013	597,410,846	627,518,523	30,107,676	95%	73,750,639	41%
12/31/2014	605,171,349	734,035,783	128,864,434	82%	77,932,450	165%
12/31/2015	583,497,280	751,433,938	167,936,658	78%	81,920,691	205%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Lane County

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$167,936,658	$128,864,434
Allocated pooled OPSRP UAL	11,646,168	8,909,376
Side account	0	0
Net unfunded pension actuarial accrued liability	179,582,826	137,773,810
Combined valuation payroll	81,920,691	77,932,450
Net pension UAL as a percentage of payroll	219%	177%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$397,779	$619,453

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$6,846,270	$7,334,226
Tier 1/Tier 2 valuation payroll	41,862,631	44,446,745
Tier 1/Tier 2 pension normal cost rate	16.35%	16.50%
Tier 1/ Tier 2 Actuarial accrued liability	$751,433,938	$734,035,783
Actuarial asset value	583,497,280	605,171,349
Tier 1/Tier 2 Unfunded actuarial accrued liability	167,936,658	128,864,434
Tier 1/ Tier 2 Funded status	78%	82%
Combined valuation payroll	$81,920,691	$77,932,450
Tier 1/Tier 2 UAL as a percentage of payroll	205%	165%
Tier 1/Tier 2 UAL rate	0.62%	0.47%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	577	623
Tier 1/Tier 2 dormant members	327	338
Tier 1/Tier 2 retirees and beneficiaries	2,043	1,982

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	81,920,691	77,932,450
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$58,189,779	$62,172,018
2. Employer reserves	277,495,578	279,001,308
3. Benefits in force reserve	247,811,922	263,998,023
4. Total market value of assets ***(1. + 2. + 3.)***	**$583,497,280**	**$605,171,349**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$605,171,349
2. Regular employer contributions	5,693,875
3. Benefit payments and expense	(45,064,910)
4. Adjustments [1]	4,394,139
5. Interest credited	13,302,826
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$583,497,280**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$930,115	$960,407
Tier 1 General Service	2,429,261	2,781,502
Tier 2 Police & Fire	1,442,700	1,464,793
Tier 2 General Service	2,044,194	2,127,524
Total	**$6,846,270**	**$7,334,226**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$6,846,270	$6,846,270	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$29,346,645	$30,214,415
▪ Tier 1 General Service	74,805,735	81,707,222
▪ Tier 2 Police & Fire	28,493,137	26,682,069
▪ Tier 2 General Service	45,591,367	43,405,756
▪ **Total Active Members**	**$178,236,884**	**$182,009,462**
Dormant Members	38,123,668	39,876,699
Retired Members and Beneficiaries	535,073,386	512,149,622
Total Actuarial Accrued Liability	**$751,433,938**	**$734,035,783**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$751,433,938	$751,433,938	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$751,433,938	$734,035,783
2. Actuarial value of assets	583,497,280	605,171,349
3. Unfunded accrued liability *(1. – 2.)*	167,936,658	128,864,434
4. Funded percentage *(2. ÷ 1.)*	78%	82%
5. Combined valuation payroll	$81,920,691	$77,932,450
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	205%	165%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$30,171,918	$2,260,069	$2,172,602	$30,084,451	$2,339,200
December 31, 2015	N/A	N/A	N/A	$137,852,207	$9,974,834
Total				**$167,936,658**	**$12,314,034**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$734,035,783
b. Normal cost at December 31, 2014 (excluding assumed expenses)	7,015,856
c. Benefit payments during 2015	(44,716,833)
d. Interest at 7.50% to December 31, 2015	53,638,897
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	749,973,703
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	749,973,703
2. Actuarial accrued liability at December 31, 2015	751,433,938
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(1,460,235)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	605,171,349
b. Contributions for 2015[1]	5,693,875
c. Benefit payments and expenses during 2015	(45,064,910)
d. Interest at 7.50% to December 31, 2015	43,911,437
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	609,711,752
5. Actuarial value of assets at December 31, 2015	583,497,280
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(26,214,472)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($27,674,707)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$128,864,434**
2. Expected increase	11,397,517
3. Liability (gain)/loss	1,460,235
4. Asset (gain)/loss	26,214,472
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$167,936,658**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$930,115	$4,266,491	21.80%	$960,407	$4,483,946	21.42%
Tier 1 General Service	2,429,261	13,239,549	18.35%	2,781,502	14,993,014	18.55%
Tier 2 Police & Fire	1,442,700	7,936,491	18.18%	1,464,793	8,127,544	18.02%
Tier 2 General Service	2,044,194	16,420,100	12.45%	2,127,524	16,842,241	12.63%
Total	**$6,846,270**	**$41,862,631**	**16.35%**	**$7,334,226**	**$44,446,745**	**16.50%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$167,936,658	$128,864,434
2. Next year's Tier 1/Tier 2 UAL payment	12,314,034	9,401,351
3. Combined valuation payroll	81,920,691	77,932,450
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	15.03%	12.06%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.35%	16.50%
b. Tier 1/Tier 2 UAL rate	15.03%	12.06%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	31.53%	28.71%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.97%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.97%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.79%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	78%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.97%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.97%
7.	July 1, 2017 total pension rate, before adjustment	31.53%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(14.56%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	15.03%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.47%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.97%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.35%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.35%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.97%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.35%	16.50%
b. Tier 1/Tier 2 UAL rate	0.47%	0.32%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.97%	16.97%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$13,239,549	$4,266,491	$17,506,040
Tier 2	16,420,100	7,936,491	24,356,591
Tier 1/Tier 2 valuation payroll	29,659,649	12,202,982	41,862,631
OPSRP valuation payroll	35,651,688	4,406,372	40,058,060
Combined valuation payroll	**$65,311,337**	**$16,609,354**	**$81,920,691**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	180	262	636	1,078	208	275	554	1,037
Police & Fire	42	93	71	206	46	94	57	197
Total	222	355	707	1,284	254	369	611	1,234
Active Members with previous service segments with the employer								
General Service	135	132	N/A	267	151	139	N/A	290
Police & Fire	11	32	N/A	43	13	33	N/A	46
Total	146	164	N/A	310	164	172	N/A	336
Dormant Members								
General Service	160	140	80	380	166	144	66	376
Police & Fire	16	11	9	36	17	11	7	35
Total	176	151	89	416	183	155	73	411
Retired Members and Beneficiaries								
General Service	1,598	155	25	1,778	1,602	99	19	1,720
Police & Fire	262	28	2	292	264	17	2	283
Total	1,860	183	27	2,070	1,866	116	21	2,003
Grand Total Number of Members	**2,404**	**853**	**823**	**4,080**	**2,467**	**812**	**705**	**3,984**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34			1							**1**
35-39		1	22	3						**26**
40-44		1	36	41	3					**81**
45-49		1	30	40	14	6				**91**
50-54		1	20	47	24	33	5	1		**131**
55-59		1	23	44	25	29	7	2		**131**
60-64	1		11	32	19	23	1	3		**90**
65-69		1	6	10	3	1	1			**22**
70-74			1	3						**4**
75+										
Total	**1**	**6**	**150**	**220**	**88**	**92**	**14**	**6**	**0**	**577**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34	2	444
35-39	5	291
40-44	27	856
45-49	56	1,031
50-54	57	1,178
55-59	57	972
60-64	59	871
65-69	41	1,438
70-74	15	534
75+	8	887
Total	327	1,013

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	15	1,033
45-49	8	1,815
50-54	24	2,216
55-59	105	2,035
60-64	390	1,813
65-69	625	1,862
70-74	372	1,923
75-79	231	1,583
80-84	142	1,428
85-89	66	1,076
90-94	50	1,040
95-99	15	291
100+		
Total	2,043	1,752

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

League of Oregon Cities/2521
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
League of Oregon Cities/2521

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
League of Oregon Cities/2521

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee
Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau
Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

League of Oregon Cities -- #2521

September 2016

Secondary Employers

2693 City/County Insurance Services

CONTENTS

Executive Summary

Milliman has prepared this report for League of Oregon Cities to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to League of Oregon Cities.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for League of Oregon Cities

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	12.24%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	4.65%	4.65%	4.65%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.16%**	**13.94%**	**18.71%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.66%**	**14.37%**	**19.14%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 69%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.89%	16.89%
Minimum 2019-2021 Rate	13.51%	10.13%
Maximum 2019-2021 Rate	20.27%	23.65%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$12,001,208	$14,979,241	$2,978,033	80%	$5,910,498	50%
12/31/2011	11,873,512	15,628,011	3,754,499	76%	6,154,733	61%
12/31/2012	12,998,627	16,022,753	3,024,126	81%	6,322,166	48%
12/31/2013	14,118,834	16,767,448	2,648,614	84%	6,364,078	42%
12/31/2014	14,507,273	19,985,347	5,478,074	73%	6,677,111	82%
12/31/2015	14,158,626	20,654,485	6,495,859	69%	7,228,275	90%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

League of Oregon Cities

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$6,495,859	$5,478,074
Allocated pooled OPSRP UAL	1,027,600	763,339
Side account	0	0
Net unfunded pension actuarial accrued liability	7,523,459	6,241,413
Combined valuation payroll	7,228,275	6,677,111
Net pension UAL as a percentage of payroll	104%	93%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$35,098	$53,074

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$336,505	$362,870
Tier 1/Tier 2 valuation payroll	2,750,034	2,944,619
Tier 1/Tier 2 pension normal cost rate	12.24%	12.32%
Tier 1/ Tier 2 Actuarial accrued liability	$20,654,485	$19,985,347
Actuarial asset value	14,158,626	14,507,273
Tier 1/Tier 2 Unfunded actuarial accrued liability	6,495,859	5,478,074
Tier 1/ Tier 2 Funded status	69%	73%
Combined valuation payroll	$7,228,275	$6,677,111
Tier 1/Tier 2 UAL as a percentage of payroll	90%	82%
Tier 1/Tier 2 UAL rate	4.65%	4.27%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	24	28
Tier 1/Tier 2 dormant members	15	12
Tier 1/Tier 2 retirees and beneficiaries	43	42

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	7,228,275	6,677,111
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,622,107	$1,635,343
2. Employer reserves	6,476,200	6,468,064
3. Benefits in force reserve	6,060,320	6,403,866
4. Total market value of assets ***(1. + 2. + 3.)***	**$14,158,626**	**$14,507,273**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$14,507,273
2. Regular employer contributions	401,334
3. Benefit payments and expense	(1,102,077)
4. Adjustments [1]	30,789
5. Interest credited	321,308
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$14,158,626**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	144,459	147,660
Tier 2 Police & Fire	0	0
Tier 2 General Service	192,046	215,210
Total	**$336,505**	**$362,870**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$336,505	$336,505	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	3,103,903	3,128,671
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	3,050,659	3,143,186
▪ **Total Active Members**	**$6,154,562**	**$6,271,857**
Dormant Members	1,414,533	1,290,150
Retired Members and Beneficiaries	13,085,390	12,423,340
Total Actuarial Accrued Liability	**$20,654,485**	**$19,985,347**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$20,654,485	$20,654,485	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$20,654,485	$19,985,347
2. Actuarial value of assets	14,158,626	14,507,273
3. Unfunded accrued liability *(1. – 2.)*	6,495,859	5,478,074
4. Funded percentage *(2. ÷ 1.)*	69%	73%
5. Combined valuation payroll	$7,228,275	$6,677,111
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	90%	82%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$2,654,266	$198,821	$191,127	$2,646,572	$205,783
December 31, 2015	N/A	N/A	N/A	$3,849,287	$278,530
Total				**$6,495,859**	**$484,313**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$19,985,347
b. Normal cost at December 31, 2014 (excluding assumed expenses)	347,120
c. Benefit payments during 2015	(1,093,564)
d. Interest at 7.50% to December 31, 2015	1,470,909
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	20,709,812
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	20,709,812
2. Actuarial accrued liability at December 31, 2015	20,654,485
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	55,327
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	14,507,273
b. Contributions for 2015[1]	401,334
c. Benefit payments and expenses during 2015	(1,102,077)
d. Interest at 7.50% to December 31, 2015	1,061,768
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	14,868,297
5. Actuarial value of assets at December 31, 2015	14,158,626
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(709,671)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($654,344)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$5,478,074**
2. Expected increase	363,441
3. Liability (gain)/loss	(55,327)
4. Asset (gain)/loss	709,671
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$6,495,859**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	144,459	1,090,706	13.24%	147,660	1,126,898	13.10%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	192,046	1,659,328	11.57%	215,210	1,817,721	11.84%
Total	**$336,505**	**$2,750,034**	**12.24%**	**$362,870**	**$2,944,619**	**12.32%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$6,495,859	$5,478,074
2. Next year's Tier 1/Tier 2 UAL payment	484,313	403,149
3. Combined valuation payroll	7,228,275	6,677,111
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.70%	6.04%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.24%	12.32%
b. Tier 1/Tier 2 UAL rate	6.70%	6.04%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	19.09%	18.51%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.59%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.59%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.72%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	69%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.30%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.29%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.89%
7.	July 1, 2017 total pension rate, before adjustment	19.09%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(2.20%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.70%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	4.50%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.89%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	12.24%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	12.24%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.89%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.24%	12.32%
b. Tier 1/Tier 2 UAL rate	4.50%	4.12%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate	16.89%	16.59%
(a. + b. + c., minimum of 5.50%)		

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$1,090,706	$0	$1,090,706
Tier 2	1,659,328	0	1,659,328
Tier 1/Tier 2 valuation payroll	2,750,034	0	2,750,034
OPSRP valuation payroll	4,478,241	0	4,478,241
Combined valuation payroll	**$7,228,275**	**$0**	**$7,228,275**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	9	15	51	75	10	18	46	74
Police & Fire	0	0	0	0	0	0	0	0
Total	9	15	51	75	10	18	46	74
Active Members with previous service segments with the employer								
General Service	4	7	N/A	11	5	8	N/A	13
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	4	7	N/A	11	5	8	N/A	13
Dormant Members								
General Service	8	7	4	19	7	5	6	18
Police & Fire	0	0	0	0	0	0	0	0
Total	8	7	4	19	7	5	6	18
Retired Members and Beneficiaries								
General Service	38	5	5	48	39	3	4	46
Police & Fire	0	0	0	0	0	0	0	0
Total	38	5	5	48	39	3	4	46
Grand Total Number of Members	**59**	**34**	**60**	**153**	**61**	**34**	**56**	**151**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39			1							**1**
40-44			3	1						**4**
45-49			3	1	2					**6**
50-54			1	2		1				**4**
55-59			2		2		1	1		**6**
60-64				3						**3**
65-69										
70-74										
75+										
Total	**0**	**0**	**10**	**7**	**4**	**1**	**1**	**1**	**0**	**24**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	2	1,296
40-44	1	19
45-49	4	1,189
50-54	3	873
55-59	2	1,229
60-64	1	830
65-69	2	636
70-74		
75+		
Total	15	970

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	2,117
60-64	6	1,443
65-69	18	2,456
70-74	10	2,257
75-79	4	820
80-84	3	2,884
85-89	1	252
90-94		
95-99		
100+		
Total	43	2,087

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Linn County/2014
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Linn County/2014

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Linn County -- #2014

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Linn County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Linn County.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Linn County

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.00%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	4.38%	4.38%	4.38%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**22.65%**	**13.67%**	**18.44%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**23.15%**	**14.10%**	**18.87%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 73%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	21.38%	21.38%
Minimum 2019-2021 Rate	17.10%	12.82%
Maximum 2019-2021 Rate	25.66%	29.94%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$145,618,230	$182,831,652	$37,213,422	80%	$34,453,366	108%
12/31/2011	144,346,411	184,066,697	39,720,286	78%	34,012,953	117%
12/31/2012	159,362,121	189,449,664	30,087,543	84%	34,115,995	88%
12/31/2013	175,224,089	199,169,091	23,945,002	88%	32,600,717	73%
12/31/2014	180,267,989	234,410,147	54,142,158	77%	33,973,436	159%
12/31/2015	176,031,314	242,098,001	66,066,687	73%	36,141,418	183%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	**General Service**	**Police & Fire**
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Linn County

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$66,066,687	$54,142,158
Allocated pooled OPSRP UAL	5,138,006	3,883,903
Side account	0	0
Net unfunded pension actuarial accrued liability	71,204,693	58,026,061
Combined valuation payroll	36,141,418	33,973,436
Net pension UAL as a percentage of payroll	197%	171%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$175,490	$270,041

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$3,378,919	$3,550,599
Tier 1/Tier 2 valuation payroll	19,871,879	20,416,191
Tier 1/Tier 2 pension normal cost rate	17.00%	17.39%
Tier 1/ Tier 2 Actuarial accrued liability	$242,098,001	$234,410,147
Actuarial asset value	176,031,314	180,267,989
Tier 1/Tier 2 Unfunded actuarial accrued liability	66,066,687	54,142,158
Tier 1/ Tier 2 Funded status	73%	77%
Combined valuation payroll	$36,141,418	$33,973,436
Tier 1/Tier 2 UAL as a percentage of payroll	183%	159%
Tier 1/Tier 2 UAL rate	4.38%	3.99%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	294	314
Tier 1/Tier 2 dormant members	155	162
Tier 1/Tier 2 retirees and beneficiaries	677	651

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	36,141,418	33,973,436
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$26,472,607	$28,294,612
2. Employer reserves	85,787,664	85,514,864
3. Benefits in force reserve	63,771,044	66,458,513
4. Total market value of assets ***(1. + 2. + 3.)***	**$176,031,314**	**$180,267,989**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$180,267,989
2.	Regular employer contributions	4,062,143
3.	Benefit payments and expense	(11,596,845)
4.	Adjustments [1]	(972,536)
5.	Interest credited	4,270,563
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$176,031,314**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Tier 1 Police & Fire	$645,523	$677,995
Tier 1 General Service	1,207,101	1,331,432
Tier 2 Police & Fire	657,302	654,388
Tier 2 General Service	868,993	886,784
Total	**$3,378,919**	**$3,550,599**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Normal Cost	$3,378,919	$3,378,919	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$21,197,656	$21,546,289
▪ Tier 1 General Service	38,003,489	39,869,548
▪ Tier 2 Police & Fire	12,603,233	11,615,131
▪ Tier 2 General Service	20,241,146	18,571,907
▪ **Total Active Members**	**$92,045,524**	**$91,602,875**
Dormant Members	12,358,584	13,879,403
Retired Members and Beneficiaries	137,693,893	128,927,869
Total Actuarial Accrued Liability	**$242,098,001**	**$234,410,147**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$242,098,001	$242,098,001	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$242,098,001	$234,410,147
2. Actuarial value of assets	176,031,314	180,267,989
3. Unfunded accrued liability *(1. – 2.)*	66,066,687	54,142,158
4. Funded percentage *(2. ÷ 1.)*	73%	77%
5. Combined valuation payroll	$36,141,418	$33,973,436
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	183%	159%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$23,996,094	$1,797,460	$1,727,897	$23,926,531	$1,860,394
December 31, 2015	N/A	N/A	N/A	$42,140,156	$3,049,215
Total				**$66,066,687**	**$4,909,609**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$234,410,147
b. Normal cost at December 31, 2014 (excluding assumed expenses)	3,396,234
c. Benefit payments during 2015	(11,507,272)
d. Interest at 7.50% to December 31, 2015	17,276,597
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	243,575,706
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	243,575,706
2. Actuarial accrued liability at December 31, 2015	242,098,001
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	1,477,705
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	180,267,989
b. Contributions for 2015[1]	4,062,143
c. Benefit payments and expenses during 2015	(11,596,845)
d. Interest at 7.50% to December 31, 2015	13,237,548
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	185,970,835
5. Actuarial value of assets at December 31, 2015	176,031,314
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(9,939,521)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($8,461,816)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$54,142,158**
2. Expected increase	3,462,713
3. Liability (gain)/loss	(1,477,705)
4. Asset (gain)/loss	9,939,521
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$66,066,687**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$645,523	$2,868,769	22.50%	$677,995	$3,011,589	22.51%
Tier 1 General Service	1,207,101	6,755,975	17.87%	1,331,432	7,218,973	18.44%
Tier 2 Police & Fire	657,302	3,387,922	19.40%	654,388	3,385,725	19.33%
Tier 2 General Service	868,993	6,859,213	12.67%	886,784	6,799,904	13.04%
Total	**$3,378,919**	**$19,871,879**	**17.00%**	**$3,550,599**	**$20,416,191**	**17.39%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$66,066,687	$54,142,158
2. Next year's Tier 1/Tier 2 UAL payment	4,909,609	3,978,796
3. Combined valuation payroll	36,141,418	33,973,436
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	13.58%	11.71%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.00%	17.39%
b. Tier 1/Tier 2 UAL rate	13.58%	11.71%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	30.73%	29.25%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	17.82%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	17.82%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.56%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.56%
	c. Funded percentage	73%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.56%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	14.26%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	21.38%
7.	July 1, 2017 total pension rate, before adjustment	30.73%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(9.35%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	13.58%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	4.23%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	21.38%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.00%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.00%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	21.38%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.00%	17.39%
b. Tier 1/Tier 2 UAL rate	4.23%	3.84%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	21.38%	21.38%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$6,755,975	$2,868,769	$9,624,744
Tier 2	6,859,213	3,387,922	10,247,135
Tier 1/Tier 2 valuation payroll	13,615,188	6,256,691	19,871,879
OPSRP valuation payroll	12,864,990	3,404,549	16,269,539
Combined valuation payroll	**$26,480,178**	**$9,661,240**	**$36,141,418**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	98	118	261	477	112	120	225	457
Police & Fire	34	44	49	127	37	45	41	123
Total	132	162	310	604	149	165	266	580
Active Members with previous service segments with the employer								
General Service	74	90	N/A	164	83	93	N/A	176
Police & Fire	20	10	N/A	30	22	10	N/A	32
Total	94	100	N/A	194	105	103	N/A	208
Dormant Members								
General Service	54	83	34	171	60	85	34	179
Police & Fire	11	7	1	19	11	6	1	18
Total	65	90	35	190	71	91	35	197
Retired Members and Beneficiaries								
General Service	480	70	10	560	477	52	6	535
Police & Fire	118	9	1	128	114	8	1	123
Total	598	79	11	688	591	60	7	658
Grand Total Number of Members	**889**	**431**	**356**	**1,676**	**916**	**419**	**308**	**1,643**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34		1	2							**3**
35-39		2	12	4						**18**
40-44			9	27	5					**41**
45-49		2	13	21	16	2				**54**
50-54	1		13	19	18	16				**67**
55-59		1	7	10	10	10	4	2		**44**
60-64		1	5	17	11	9	5			**48**
65-69			1	8	2	1	1	2		**15**
70-74			1	2			1			**4**
75+										
Total	**1**	**7**	**63**	**108**	**62**	**38**	**11**	**4**	**0**	**294**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34	3	97
35-39	10	582
40-44	15	528
45-49	16	538
50-54	32	752
55-59	38	599
60-64	21	1,341
65-69	12	1,054
70-74	6	1,409
75+	2	1,691
Total	155	788

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	3	1,746
45-49	1	699
50-54	12	1,992
55-59	44	1,362
60-64	120	1,771
65-69	173	1,279
70-74	130	1,344
75-79	86	1,333
80-84	55	1,050
85-89	29	1,287
90-94	13	1,056
95-99	11	974
100+		
Total	677	1,377

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Malheur County/2039
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Malheur County/2039

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Malheur County -- #2039

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Malheur County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Malheur County.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Malheur County

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.36%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(1.20%)	(1.20%)	(1.20%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**17.43%**	**8.09%**	**12.86%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**17.93%**	**8.52%**	**13.29%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 86%.

Funded Status as of December 31, 2017	**70% to 130%**	**Under 60% or Over 140%**
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.16%	16.16%
Minimum 2019-2021 Rate	12.93%	9.70%
Maximum 2019-2021 Rate	19.39%	22.62%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$32,615,328	$35,461,722	$2,846,394	92%	$7,631,723	37%
12/31/2011	32,516,737	37,111,809	4,595,072	88%	7,459,213	62%
12/31/2012	36,288,108	37,610,222	1,322,114	96%	7,739,628	17%
12/31/2013	40,424,622	38,745,745	(1,678,877)	104%	7,615,815	(22%)
12/31/2014	41,395,207	45,550,816	4,155,609	91%	7,701,161	54%
12/31/2015	39,964,309	46,633,086	6,668,777	86%	7,543,812	88%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Malheur County

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	$6,668,777	$4,155,609
Allocated pooled OPSRP UAL	1,072,458	880,410
Side account	0	0
Net unfunded pension actuarial accrued liability	7,741,235	5,036,019
Combined valuation payroll	7,543,812	7,701,161
Net pension UAL as a percentage of payroll	103%	65%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$36,630	$61,213

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$687,014	$767,749
Tier 1/Tier 2 valuation payroll	3,956,898	4,357,589
Tier 1/Tier 2 pension normal cost rate	17.36%	17.62%
Tier 1/ Tier 2 Actuarial accrued liability	$46,633,086	$45,550,816
Actuarial asset value	39,964,309	41,395,207
Tier 1/Tier 2 Unfunded actuarial accrued liability	6,668,777	4,155,609
Tier 1/ Tier 2 Funded status	86%	91%
Combined valuation payroll	$7,543,812	$7,701,161
Tier 1/Tier 2 UAL as a percentage of payroll	88%	54%
Tier 1/Tier 2 UAL rate	(1.20%)	(1.46%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members[1]	73	81
Tier 1/Tier 2 dormant members	60	65
Tier 1/Tier 2 retirees and beneficiaries	186	174

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	7,543,812	7,701,161
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$6,334,002	$7,396,722
2. Employer reserves	22,506,937	23,415,109
3. Benefits in force reserve	11,123,371	10,583,376
4. Total market value of assets ***(1. + 2. + 3.)***	**$39,964,309**	**$41,395,207**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$41,395,207
2.	Regular employer contributions	468,169
3.	Benefit payments and expense	(2,022,799)
4.	Adjustments [1]	(929,310)
5.	Interest credited	1,053,042
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$39,964,309**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$100,484	$136,533
Tier 1 General Service	197,687	232,689
Tier 2 Police & Fire	180,745	190,323
Tier 2 General Service	208,098	208,204
Total	**$687,014**	**$767,749**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$687,014	$687,014	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$3,091,675	$3,992,438
▪ Tier 1 General Service	7,780,356	8,581,258
▪ Tier 2 Police & Fire	3,290,505	3,181,154
▪ Tier 2 General Service	4,444,659	4,108,873
▪ **Total Active Members**	**$18,607,195**	**$19,863,723**
Dormant Members	4,008,405	5,155,606
Retired Members and Beneficiaries	24,017,486	20,531,487
Total Actuarial Accrued Liability	**$46,633,086**	**$45,550,816**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$46,633,086	$46,633,086	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$46,633,086	$45,550,816
2. Actuarial value of assets	39,964,309	41,395,207
3. Unfunded accrued liability *(1. – 2.)*	6,668,777	4,155,609
4. Funded percentage *(2. ÷ 1.)*	86%	91%
5. Combined valuation payroll	$7,543,812	$7,701,161
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	88%	54%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($1,682,459)	($126,027)	($121,150)	($1,677,582)	($130,439)
December 31, 2015	N/A	N/A	N/A	$8,346,359	$603,933
Total				**$6,668,777**	**$473,494**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$45,550,816
b. Normal cost at December 31, 2014 (excluding assumed expenses)	734,462
c. Benefit payments during 2015	(2,007,175)
d. Interest at 7.50% to December 31, 2015	3,368,584
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	47,646,687
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	47,646,687
2. Actuarial accrued liability at December 31, 2015	46,633,086
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	1,013,601
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	41,395,207
b. Contributions for 2015[1]	468,169
c. Benefit payments and expenses during 2015	(2,022,799)
d. Interest at 7.50% to December 31, 2015	3,046,342
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	42,886,919
5. Actuarial value of assets at December 31, 2015	39,964,309
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(2,922,610)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($1,909,009)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$4,155,609**
2. Expected increase	604,159
3. Liability (gain)/loss	(1,013,601)
4. Asset (gain)/loss	2,922,610
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$6,668,777**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$100,484	$484,904	20.72%	$136,533	$654,065	20.87%
Tier 1 General Service	197,687	881,468	22.43%	232,689	1,028,989	22.61%
Tier 2 Police & Fire	180,745	903,568	20.00%	190,323	952,244	19.99%
Tier 2 General Service	208,098	1,686,958	12.34%	208,204	1,722,291	12.09%
Total	**$687,014**	**$3,956,898**	**17.36%**	**$767,749**	**$4,357,589**	**17.62%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$6,668,777	$4,155,609
2. Next year's Tier 1/Tier 2 UAL payment	473,494	296,409
3. Combined valuation payroll	7,543,812	7,701,161
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	6.28%	3.85%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.36%	17.62%
b. Tier 1/Tier 2 UAL rate	6.28%	3.85%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	23.79%	21.62%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.16%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.16%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.63%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	86%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.16%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.16%
7.	July 1, 2017 total pension rate, before adjustment	23.79%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(7.63%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	6.28%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(1.35%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.16%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.36%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.36%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.16%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.36%	17.62%
b. Tier 1/Tier 2 UAL rate	(1.35%)	(1.61%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.16%	16.16%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$881,468	$484,904	$1,366,372
Tier 2	1,686,958	903,568	2,590,526
Tier 1/Tier 2 valuation payroll	2,568,426	1,388,472	3,956,898
OPSRP valuation payroll	2,522,280	1,064,634	3,586,914
Combined valuation payroll	**$5,090,706**	**$2,453,106**	**$7,543,812**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	17	35	58	110	20	36	52	108
Police & Fire	7	14	19	40	10	15	19	44
Total	24	49	77	150	30	51	71	152
Active Members with previous service segments with the employer								
General Service	18	14	N/A	32	19	14	N/A	33
Police & Fire	6	7	N/A	13	7	7	N/A	14
Total	24	21	N/A	45	26	21	N/A	47
Dormant Members								
General Service	26	20	11	57	31	21	11	63
Police & Fire	6	8	1	15	6	7	0	13
Total	32	28	12	72	37	28	11	76
Retired Members and Beneficiaries								
General Service	127	17	2	146	123	13	2	138
Police & Fire	37	5	0	42	36	2	0	38
Total	164	22	2	188	159	15	2	176
Grand Total Number of Members	**244**	**120**	**91**	**455**	**252**	**115**	**84**	**451**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			1	1						**2**
40-44			8	3	2					**13**
45-49			5	6	5					**16**
50-54			3	2	4	1				**10**
55-59			7	3	4	1				**15**
60-64			3	5	1			2	1	**12**
65-69				1	1	1			1	**4**
70-74										
75+				1						**1**
Total	**0**	**0**	**27**	**22**	**17**	**3**	**0**	**2**	**2**	**73**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	1	1,166
40-44	12	525
45-49	8	495
50-54	15	756
55-59	6	352
60-64	8	627
65-69	5	464
70-74	5	1,126
75+		
Total	60	631

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	1	347
45-49		
50-54	4	1,248
55-59	15	712
60-64	24	589
65-69	52	1,074
70-74	32	1,110
75-79	24	1,096
80-84	18	745
85-89	9	610
90-94	6	579
95-99	1	630
100+		
Total	186	918

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Mapleton Water District/2597
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Mapleton Water District/2597

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Mapleton Water District -- #2597

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Mapleton Water District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Mapleton Water District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Mapleton Water District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.58%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(1.56%)	(1.56%)	(1.56%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**16.29%**	**7.73%**	**12.50%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.79%**	**8.16%**	**12.93%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 97%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.02%	15.02%
Minimum 2019-2021 Rate	12.02%	9.02%
Maximum 2019-2021 Rate	18.02%	21.02%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$139,940	$157,303	$17,363	89%	$69,364	25%
12/31/2011	147,113	169,350	22,237	87%	62,272	36%
12/31/2012	172,579	179,803	7,224	96%	63,361	11%
12/31/2013	200,313	187,040	(13,273)	107%	62,438	(21%)
12/31/2014	217,395	221,818	4,423	98%	66,719	7%
12/31/2015	228,376	235,890	7,514	97%	69,025	11%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Mapleton Water District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$7,514	$4,423
Allocated pooled OPSRP UAL	9,813	7,627
Side account	0	0
Net unfunded pension actuarial accrued liability	17,327	12,050
Combined valuation payroll	69,025	66,719
Net pension UAL as a percentage of payroll	25%	18%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$335	$530

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$8,883	$8,530
Tier 1/Tier 2 valuation payroll	53,563	51,890
Tier 1/Tier 2 pension normal cost rate	16.58%	16.44%
Tier 1/ Tier 2 Actuarial accrued liability	$235,890	$221,818
Actuarial asset value	228,376	217,395
Tier 1/Tier 2 Unfunded actuarial accrued liability	7,514	4,423
Tier 1/ Tier 2 Funded status	97%	98%
Combined valuation payroll	$69,025	$66,719
Tier 1/Tier 2 UAL as a percentage of payroll	11%	7%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(1.56%)	(1.42%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	1	1

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	69,025	66,719
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$58,749	$53,969
2. Employer reserves	149,426	140,366
3. Benefits in force reserve	20,201	23,060
4. Total market value of assets ***(1. + 2. + 3.)***	**$228,376**	**$217,395**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$217,395
2. Regular employer contributions	6,248
3. Benefit payments and expense	(3,674)
4. Adjustments [1]	1,184
5. Interest credited	7,223
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$228,376**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	8,883	8,530
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$8,883**	**$8,530**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$8,883	$8,883	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	192,273	177,082
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$192,273**	**$177,082**
Dormant Members	0	0
Retired Members and Beneficiaries	43,617	44,736
Total Actuarial Accrued Liability	**$235,890**	**$221,818**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$235,890	$235,890	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$235,890	$221,818
2. Actuarial value of assets	228,376	217,395
3. Unfunded accrued liability *(1. – 2.)*	7,514	4,423
4. Funded percentage *(2. ÷ 1.)*	97%	98%
5. Combined valuation payroll	$69,025	$66,719
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	11%	7%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($13,301)	($996)	($958)	($13,263)	($1,031)
December 31, 2015	N/A	N/A	N/A	$20,777	$1,503
Total				**$7,514**	**$472**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$221,818
b. Normal cost at December 31, 2014 (excluding assumed expenses)	8,160
c. Benefit payments during 2015	(3,645)
d. Interest at 7.50% to December 31, 2015	16,806
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	243,139
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	243,139
2. Actuarial accrued liability at December 31, 2015	235,890
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	7,249
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	217,395
b. Contributions for 2015[1]	6,248
c. Benefit payments and expenses during 2015	(3,674)
d. Interest at 7.50% to December 31, 2015	16,401
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	236,370
5. Actuarial value of assets at December 31, 2015	228,376
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(7,995)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($746)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$4,423**
2. Expected increase	2,345
3. Liability (gain)/loss	(7,249)
4. Asset (gain)/loss	7,995
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$7,514**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	8,883	53,563	16.58%	8,530	51,890	16.44%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$8,883**	**$53,563**	**16.58%**	**$8,530**	**$51,890**	**16.44%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$7,514	$4,423
2. Next year's Tier 1/Tier 2 UAL payment	472	286
3. Combined valuation payroll	69,025	66,719
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.68%	0.43%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.58%	16.44%
b. Tier 1/Tier 2 UAL rate	0.68%	0.43%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	17.41%	17.02%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	12.02%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.02%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.40%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	97%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.02%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.02%
7.	July 1, 2017 total pension rate, before adjustment	17.41%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(2.39%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	0.68%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(1.71%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.02%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.58%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.58%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.02%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.58%	16.44%
b. Tier 1/Tier 2 UAL rate	(1.71%)	(1.57%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.02%	15.02%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$53,563	$0	$53,563
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	53,563	0	53,563
OPSRP valuation payroll	15,462	0	15,462
Combined valuation payroll	**$69,025**	**$0**	**$69,025**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	0	1	2	1	0	1	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	1	2	1	0	1	2
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
Grand Total Number of Members	**2**	**0**	**1**	**3**	**2**	**0**	**1**	**3**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64					1					1
65-69										
70-74										
75+										
Total	0	0	0	0	1	0	0	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84	1	552
85-89		
90-94		
95-99		
100+		
Total	1	552

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Maupin/2283
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Maupin/2283

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Maupin/2283

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Maupin -- #2283

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Maupin to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Maupin.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Maupin

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.28%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(5.82%)	(5.82%)	(5.82%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.73%**	**3.47%**	**8.24%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.23%**	**3.90%**	**8.67%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 71%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.46%	11.46%
Minimum 2019-2021 Rate	8.46%	5.46%
Maximum 2019-2021 Rate	14.46%	17.46%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$787,391	$789,323	$1,932	100%	$331,614	1%
12/31/2011	832,750	878,410	45,660	95%	358,633	13%
12/31/2012	964,281	850,528	(113,753)	113%	330,436	(34%)
12/31/2013	1,015,345	913,105	(102,240)	111%	210,414	(49%)
12/31/2014	1,075,329	1,033,338	(41,991)	104%	292,788	(14%)
12/31/2015	881,909	1,247,218	365,309	71%	289,091	126%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Maupin

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
T1/T2 UAL	$365,309	($41,991)
Allocated pooled OPSRP UAL	41,098	33,472
Side account	0	0
Net unfunded pension actuarial accrued liability	406,407	(8,519)
Combined valuation payroll	289,091	292,788
Net pension UAL as a percentage of payroll	141%	(3%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,404	$2,327

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$11,785	$25,005
Tier 1/Tier 2 valuation payroll	68,217	145,020
Tier 1/Tier 2 pension normal cost rate	17.28%	17.24%
Tier 1/ Tier 2 Actuarial accrued liability	$1,247,218	$1,033,338
Actuarial asset value	881,909	1,075,329
Tier 1/Tier 2 Unfunded actuarial accrued liability	365,309	(41,991)
Tier 1/ Tier 2 Funded status	71%	104%
Combined valuation payroll	$289,091	$292,788
Tier 1/Tier 2 UAL as a percentage of payroll	126%	(14%)
Tier 1/Tier 2 UAL rate	(5.82%)	(5.78%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	3
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	4	3

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	289,091	292,788
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$149,442	$322,493
2. Employer reserves	342,575	618,185
3. Benefits in force reserve	389,892	134,651
4. Total market value of assets ***(1. + 2. + 3.)***	**$881,909**	**$1,075,329**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$1,075,329
2.	Regular employer contributions	353
3.	Benefit payments and expense	(70,902)
4.	Adjustments [1]	(157,740)
5.	Interest credited	34,869
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$881,909**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	11,785	25,005
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$11,785**	**$25,005**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$11,785	$11,785	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	397,713	772,119
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$397,713**	**$772,119**
Dormant Members	7,654	0
Retired Members and Beneficiaries	841,851	261,219
Total Actuarial Accrued Liability	**$1,247,218**	**$1,033,338**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$1,247,218	$1,247,218	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,247,218	$1,033,338
2. Actuarial value of assets	881,909	1,075,329
3. Unfunded accrued liability *(1. – 2.)*	365,309	(41,991)
4. Funded percentage *(2. ÷ 1.)*	71%	104%
5. Combined valuation payroll	$289,091	$292,788
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	126%	(14%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($102,458)	($7,675)	($7,378)	($102,161)	($7,943)
December 31, 2015	N/A	N/A	N/A	$467,470	$33,826
Total				**$365,309**	**$25,883**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,033,338
b. Normal cost at December 31, 2014 (excluding assumed expenses)	23,920
c. Benefit payments during 2015	(70,355)
d. Interest at 7.50% to December 31, 2015	75,759
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,062,662
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,062,662
2. Actuarial accrued liability at December 31, 2015	1,247,218
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(184,556)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,075,329
b. Contributions for 2015[1]	353
c. Benefit payments and expenses during 2015	(70,902)
d. Interest at 7.50% to December 31, 2015	78,004
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,082,784
5. Actuarial value of assets at December 31, 2015	881,909
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(200,875)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($385,431)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($41,991)**
2. Expected increase	21,869
3. Liability (gain)/loss	184,556
4. Asset (gain)/loss	200,875
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$365,309**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	11,785	68,217	17.28%	25,005	145,020	17.24%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$11,785**	**$68,217**	**17.28%**	**$25,005**	**$145,020**	**17.24%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$365,309	($41,991)
2. Next year's Tier 1/Tier 2 UAL payment	25,883	(3,300)
3. Combined valuation payroll	289,091	292,788
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	8.95%	(1.13%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.28%	17.24%
b. Tier 1/Tier 2 UAL rate	8.95%	(1.13%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	26.38%	16.26%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.46%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.46%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.69%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	71%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.46%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.46%
7.	July 1, 2017 total pension rate, before adjustment	26.38%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(14.92%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	8.95%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(5.97%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.46%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.28%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.28%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.46%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.28%	17.24%
b. Tier 1/Tier 2 UAL rate	(5.97%)	(5.93%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.46%	11.46%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$68,217	$0	$68,217
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	68,217	0	68,217
OPSRP valuation payroll	220,874	0	220,874
Combined valuation payroll	**$289,091**	**$0**	**$289,091**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	0	6	7	3	0	4	7
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	6	7	3	0	4	7
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	1	0	1	2	1	0	1	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	1	2	1	0	1	2
Retired Members and Beneficiaries								
General Service	4	0	0	4	3	0	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	4	0	0	4	3	0	0	3
Grand Total Number of Members	**6**	**0**	**7**	**13**	**7**	**0**	**5**	**12**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54						1				**1**
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74	1	64
75+		
Total	1	64

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	1	3,983
55-59		
60-64		
65-69	1	1,888
70-74		
75-79	1	65
80-84	1	19
85-89		
90-94		
95-99		
100+		
Total	4	1,489

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Merrill/2246
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Merrill/2246

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Merrill -- #2246

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Merrill to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Merrill.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Merrill

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	21.33%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(12.86%)	(12.86%)	(12.86%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**9.74%**	**0.00%**	**1.20%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**10.24%**	**0.43%**	**1.63%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 105%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$358,924	$319,024	($39,900)	113%	$48,700	(82%)
12/31/2011	366,777	352,212	(14,565)	104%	49,748	(29%)
12/31/2012	419,097	360,969	(58,128)	116%	48,798	(119%)
12/31/2013	456,642	366,421	(90,221)	125%	50,431	(179%)
12/31/2014	489,014	444,524	(44,490)	110%	95,711	(46%)
12/31/2015	504,843	481,897	(22,946)	105%	92,769	(25%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Merrill

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($22,946)	($44,490)
Allocated pooled OPSRP UAL	13,188	10,942
Side account	0	0
Net unfunded pension actuarial accrued liability	(9,758)	(33,548)
Combined valuation payroll	92,769	95,711
Net pension UAL as a percentage of payroll	(11%)	(35%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$450	$761

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$10,347	$10,298
Tier 1/Tier 2 valuation payroll	48,508	49,318
Tier 1/Tier 2 pension normal cost rate	21.33%	20.88%
Tier 1/ Tier 2 Actuarial accrued liability	$481,897	$444,524
Actuarial asset value	504,843	489,014
Tier 1/Tier 2 Unfunded actuarial accrued liability	(22,946)	(44,490)
Tier 1/ Tier 2 Funded status	105%	110%
Combined valuation payroll	$92,769	$95,711
Tier 1/Tier 2 UAL as a percentage of payroll	(25%)	(46%)
Tier 1/Tier 2 UAL rate	(12.86%)	(12.41%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	2	2
Tier 1/Tier 2 retirees and beneficiaries	5	5

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	92,769	95,711
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$138,945	$127,898
2. Employer reserves	358,213	352,145
3. Benefits in force reserve	7,685	8,971
4. Total market value of assets *(1. + 2. + 3.)*	**$504,843**	**$489,014**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$489,014
2. Regular employer contributions	(749)
3. Benefit payments and expense	(1,397)
4. Adjustments [1]	1,788
5. Interest credited	16,187
6. Total transferred from side accounts	0
7. Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)*	**$504,843**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$10,347	$10,298
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$10,347**	**$10,298**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$10,347	$10,347	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$96,943	$84,899
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$96,943**	**$84,899**
Dormant Members	368,362	342,221
Retired Members and Beneficiaries	16,592	17,404
Total Actuarial Accrued Liability	**$481,897**	**$444,524**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$481,897	$481,897	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$481,897	$444,524
2. Actuarial value of assets	504,843	489,014
3. Unfunded accrued liability *(1. – 2.)*	(22,946)	(44,490)
4. Funded percentage *(2. ÷ 1.)*	105%	110%
5. Combined valuation payroll	$92,769	$95,711
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(25%)	(46%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($90,414)	($6,773)	($6,510)	($90,151)	($7,010)
December 31, 2015	N/A	N/A	N/A	$67,205	$4,863
Total				**($22,946)**	**($2,147)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$444,524
b. Normal cost at December 31, 2014 (excluding assumed expenses)	9,851
c. Benefit payments during 2015	(1,387)
d. Interest at 7.50% to December 31, 2015	33,657
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	486,645
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	486,645
2. Actuarial accrued liability at December 31, 2015	481,897
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	4,748
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	489,014
b. Contributions for 2015[1]	(749)
c. Benefit payments and expenses during 2015	(1,397)
d. Interest at 7.50% to December 31, 2015	36,596
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	523,463
5. Actuarial value of assets at December 31, 2015	504,843
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(18,621)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($13,873)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($44,490)**
2. Expected increase	7,671
3. Liability (gain)/loss	(4,748)
4. Asset (gain)/loss	18,621
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($22,946)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$10,347	$48,508	21.33%	$10,298	$49,318	20.88%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$10,347**	**$48,508**	**21.33%**	**$10,298**	**$49,318**	**20.88%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($22,946)	($44,490)
2. Next year's Tier 1/Tier 2 UAL payment	(2,147)	(3,450)
3. Combined valuation payroll	92,769	95,711
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(2.31%)	(3.60%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	21.33%	20.88%
b. Tier 1/Tier 2 UAL rate	(2.31%)	(3.60%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	19.17%	17.43%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	5.47%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.47%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.09%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	105%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	2.47%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	8.47%
7.	July 1, 2017 total pension rate, before adjustment	19.17%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(10.70%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(2.31%)
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(13.01%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	8.47%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	21.33%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	21.33%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	8.47%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	21.33%	20.88%
b. Tier 1/Tier 2 UAL rate	(13.01%)	(12.56%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	8.47%	8.47%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$48,508	$48,508
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	48,508	48,508
OPSRP valuation payroll	0	44,261	44,261
Combined valuation payroll	**$0**	**$92,769**	**$92,769**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	1	2	1	0	1	2
Total	1	0	1	2	1	0	1	2
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	1	0	2	1	1	0	2
Total	1	1	0	2	1	1	0	2
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	4	1	0	5	5	0	0	5
Total	4	1	0	5	5	0	0	5
Grand Total Number of Members	**6**	**2**	**1**	**9**	**7**	**1**	**1**	**9**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54				1						1
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	1	0	0	0	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59	1	2,107
60-64	1	72
65-69		
70-74		
75+		
Total	2	1,090

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69	2	16
70-74	1	9
75-79		
80-84		
85-89	2	80
90-94		
95-99		
100+		
Total	5	40

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Metolius/2195
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Metolius/2195

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Metolius -- #2195

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Metolius to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Metolius.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Metolius

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	20.05%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(14.55%)	(14.55%)	(14.55%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**6.77%**	**0.00%**	**0.00%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**7.27%**	**0.43%**	**0.43%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 177%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	5.50%	5.50%
Minimum 2019-2021 Rate	2.50%	0.00%
Maximum 2019-2021 Rate	8.50%	11.50%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$627,697	$395,551	($232,146)	159%	$98,739	(235%)
12/31/2011	560,285	312,071	(248,214)	180%	106,200	(234%)
12/31/2012	630,653	318,594	(312,059)	198%	98,438	(317%)
12/31/2013	709,536	329,020	(380,516)	216%	99,708	(382%)
12/31/2014	749,885	397,234	(352,651)	189%	102,050	(346%)
12/31/2015	728,525	410,943	(317,582)	177%	105,658	(301%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Metolius

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($317,582)	($352,651)
Allocated pooled OPSRP UAL	15,021	11,667
Side account	0	0
Net unfunded pension actuarial accrued liability	(302,561)	(340,984)
Combined valuation payroll	105,658	102,050
Net pension UAL as a percentage of payroll	(286%)	(334%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$513	$811

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$9,523	$9,178
Tier 1/Tier 2 valuation payroll	65,443	63,141
Tier 1/Tier 2 pension normal cost rate	20.05%	20.04%
Tier 1/ Tier 2 Actuarial accrued liability	$410,943	$397,234
Actuarial asset value	728,525	749,885
Tier 1/Tier 2 Unfunded actuarial accrued liability	(317,582)	(352,651)
Tier 1/ Tier 2 Funded status	177%	189%
Combined valuation payroll	$105,658	$102,050
Tier 1/Tier 2 UAL as a percentage of payroll	(301%)	(346%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(14.55%)	(14.54%)
Tier 1/Tier 2 active members [1]	2	2
Tier 1/Tier 2 dormant members	3	4
Tier 1/Tier 2 retirees and beneficiaries	4	4

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	105,658	102,050
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$69,449	$79,442
2. Employer reserves	593,089	596,472
3. Benefits in force reserve	65,987	73,971
4. Total market value of assets ***(1. + 2. + 3.)***	**$728,525**	**$749,885**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$749,885
2.	Regular employer contributions	(572)
3.	Benefit payments and expense	(12,000)
4.	Adjustments [1]	(25,007)
5.	Interest credited	16,219
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$728,525**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	5,411	5,190
Tier 2 Police & Fire	0	0
Tier 2 General Service	4,112	3,988
Total	**$9,523**	**$9,178**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$9,523	$9,523	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	171,712	151,208
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	91,091	82,986
▪ **Total Active Members**	**$262,803**	**$234,194**
Dormant Members	5,660	19,539
Retired Members and Beneficiaries	142,480	143,501
Total Actuarial Accrued Liability	**$410,943**	**$397,234**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$410,943	$410,943	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$410,943	$397,234
2. Actuarial value of assets	728,525	749,885
3. Unfunded accrued liability *(1. – 2.)*	(317,582)	(352,651)
4. Funded percentage *(2. ÷ 1.)*	177%	189%
5. Combined valuation payroll	$105,658	$102,050
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(301%)	(346%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($381,328)	($28,564)	($27,458)	($380,222)	($29,564)
December 31, 2015	N/A	N/A	N/A	$62,640	$4,533
Total				**($317,582)**	**($25,031)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$397,234
b. Normal cost at December 31, 2014 (excluding assumed expenses)	8,780
c. Benefit payments during 2015	(11,907)
d. Interest at 7.50% to December 31, 2015	29,675
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	423,782
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	423,782
2. Actuarial accrued liability at December 31, 2015	410,943
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	12,839
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	749,885
b. Contributions for 2015[1]	(572)
c. Benefit payments and expenses during 2015	(12,000)
d. Interest at 7.50% to December 31, 2015	55,770
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	793,083
5. Actuarial value of assets at December 31, 2015	728,525
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(64,558)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($51,719)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($352,651)**
2. Expected increase	(16,650)
3. Liability (gain)/loss	(12,839)
4. Asset (gain)/loss	64,558
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($317,582)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	5,411	39,587	13.67%	5,190	38,193	13.59%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	4,112	25,856	15.90%	3,988	24,948	15.99%
Total	**$9,523**	**$65,443**	**14.55%**	**$9,178**	**$63,141**	**14.54%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($317,582)	($352,651)
2. Next year's Tier 1/Tier 2 UAL payment	(25,031)	(26,489)
3. Combined valuation payroll	105,658	102,050
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(23.69%)	(25.96%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.55%	14.54%
b. Tier 1/Tier 2 UAL rate	(23.69%)	(25.96%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	(8.99%)	(11.27%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	5.47%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.47%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.09%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	177%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	6.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	0.00%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.47%
7.	July 1, 2017 total pension rate, before adjustment	(8.99%)
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	8.99%
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(23.69%)
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(14.70%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	0.00%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	5.50%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	14.55%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	20.05%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	5.50%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	20.05%	20.04%
b. Tier 1/Tier 2 UAL rate	(14.70%)	(14.69%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	5.50%	5.50%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$39,587	$0	$39,587
Tier 2	25,856	0	25,856
Tier 1/Tier 2 valuation payroll	65,443	0	65,443
OPSRP valuation payroll	40,215	0	40,215
Combined valuation payroll	**$105,658**	**$0**	**$105,658**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	1	2	4	1	1	2	4
Police & Fire	0	0	0	0	0	0	0	0
Total	1	1	2	4	1	1	2	4
Active Members with previous service segments with the employer								
General Service	2	0	N/A	2	2	0	N/A	2
Police & Fire	1	0	N/A	1	1	0	N/A	1
Total	3	0	N/A	3	3	0	N/A	3
Dormant Members								
General Service	1	1	0	2	1	1	0	2
Police & Fire	1	0	0	1	2	0	0	2
Total	2	1	0	3	3	1	0	4
Retired Members and Beneficiaries								
General Service	1	0	0	1	1	0	0	1
Police & Fire	2	1	0	3	2	1	0	3
Total	3	1	0	4	3	1	0	4
Grand Total Number of Members	**9**	**3**	**2**	**14**	**10**	**3**	**2**	**15**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54					1					1
55-59										
60-64				1						1
65-69										
70-74										
75+										
Total	0	0	0	1	1	0	0	0	0	2

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54	1	19
55-59		
60-64		
65-69		
70-74	1	183
75+	1	90
Total	3	97

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	2
60-64		
65-69	1	3
70-74	2	574
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	4	288

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Mid-Columbia Fire And Rescue V1-801/2877
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Mid-Columbia Fire And Rescue V1-801/2877

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Mid-Columbia Fire And Rescue V1-801 -- #2877

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Mid-Columbia Fire And Rescue V1-801 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Mid-Columbia Fire And Rescue V1-801.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Mid-Columbia Fire And Rescue V1-801

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.69%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.26%	0.26%	0.26%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.22%**	**9.55%**	**14.32%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.72%**	**9.98%**	**14.75%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 58%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.95%	16.95%
Minimum 2019-2021 Rate	13.56%	10.17%
Maximum 2019-2021 Rate	20.34%	23.73%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$0	$0	$0	0%	$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	4,351	7,233	2,882	60%	107,251	3%
12/31/2013	19,554	27,204	7,650	72%	1,870,603	0%
12/31/2014	34,897	55,997	21,100	62%	1,889,293	1%
12/31/2015	48,957	83,767	34,810	58%	2,246,752	2%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Mid-Columbia Fire And Rescue V1-801

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$34,810	$21,100
Allocated pooled OPSRP UAL	319,407	215,987
Side account	0	0
Net unfunded pension actuarial accrued liability	354,217	237,087
Combined valuation payroll	2,246,752	1,889,293
Net pension UAL as a percentage of payroll	16%	13%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$10,909	$15,017

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$15,285	$14,504
Tier 1/Tier 2 valuation payroll	91,562	86,106
Tier 1/Tier 2 pension normal cost rate	16.69%	16.84%
Tier 1/ Tier 2 Actuarial accrued liability	$83,767	$55,997
Actuarial asset value	48,957	34,897
Tier 1/Tier 2 Unfunded actuarial accrued liability	34,810	21,100
Tier 1/ Tier 2 Funded status	58%	62%
Combined valuation payroll	$2,246,752	$1,889,293
Tier 1/Tier 2 UAL as a percentage of payroll	2%	1%
Tier 1/Tier 2 UAL rate	0.26%	0.23%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,246,752	1,889,293
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$0	$0
2. Employer reserves	48,957	34,897
3. Benefits in force reserve	0	0
4. Total market value of assets *(1. + 2. + 3.)*	**$48,957**	**$34,897**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$34,897
2. Regular employer contributions	15,832
3. Benefit payments and expense	0
4. Adjustments [1]	(2,762)
5. Interest credited	991
6. Total transferred from side accounts	0
7. Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)*	**$48,957**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$15,285	$14,504
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$15,285**	**$14,504**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$15,285	$15,285	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$83,767	$55,997
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$83,767**	**$55,997**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$83,767**	**$55,997**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$83,767	$83,767	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$83,767	$55,997
2. Actuarial value of assets	48,957	34,897
3. Unfunded accrued liability *(1. – 2.)*	34,810	21,100
4. Funded percentage *(2. ÷ 1.)*	58%	62%
5. Combined valuation payroll	$2,246,752	$1,889,293
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	2%	1%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$7,666	$574	$552	$7,644	$594
December 31, 2015	N/A	N/A	N/A	$27,166	$1,966
Total				**$34,810**	**$2,560**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$55,997
b. Normal cost at December 31, 2014 (excluding assumed expenses)	13,874
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	4,720
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	74,591
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	74,591
2. Actuarial accrued liability at December 31, 2015	83,767
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(9,176)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	34,897
b. Contributions for 2015[1]	15,832
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	3,211
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	53,939
5. Actuarial value of assets at December 31, 2015	48,957
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(4,982)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($14,158)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$21,100**
2. Expected increase	(448)
3. Liability (gain)/loss	9,176
4. Asset (gain)/loss	4,982
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$34,810**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$15,285	$91,562	16.69%	$14,504	$86,106	16.84%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$15,285**	**$91,562**	**16.69%**	**$14,504**	**$86,106**	**16.84%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$34,810	$21,100
2. Next year's Tier 1/Tier 2 UAL payment	2,560	1,546
3. Combined valuation payroll	2,246,752	1,889,293
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.11%	0.08%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.69%	16.84%
b. Tier 1/Tier 2 UAL rate	0.11%	0.08%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	16.95%	17.07%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.98%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.98%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.80%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	58%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	6.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	7.98%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	19.98%
7.	July 1, 2017 total pension rate, before adjustment	16.95%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	0.00%
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	0.11%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.11%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.95%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.69%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.69%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.95%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.69%	16.84%
b. Tier 1/Tier 2 UAL rate	0.11%	0.08%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.95%	17.07%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$91,562	$91,562
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	91,562	91,562
OPSRP valuation payroll	59,472	2,095,718	2,155,190
Combined valuation payroll	**$59,472**	**$2,187,280**	**$2,246,752**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	1	1	0	0	1	1
Police & Fire	1	0	23	24	1	0	21	22
Total	1	0	24	25	1	0	22	23
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	1	1	0	0	0	0
Total	0	0	1	1	0	0	0	0
Grand Total Number of Members	**1**	**0**	**25**	**26**	**1**	**0**	**22**	**23**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49					1					**1**
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Millington Rural Fire Protection District/2782
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Millington Rural Fire Protection District/2782

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Millington Rural Fire Protection District -- #2782

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Millington Rural Fire Protection District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Millington Rural Fire Protection District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Millington Rural Fire Protection District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	22.51%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(14.04%)	(14.04%)	(14.04%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**9.74%**	**0.00%**	**0.02%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**10.24%**	**0.43%**	**0.45%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 122%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$246,303	$186,201	($60,102)	132%	$51,994	(116%)
12/31/2011	258,024	202,616	(55,408)	127%	51,989	(107%)
12/31/2012	298,900	214,629	(84,271)	139%	52,504	(161%)
12/31/2013	343,781	233,282	(110,499)	147%	53,819	(205%)
12/31/2014	371,916	290,282	(81,634)	128%	55,985	(146%)
12/31/2015	388,614	319,423	(69,191)	122%	58,225	(119%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Millington Rural Fire Protection District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($69,191)	($81,634)
Allocated pooled OPSRP UAL	8,277	6,400
Side account	0	0
Net unfunded pension actuarial accrued liability	(60,914)	(75,234)
Combined valuation payroll	58,225	55,985
Net pension UAL as a percentage of payroll	(105%)	(134%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$283	$445

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$13,105	$12,531
Tier 1/Tier 2 valuation payroll	58,225	55,985
Tier 1/Tier 2 pension normal cost rate	22.51%	22.38%
Tier 1/ Tier 2 Actuarial accrued liability	$319,423	$290,282
Actuarial asset value	388,614	371,916
Tier 1/Tier 2 Unfunded actuarial accrued liability	(69,191)	(81,634)
Tier 1/ Tier 2 Funded status	122%	128%
Combined valuation payroll	$58,225	$55,985
Tier 1/Tier 2 UAL as a percentage of payroll	(119%)	(146%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(14.04%)	(13.91%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	58,225	55,985
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$100,097	$91,953
2. Employer reserves	288,517	279,963
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**$388,614**	**$371,916**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$371,916
2. Regular employer contributions	3,037
3. Benefit payments and expense	0
4. Adjustments [1]	1,360
5. Interest credited	12,301
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$388,614**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$13,105	$12,531
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$13,105**	**$12,531**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$13,105	$13,105	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$319,423	$290,282
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$319,423**	**$290,282**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$319,423**	**$290,282**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$319,423	$319,423	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$319,423	$290,282
2. Actuarial value of assets	388,614	371,916
3. Unfunded accrued liability *(1. – 2.)*	(69,191)	(81,634)
4. Funded percentage *(2. ÷ 1.)*	122%	128%
5. Combined valuation payroll	$58,225	$55,985
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(119%)	(146%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($110,735)	($8,295)	($7,974)	($110,414)	($8,585)
December 31, 2015	N/A	N/A	N/A	$41,223	$2,983
Total				**($69,191)**	**($5,602)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$290,282
b. Normal cost at December 31, 2014 (excluding assumed expenses)	11,987
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	22,221
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	324,490
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	324,490
2. Actuarial accrued liability at December 31, 2015	319,423
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	5,067
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	371,916
b. Contributions for 2015[1]	3,037
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	28,008
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	402,961
5. Actuarial value of assets at December 31, 2015	388,614
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(14,346)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($9,279)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($81,634)**
2. Expected increase	3,164
3. Liability (gain)/loss	(5,067)
4. Asset (gain)/loss	14,346
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($69,191)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$13,105	$58,225	22.51%	$12,531	$55,985	22.38%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$13,105**	**$58,225**	**22.51%**	**$12,531**	**$55,985**	**22.38%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($69,191)	($81,634)
2. Next year's Tier 1/Tier 2 UAL payment	(5,602)	(6,189)
3. Combined valuation payroll	58,225	55,985
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(9.62%)	(11.05%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	22.51%	22.38%
b. Tier 1/Tier 2 UAL rate	(9.62%)	(11.05%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	13.04%	11.48%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	5.47%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.47%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	1.09%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	122%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	2.47%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	8.47%
7. July 1, 2017 total pension rate, before adjustment	13.04%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(4.57%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(9.62%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(14.19%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	8.47%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	22.51%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	22.51%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	8.47%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	22.51%	22.38%
b. Tier 1/Tier 2 UAL rate	(14.19%)	(14.06%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	8.47%	8.47%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$58,225	$58,225
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	58,225	58,225
OPSRP valuation payroll	0	0	0
Combined valuation payroll	**$0**	**$58,225**	**$58,225**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	1	0	0	1	1	0	0	1
Total	1	0	0	1	1	0	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**1**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59					1					**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Molalla/2290
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Molalla/2290

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Molalla/2290

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Molalla -- #2290

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Molalla to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Molalla.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Molalla

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	15.10%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(1.68%)	(1.68%)	(1.68%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**14.69%**	**7.61%**	**12.38%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**15.19%**	**8.04%**	**12.81%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 95%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	13.42%	13.42%
Minimum 2019-2021 Rate	10.42%	7.42%
Maximum 2019-2021 Rate	16.42%	19.42%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$11,077,946	$11,043,166	($34,780)	100%	$2,775,435	(1%)
12/31/2011	11,117,542	11,296,702	179,160	98%	2,470,181	7%
12/31/2012	12,478,336	11,761,394	(716,942)	106%	2,512,747	(29%)
12/31/2013	13,875,421	12,370,284	(1,505,137)	112%	2,645,923	(57%)
12/31/2014	13,818,056	13,985,983	167,927	99%	2,562,585	7%
12/31/2015	12,644,969	13,254,903	609,934	95%	2,667,019	23%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Molalla

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$609,934	$167,927
Allocated pooled OPSRP UAL	379,154	292,959
Side account	0	0
Net unfunded pension actuarial accrued liability	989,088	460,886
Combined valuation payroll	2,667,019	2,562,585
Net pension UAL as a percentage of payroll	37%	18%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$12,950	$20,369

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$174,938	$234,673
Tier 1/Tier 2 valuation payroll	1,158,898	1,365,405
Tier 1/Tier 2 pension normal cost rate	15.10%	17.19%
Tier 1/ Tier 2 Actuarial accrued liability	$13,254,903	$13,985,983
Actuarial asset value	12,644,969	13,818,056
Tier 1/Tier 2 Unfunded actuarial accrued liability	609,934	167,927
Tier 1/ Tier 2 Funded status	95%	99%
Combined valuation payroll	$2,667,019	$2,562,585
Tier 1/Tier 2 UAL as a percentage of payroll	23%	7%
Tier 1/Tier 2 UAL rate	(1.68%)	(3.77%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	14	17
Tier 1/Tier 2 dormant members	21	19
Tier 1/Tier 2 retirees and beneficiaries	41	38

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,667,019	2,562,585
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,480,188	$2,236,979
2. Employer reserves	7,860,162	8,414,111
3. Benefits in force reserve	3,304,619	3,166,966
4. Total market value of assets ***(1. + 2. + 3.)***	**$12,644,969**	**$13,818,056**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$13,818,056
2. Regular employer contributions	60,102
3. Benefit payments and expense	(600,949)
4. Adjustments [1]	(938,932)
5. Interest credited	306,692
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$12,644,969**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	29,574	79,274
Tier 2 Police & Fire	96,864	100,307
Tier 2 General Service	48,500	55,092
Total	**$174,938**	**$234,673**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$174,938	$174,938	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$267,875	$251,786
▪ Tier 1 General Service	548,615	2,141,612
▪ Tier 2 Police & Fire	1,963,348	1,885,013
▪ Tier 2 General Service	1,170,126	1,103,910
▪ **Total Active Members**	**$3,949,964**	**$5,382,321**
Dormant Members	2,169,635	2,459,827
Retired Members and Beneficiaries	7,135,304	6,143,835
Total Actuarial Accrued Liability	**$13,254,903**	**$13,985,983**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$13,254,903	$13,254,903	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$13,254,903	$13,985,983
2. Actuarial value of assets	12,644,969	13,818,056
3. Unfunded accrued liability *(1. – 2.)*	609,934	167,927
4. Funded percentage *(2. ÷ 1.)*	95%	99%
5. Combined valuation payroll	$2,667,019	$2,562,585
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	23%	7%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($1,508,348)	($112,985)	($108,612)	($1,503,975)	($116,941)
December 31, 2015	N/A	N/A	N/A	$2,113,909	$152,960
Total				**$609,934**	**$36,019**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$13,985,983
b. Normal cost at December 31, 2014 (excluding assumed expenses)	224,534
c. Benefit payments during 2015	(596,307)
d. Interest at 7.50% to December 31, 2015	1,035,007
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	14,649,217
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	14,649,217
2. Actuarial accrued liability at December 31, 2015	13,254,903
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	1,394,314
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	13,818,056
b. Contributions for 2015[1]	60,102
c. Benefit payments and expenses during 2015	(600,949)
d. Interest at 7.50% to December 31, 2015	1,016,072
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	14,293,281
5. Actuarial value of assets at December 31, 2015	12,644,969
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(1,648,312)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($253,998)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$167,927**
2. Expected increase	188,009
3. Liability (gain)/loss	(1,394,314)
4. Asset (gain)/loss	1,648,312
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$609,934**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	29,574	178,336	16.58%	79,274	303,111	26.15%
Tier 2 Police & Fire	96,864	570,275	16.99%	100,307	595,987	16.83%
Tier 2 General Service	48,500	410,287	11.82%	55,092	466,307	11.81%
Total	**$174,938**	**$1,158,898**	**15.10%**	**$234,673**	**$1,365,405**	**17.19%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$609,934	$167,927
2. Next year's Tier 1/Tier 2 UAL payment	36,019	8,308
3. Combined valuation payroll	2,667,019	2,562,585
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	1.35%	0.32%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.10%	17.19%
b. Tier 1/Tier 2 UAL rate	1.35%	0.32%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	16.60%	17.66%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	10.42%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	10.42%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	2.08%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	95%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	7.42%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	13.42%
7. July 1, 2017 total pension rate, before adjustment	16.60%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(3.18%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	1.35%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(1.83%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	13.42%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	15.10%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	15.10%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	13.42%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.10%	17.19%
b. Tier 1/Tier 2 UAL rate	(1.83%)	(3.92%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	13.42%	13.42%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$178,336	$0	$178,336
Tier 2	410,287	570,275	980,562
Tier 1/Tier 2 valuation payroll	588,623	570,275	1,158,898
OPSRP valuation payroll	1,089,074	419,047	1,508,121
Combined valuation payroll	**$1,677,697**	**$989,322**	**$2,667,019**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	6	21	29	4	7	18	29
Police & Fire	0	6	5	11	0	6	4	10
Total	2	12	26	40	4	13	22	39
Active Members with previous service segments with the employer								
General Service	3	2	N/A	5	5	1	N/A	6
Police & Fire	2	2	N/A	4	2	2	N/A	4
Total	5	4	N/A	9	7	3	N/A	10
Dormant Members								
General Service	9	9	5	23	7	8	4	19
Police & Fire	3	0	0	3	4	0	0	4
Total	12	9	5	26	11	8	4	23
Retired Members and Beneficiaries								
General Service	23	6	0	29	22	6	0	28
Police & Fire	6	6	0	12	7	3	0	10
Total	29	12	0	41	29	9	0	38
Grand Total Number of Members	**48**	**37**	**31**	**116**	**51**	**33**	**26**	**110**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			2							**2**
40-44			3	3						**6**
45-49				1						**1**
50-54			1				1			**2**
55-59				2		1				**3**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**6**	**6**	**0**	**1**	**1**	**0**	**0**	**14**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34	1	19
35-39		
40-44	2	550
45-49	3	2,294
50-54	3	1,602
55-59	4	738
60-64	6	396
65-69	1	105
70-74	1	419
75+		
Total	21	888

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	1	2,788
55-59	1	1,266
60-64	10	1,149
65-69	11	1,055
70-74	9	1,050
75-79	8	1,056
80-84	1	1,275
85-89		
90-94		
95-99		
100+		
Total	41	1,130

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Mt Angel/2174
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Mt Angel/2174

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Mt Angel -- #2174

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Mt Angel to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Mt Angel.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Mt Angel

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	15.84%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(3.30%)	(3.30%)	(3.30%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**13.81%**	**5.99%**	**10.76%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**14.31%**	**6.42%**	**11.19%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 85%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	12.54%	12.54%
Minimum 2019-2021 Rate	9.54%	6.54%
Maximum 2019-2021 Rate	15.54%	18.54%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$4,098,119	$3,915,133	($182,986)	105%	$634,125	(29%)
12/31/2011	4,075,365	4,266,957	191,592	96%	814,389	24%
12/31/2012	4,514,828	4,265,668	(249,160)	106%	895,751	(28%)
12/31/2013	4,963,410	4,530,814	(432,596)	110%	938,325	(46%)
12/31/2014	4,822,582	5,419,613	597,031	89%	796,573	75%
12/31/2015	4,741,713	5,588,943	847,230	85%	760,161	111%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Mt Angel

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$847,230	$597,031
Allocated pooled OPSRP UAL	108,067	91,066
Side account	0	0
Net unfunded pension actuarial accrued liability	955,297	688,097
Combined valuation payroll	760,161	796,573
Net pension UAL as a percentage of payroll	126%	86%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$3,691	$6,332

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$60,274	$59,977
Tier 1/Tier 2 valuation payroll	380,419	379,621
Tier 1/Tier 2 pension normal cost rate	15.84%	15.80%
Tier 1/ Tier 2 Actuarial accrued liability	$5,588,943	$5,419,613
Actuarial asset value	4,741,713	4,822,582
Tier 1/Tier 2 Unfunded actuarial accrued liability	847,230	597,031
Tier 1/ Tier 2 Funded status	85%	89%
Combined valuation payroll	$760,161	$796,573
Tier 1/Tier 2 UAL as a percentage of payroll	111%	75%
Tier 1/Tier 2 UAL rate	(3.30%)	(3.26%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	5	5
Tier 1/Tier 2 dormant members	17	19
Tier 1/Tier 2 retirees and beneficiaries	66	62

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	760,161	796,573
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$626,933	$591,487
2. Employer reserves	2,588,538	2,532,072
3. Benefits in force reserve	1,526,242	1,699,023
4. Total market value of assets ***(1. + 2. + 3.)***	**$4,741,713**	**$4,822,582**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$4,822,582
2.	Regular employer contributions	18,231
3.	Benefit payments and expense	(277,549)
4.	Adjustments [1]	72,852
5.	Interest credited	105,597
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$4,741,713**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	15,309	14,727
Tier 2 Police & Fire	16,273	16,563
Tier 2 General Service	28,692	28,687
Total	**$60,274**	**$59,977**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$60,274	$60,274	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$309,314	$308,308
▪ Tier 1 General Service	588,591	546,378
▪ Tier 2 Police & Fire	575,771	541,643
▪ Tier 2 General Service	637,953	556,701
▪ **Total Active Members**	**$2,111,629**	**$1,953,030**
Dormant Members	181,866	170,519
Retired Members and Beneficiaries	3,295,448	3,296,064
Total Actuarial Accrued Liability	**$5,588,943**	**$5,419,613**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$5,588,943	$5,588,943	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$5,588,943	$5,419,613
2. Actuarial value of assets	4,741,713	4,822,582
3. Unfunded accrued liability *(1. – 2.)*	847,230	597,031
4. Funded percentage *(2. ÷ 1.)*	85%	89%
5. Combined valuation payroll	$760,161	$796,573
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	111%	75%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($433,519)	($32,473)	($31,217)	($432,263)	($33,610)
December 31, 2015	N/A	N/A	N/A	$1,279,493	$92,583
Total				**$847,230**	**$58,973**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$5,419,613
b. Normal cost at December 31, 2014 (excluding assumed expenses)	57,376
c. Benefit payments during 2015	(275,405)
d. Interest at 7.50% to December 31, 2015	398,295
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	5,599,879
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	5,599,879
2. Actuarial accrued liability at December 31, 2015	5,588,943
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	10,936
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4,822,582
b. Contributions for 2015[1]	18,231
c. Benefit payments and expenses during 2015	(277,549)
d. Interest at 7.50% to December 31, 2015	351,969
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	4,915,234
5. Actuarial value of assets at December 31, 2015	4,741,713
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(173,520)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($162,584)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$597,031**
2. Expected increase	87,615
3. Liability (gain)/loss	(10,936)
4. Asset (gain)/loss	173,520
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$847,230**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	15,309	76,750	19.95%	14,727	75,402	19.53%
Tier 2 Police & Fire	16,273	83,976	19.38%	16,563	86,194	19.22%
Tier 2 General Service	28,692	219,693	13.06%	28,687	218,025	13.16%
Total	**$60,274**	**$380,419**	**15.84%**	**$59,977**	**$379,621**	**15.80%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$847,230	$597,031
2. Next year's Tier 1/Tier 2 UAL payment	58,973	42,096
3. Combined valuation payroll	760,161	796,573
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	7.76%	5.28%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.84%	15.80%
b. Tier 1/Tier 2 UAL rate	7.76%	5.28%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	23.75%	21.23%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	9.54%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	9.54%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.91%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	85%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	6.54%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	12.54%
7.	July 1, 2017 total pension rate, before adjustment	23.75%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(11.21%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	7.76%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(3.45%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	12.54%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	15.84%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	15.84%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	12.54%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	15.84%	15.80%
b. Tier 1/Tier 2 UAL rate	(3.45%)	(3.41%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	12.54%	12.54%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$76,750	$0	$76,750
Tier 2	219,693	83,976	303,669
Tier 1/Tier 2 valuation payroll	296,443	83,976	380,419
OPSRP valuation payroll	219,460	160,282	379,742
Combined valuation payroll	**$515,903**	**$244,258**	**$760,161**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	3	6	10	1	3	5	9
Police & Fire	0	1	3	4	0	1	5	6
Total	1	4	9	14	1	4	10	15
Active Members with previous service segments with the employer								
General Service	12	12	N/A	24	12	13	N/A	25
Police & Fire	30	33	N/A	63	29	34	N/A	63
Total	42	45	N/A	87	41	47	N/A	88
Dormant Members								
General Service	5	3	1	9	6	3	2	11
Police & Fire	6	3	0	9	8	2	0	10
Total	11	6	1	18	14	5	2	21
Retired Members and Beneficiaries								
General Service	22	2	0	24	22	1	0	23
Police & Fire	37	5	0	42	36	3	0	39
Total	59	7	0	66	58	4	0	62
Grand Total Number of Members	**113**	**62**	**10**	**185**	**114**	**60**	**12**	**186**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1	1						**2**
45-49										
50-54										
55-59			1	1						**2**
60-64						1				**1**
65-69										
70-74										
75+										
Total	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**5**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34	1	0
35-39	1	3
40-44	1	217
45-49		
50-54	5	1
55-59	2	4
60-64	4	210
65-69	2	965
70-74		
75+	1	628
Total	17	214

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	4	1
45-49	1	0
50-54	5	2
55-59	9	204
60-64	17	207
65-69	10	597
70-74	11	521
75-79	6	282
80-84	3	1,176
85-89		
90-94		
95-99		
100+		
Total	66	338

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Mt Angel Fire District/2861
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Mt Angel Fire District/2861

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Mt Angel Fire District -- #2861

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Mt Angel Fire District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Mt Angel Fire District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Mt Angel Fire District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.61%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(3.47%)	(3.47%)	(3.47%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**16.41%**	**5.82%**	**10.59%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.91%**	**6.25%**	**11.02%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 81%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.14%	15.14%
Minimum 2019-2021 Rate	12.11%	9.08%
Maximum 2019-2021 Rate	18.17%	21.20%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$7,032	$0	($7,032)	0%	$24,423	(29%)
12/31/2011	6,360	0	(6,360)	100%	24,660	(26%)
12/31/2012	7,147	0	(7,147)	0%	15,167	(47%)
12/31/2013	7,909	1,744	(6,165)	453%	30,273	(20%)
12/31/2014	8,867	7,355	(1,512)	121%	63,558	(2%)
12/31/2015	10,084	12,500	2,416	81%	67,239	4%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Mt Angel Fire District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$2,416	($1,512)
Allocated pooled OPSRP UAL	9,559	7,266
Side account	0	0
Net unfunded pension actuarial accrued liability	11,975	5,754
Combined valuation payroll	67,239	63,558
Net pension UAL as a percentage of payroll	18%	9%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$326	$505

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$5,752	$5,658
Tier 1/Tier 2 valuation payroll	30,900	30,557
Tier 1/Tier 2 pension normal cost rate	18.61%	18.52%
Tier 1/ Tier 2 Actuarial accrued liability	$12,500	$7,355
Actuarial asset value	10,084	8,867
Tier 1/Tier 2 Unfunded actuarial accrued liability	2,416	(1,512)
Tier 1/ Tier 2 Funded status	81%	121%
Combined valuation payroll	$67,239	$63,558
Tier 1/Tier 2 UAL as a percentage of payroll	4%	(2%)
Tier 1/Tier 2 UAL rate	(3.47%)	(3.38%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	67,239	63,558
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$0	$0
2. Employer reserves	10,084	8,867
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**$10,084**	**$8,867**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$8,867
2. Regular employer contributions	1,105
3. Benefit payments and expense	0
4. Adjustments [1]	(77)
5. Interest credited	188
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$10,084**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	5,752	5,658
Tier 2 General Service	0	0
Total	**$5,752**	**$5,658**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$5,752	$5,752	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	12,500	7,355
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$12,500**	**$7,355**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$12,500**	**$7,355**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$12,500	$12,500	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$12,500	$7,355
2. Actuarial value of assets	10,084	8,867
3. Unfunded accrued liability *(1. – 2.)*	2,416	(1,512)
4. Funded percentage *(2. ÷ 1.)*	81%	121%
5. Combined valuation payroll	$67,239	$63,558
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	4%	(2%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($6,178)	($463)	($445)	($6,160)	($479)
December 31, 2015	N/A	N/A	N/A	$8,576	$621
Total				**$2,416**	**$142**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$7,355
b. Normal cost at December 31, 2014 (excluding assumed expenses)	5,658
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	764
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	13,777
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	13,777
2. Actuarial accrued liability at December 31, 2015	12,500
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	1,277
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	8,867
b. Contributions for 2015[1]	1,105
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	706
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	10,679
5. Actuarial value of assets at December 31, 2015	10,084
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(595)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**$682**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($1,512)**
2. Expected increase	4,610
3. Liability (gain)/loss	(1,277)
4. Asset (gain)/loss	595
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$2,416**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	5,752	30,900	18.61%	5,658	30,557	18.52%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$5,752**	**$30,900**	**18.61%**	**$5,658**	**$30,557**	**18.52%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$2,416	($1,512)
2. Next year's Tier 1/Tier 2 UAL payment	142	(125)
3. Combined valuation payroll	67,239	63,558
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.21%	(0.20%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.61%	18.52%
b. Tier 1/Tier 2 UAL rate	0.21%	(0.20%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	18.97%	18.47%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	12.14%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.14%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.43%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	81%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.14%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.14%
7.	July 1, 2017 total pension rate, before adjustment	18.97%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(3.83%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	0.21%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(3.62%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.14%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	18.61%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.61%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.14%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.61%	18.52%
b. Tier 1/Tier 2 UAL rate	(3.62%)	(3.53%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.14%	15.14%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	30,900	30,900
Tier 1/Tier 2 valuation payroll	0	30,900	30,900
OPSRP valuation payroll	36,339	0	36,339
Combined valuation payroll	**$36,339**	**$30,900**	**$67,239**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	1	N/A	1	0	1	N/A	1
Total	0	1	N/A	1	0	1	N/A	1
Dormant Members								
General Service	0	0	1	1	0	0	1	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**0**	**1**	**2**	**3**	**0**	**1**	**2**	**3**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Nehalem Bay Wastewater Agency/2724
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Nehalem Bay Wastewater Agency/2724

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Nehalem Bay Wastewater Agency -- #2724

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Nehalem Bay Wastewater Agency to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Nehalem Bay Wastewater Agency.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Nehalem Bay Wastewater Agency

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.65%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(5.24%)	(5.24%)	(5.24%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.68%**	**4.05%**	**8.82%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.18%**	**4.48%**	**9.25%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 90%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.41%	11.41%
Minimum 2019-2021 Rate	8.41%	5.41%
Maximum 2019-2021 Rate	14.41%	17.41%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,376,367	$1,506,536	$130,169	91%	$243,310	54%
12/31/2011	1,373,769	1,556,184	182,415	88%	289,012	63%
12/31/2012	1,530,538	1,473,807	(56,731)	104%	328,849	(17%)
12/31/2013	1,718,009	1,554,879	(163,130)	110%	349,854	(47%)
12/31/2014	1,791,852	1,869,020	77,168	96%	374,854	21%
12/31/2015	1,790,526	1,982,332	191,806	90%	337,025	57%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Nehalem Bay Wastewater Agency

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$191,806	$77,168
Allocated pooled OPSRP UAL	47,913	42,854
Side account	0	0
Net unfunded pension actuarial accrued liability	239,719	120,022
Combined valuation payroll	337,025	374,854
Net pension UAL as a percentage of payroll	71%	32%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,636	$2,980

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$26,861	$25,815
Tier 1/Tier 2 valuation payroll	161,335	151,265
Tier 1/Tier 2 pension normal cost rate	16.65%	17.07%
Tier 1/ Tier 2 Actuarial accrued liability	$1,982,332	$1,869,020
Actuarial asset value	1,790,526	1,791,852
Tier 1/Tier 2 Unfunded actuarial accrued liability	191,806	77,168
Tier 1/ Tier 2 Funded status	90%	96%
Combined valuation payroll	$337,025	$374,854
Tier 1/Tier 2 UAL as a percentage of payroll	57%	21%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(5.24%)	(5.66%)
Tier 1/Tier 2 active members [1]	2	2
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	5	5

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	337,025	374,854
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$302,422	$277,817
2. Employer reserves	976,557	947,919
3. Benefits in force reserve	511,546	566,117
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,790,526**	**$1,791,852**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$1,791,852
2.	Regular employer contributions	10,196
3.	Benefit payments and expense	(93,025)
4.	Adjustments [1]	33,133
5.	Interest credited	48,370
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,790,526**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	26,861	25,815
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$26,861**	**$25,815**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$26,861	$26,861	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	877,806	770,768
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$877,806**	**$770,768**
Dormant Members	0	0
Retired Members and Beneficiaries	1,104,526	1,098,252
Total Actuarial Accrued Liability	**$1,982,332**	**$1,869,020**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$1,982,332	$1,982,332	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,982,332	$1,869,020
2. Actuarial value of assets	1,790,526	1,791,852
3. Unfunded accrued liability *(1. – 2.)*	191,806	77,168
4. Funded percentage *(2. ÷ 1.)*	90%	96%
5. Combined valuation payroll	$337,025	$374,854
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	57%	21%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($163,478)	($12,246)	($11,772)	($163,004)	($12,674)
December 31, 2015	N/A	N/A	N/A	$354,810	$25,674
Total				**$191,806**	**$13,000**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,869,020
b. Normal cost at December 31, 2014 (excluding assumed expenses)	24,694
c. Benefit payments during 2015	(92,307)
d. Interest at 7.50% to December 31, 2015	137,641
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,939,048
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,939,048
2. Actuarial accrued liability at December 31, 2015	1,982,332
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(43,284)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,791,852
b. Contributions for 2015[1]	10,196
c. Benefit payments and expenses during 2015	(93,025)
d. Interest at 7.50% to December 31, 2015	131,283
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,840,306
5. Actuarial value of assets at December 31, 2015	1,790,526
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(49,780)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($93,064)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$77,168**
2. Expected increase	21,574
3. Liability (gain)/loss	43,284
4. Asset (gain)/loss	49,780
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$191,806**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	26,861	161,335	16.65%	25,815	151,265	17.07%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$26,861**	**$161,335**	**16.65%**	**$25,815**	**$151,265**	**17.07%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$191,806	$77,168
2. Next year's Tier 1/Tier 2 UAL payment	13,000	5,167
3. Combined valuation payroll	337,025	374,854
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	3.86%	1.38%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.65%	17.07%
b. Tier 1/Tier 2 UAL rate	3.86%	1.38%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	20.66%	18.60%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.41%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.41%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.68%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	90%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.41%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.41%
7.	July 1, 2017 total pension rate, before adjustment	20.66%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(9.25%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	3.86%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(5.39%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.41%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.65%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.65%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.41%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.65%	17.07%
b. Tier 1/Tier 2 UAL rate	(5.39%)	(5.81%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.41%	11.41%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$161,335	$0	$161,335
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	161,335	0	161,335
OPSRP valuation payroll	175,690	0	175,690
Combined valuation payroll	**$337,025**	**$0**	**$337,025**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	0	3	5	2	0	4	6
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	3	5	2	0	4	6
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	1	1	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0
Retired Members and Beneficiaries								
General Service	5	0	0	5	5	0	0	5
Police & Fire	0	0	0	0	0	0	0	0
Total	5	0	0	5	5	0	0	5
Grand Total Number of Members	**7**	**0**	**4**	**11**	**7**	**0**	**4**	**11**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54						1				**1**
55-59						1				**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	1,739
65-69	2	1,842
70-74	2	742
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	5	1,381

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Neskowin Regional Sanitary Authority/2740
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Neskowin Regional Sanitary Authority/2740

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Neskowin Regional Sanitary Authority -- #2740

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Neskowin Regional Sanitary Authority to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Neskowin Regional Sanitary Authority.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Neskowin Regional Sanitary Authority

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.52%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(2.49%)	(2.49%)	(2.49%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.30%**	**6.80%**	**11.57%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**12.80%**	**7.23%**	**12.00%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 134%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.03%	11.03%
Minimum 2019-2021 Rate	8.03%	5.03%
Maximum 2019-2021 Rate	14.03%	17.03%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$183,374	$129,211	($54,163)	142%	$167,047	(32%)
12/31/2011	188,492	141,097	(47,395)	134%	171,129	(28%)
12/31/2012	215,562	162,032	(53,530)	133%	178,643	(30%)
12/31/2013	246,337	176,503	(69,834)	140%	183,027	(38%)
12/31/2014	258,803	192,267	(66,536)	135%	188,956	(35%)
12/31/2015	260,184	194,052	(66,132)	134%	195,204	(34%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Neskowin Regional Sanitary Authority

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($66,132)	($66,536)
Allocated pooled OPSRP UAL	27,751	21,602
Side account	0	0
Net unfunded pension actuarial accrued liability	(38,381)	(44,934)
Combined valuation payroll	195,204	188,956
Net pension UAL as a percentage of payroll	(20%)	(24%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$948	$1,502

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$7,512	$7,292
Tier 1/Tier 2 valuation payroll	55,563	54,225
Tier 1/Tier 2 pension normal cost rate	13.52%	13.45%
Tier 1/ Tier 2 Actuarial accrued liability	$194,052	$192,267
Actuarial asset value	260,184	258,803
Tier 1/Tier 2 Unfunded actuarial accrued liability	(66,132)	(66,536)
Tier 1/ Tier 2 Funded status	134%	135%
Combined valuation payroll	$195,204	$188,956
Tier 1/Tier 2 UAL as a percentage of payroll	(34%)	(35%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(2.49%)	(2.49%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	1	2
Tier 1/Tier 2 retirees and beneficiaries	2	2

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	195,204	188,956
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$22,103	$22,418
2. Employer reserves	224,870	221,673
3. Benefits in force reserve	13,211	14,712
4. Total market value of assets ***(1. + 2. + 3.)***	**$260,184**	**$258,803**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$258,803
2.	Regular employer contributions	(764)
3.	Benefit payments and expense	(2,403)
4.	Adjustments [1]	(958)
5.	Interest credited	5,504
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$260,184**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	7,512	7,292
Total	**$7,512**	**$7,292**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$7,512	$7,512	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	131,679	118,037
▪ **Total Active Members**	**$131,679**	**$118,037**
Dormant Members	33,847	45,688
Retired Members and Beneficiaries	28,526	28,542
Total Actuarial Accrued Liability	**$194,052**	**$192,267**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$194,052	$194,052	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$194,052	$192,267
2. Actuarial value of assets	260,184	258,803
3. Unfunded accrued liability *(1. – 2.)*	(66,132)	(66,536)
4. Funded percentage *(2. ÷ 1.)*	134%	135%
5. Combined valuation payroll	$195,204	$188,956
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(34%)	(35%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($69,983)	($5,242)	($5,039)	($69,780)	($5,426)
December 31, 2015	N/A	N/A	N/A	$3,648	$264
Total				**($66,132)**	**($5,162)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$192,267
b. Normal cost at December 31, 2014 (excluding assumed expenses)	6,975
c. Benefit payments during 2015	(2,384)
d. Interest at 7.50% to December 31, 2015	14,592
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	211,450
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	211,450
2. Actuarial accrued liability at December 31, 2015	194,052
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	17,398
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	258,803
b. Contributions for 2015[1]	(764)
c. Benefit payments and expenses during 2015	(2,403)
d. Interest at 7.50% to December 31, 2015	19,292
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	274,929
5. Actuarial value of assets at December 31, 2015	260,184
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(14,745)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**$2,653**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($66,536)**
2. Expected increase	3,057
3. Liability (gain)/loss	(17,398)
4. Asset (gain)/loss	14,745
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($66,132)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	7,512	55,563	13.52%	7,292	54,225	13.45%
Total	**$7,512**	**$55,563**	**13.52%**	**$7,292**	**$54,225**	**13.45%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($66,132)	($66,536)
2. Next year's Tier 1/Tier 2 UAL payment	(5,162)	(4,993)
3. Combined valuation payroll	195,204	188,956
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(2.64%)	(2.64%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.52%	13.45%
b. Tier 1/Tier 2 UAL rate	(2.64%)	(2.64%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	11.03%	10.96%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.66%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.66%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.73%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	134%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	4.20%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	4.46%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	12.86%
7.	July 1, 2017 total pension rate, before adjustment	11.03%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	0.00%
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(2.64%)
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(2.64%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.03%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.52%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.52%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.03%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.52%	13.45%
b. Tier 1/Tier 2 UAL rate	(2.64%)	(2.64%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.03%	10.96%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	55,563	0	55,563
Tier 1/Tier 2 valuation payroll	55,563	0	55,563
OPSRP valuation payroll	139,641	0	139,641
Combined valuation payroll	**$195,204**	**$0**	**$195,204**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	3	4	0	1	3	4
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	3	4	0	1	3	4
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	1	0	0	1	1	1	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	1	0	2
Retired Members and Beneficiaries								
General Service	2	0	0	2	2	0	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	2	0	0	2	2	0	0	2
Grand Total Number of Members	**3**	**1**	**3**	**7**	**3**	**2**	**3**	**8**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64			1							**1**
65-69										
70-74										
75+										
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59	1	205
60-64		
65-69		
70-74		
75+		
Total	1	205

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	147
65-69		
70-74		
75-79	1	45
80-84		
85-89		
90-94		
95-99		
100+		
Total	2	96

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

North Clackamas County Water Commission/2835
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
North Clackamas County Water Commission/2835

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

North Clackamas County Water Commission -- #2835

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for North Clackamas County Water Commission to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to North Clackamas County Water Commission.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for North Clackamas County Water Commission

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	14.47%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.04%)	(0.04%)	(0.04%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**15.70%**	**9.25%**	**14.02%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.20%**	**9.68%**	**14.45%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 65%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.43%	14.43%
Minimum 2019-2021 Rate	11.43%	8.43%
Maximum 2019-2021 Rate	17.43%	20.43%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$246,229	$297,902	$51,673	83%	$277,048	19%
12/31/2011	267,657	344,501	76,844	78%	232,626	33%
12/31/2012	324,353	435,475	111,122	74%	245,417	45%
12/31/2013	390,977	483,852	92,875	81%	242,904	38%
12/31/2014	434,442	612,972	178,530	71%	208,423	86%
12/31/2015	458,420	707,381	248,961	65%	256,006	97%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

North Clackamas County Water Commission

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$248,961	$178,530
Allocated pooled OPSRP UAL	36,395	23,827
Side account	0	0
Net unfunded pension actuarial accrued liability	285,356	202,357
Combined valuation payroll	256,006	208,423
Net pension UAL as a percentage of payroll	111%	97%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,243	$1,657

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$25,618	$46,754
Tier 1/Tier 2 valuation payroll	177,052	208,423
Tier 1/Tier 2 pension normal cost rate	14.47%	22.43%
Tier 1/ Tier 2 Actuarial accrued liability	$707,381	$612,972
Actuarial asset value	458,420	434,442
Tier 1/Tier 2 Unfunded actuarial accrued liability	248,961	178,530
Tier 1/ Tier 2 Funded status	65%	71%
Combined valuation payroll	$256,006	$208,423
Tier 1/Tier 2 UAL as a percentage of payroll	97%	86%
Tier 1/Tier 2 UAL rate	(0.04%)	(9.50%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	2	3
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	256,006	208,423
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$91,167	$85,818
2. Employer reserves	367,253	348,624
3. Benefits in force reserve	0	0
4. Total market value of assets *(1. + 2. + 3.)*	**$458,420**	**$434,442**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$434,442
2.	Regular employer contributions	11,815
3.	Benefit payments and expense	0
4.	Adjustments [1]	1,073
5.	Interest credited	11,090
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)***	**$458,420**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	12,389	33,934
Tier 2 Police & Fire	0	0
Tier 2 General Service	13,229	12,820
Total	**$25,618**	**$46,754**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$25,618	$25,618	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	392,817	331,356
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	283,873	253,337
▪ **Total Active Members**	**$676,690**	**$584,693**
Dormant Members	30,691	28,279
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$707,381**	**$612,972**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$707,381	$707,381	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$707,381	$612,972
2. Actuarial value of assets	458,420	434,442
3. Unfunded accrued liability *(1. – 2.)*	248,961	178,530
4. Funded percentage *(2. ÷ 1.)*	65%	71%
5. Combined valuation payroll	$256,006	$208,423
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	97%	86%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$93,073	$6,972	$6,702	$92,803	$7,216
December 31, 2015	N/A	N/A	N/A	$156,158	$11,299
Total				**$248,961**	**$18,515**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$612,972
b. Normal cost at December 31, 2014 (excluding assumed expenses)	44,725
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	47,650
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	705,347
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	705,347
2. Actuarial accrued liability at December 31, 2015	707,381
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(2,034)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	434,442
b. Contributions for 2015[1]	11,815
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	33,026
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	479,283
5. Actuarial value of assets at December 31, 2015	458,420
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(20,863)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($22,897)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$178,530**
2. Expected increase	47,534
3. Liability (gain)/loss	2,034
4. Asset (gain)/loss	20,863
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$248,961**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	12,389	81,265	15.25%	33,934	115,974	29.26%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	13,229	95,787	13.81%	12,820	92,449	13.87%
Total	**$25,618**	**$177,052**	**14.47%**	**$46,754**	**$208,423**	**22.43%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$248,961	$178,530
2. Next year's Tier 1/Tier 2 UAL payment	18,515	13,156
3. Combined valuation payroll	256,006	208,423
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	7.23%	6.31%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.47%	22.43%
b. Tier 1/Tier 2 UAL rate	7.23%	6.31%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	21.85%	28.89%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	9.93%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	9.93%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.99%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	65%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	4.50%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.43%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	14.43%
7.	July 1, 2017 total pension rate, before adjustment	21.85%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(7.42%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	7.23%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.19%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	14.43%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	14.47%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	14.47%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	14.43%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	14.47%	22.43%
b. Tier 1/Tier 2 UAL rate	(0.19%)	(9.65%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	14.43%	12.93%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$81,265	$0	$81,265
Tier 2	95,787	0	95,787
Tier 1/Tier 2 valuation payroll	177,052	0	177,052
OPSRP valuation payroll	78,954	0	78,954
Combined valuation payroll	**$256,006**	**$0**	**$256,006**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	1	1	3	2	1	0	3
Police & Fire	0	0	0	0	0	0	0	0
Total	1	1	1	3	2	1	0	3
Active Members with previous service segments with the employer								
General Service	1	1	N/A	2	0	1	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	1	N/A	2	0	1	N/A	1
Dormant Members								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**3**	**2**	**1**	**6**	**3**	**2**	**0**	**5**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49					1					1
50-54										
55-59				1						1
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54	1	257
55-59		
60-64		
65-69		
70-74		
75+		
Total	1	257

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Northeast Oregon Housing Authority/2637
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Northeast Oregon Housing Authority/2637

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Northeast Oregon Housing Authority -- #2637

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Northeast Oregon Housing Authority to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Northeast Oregon Housing Authority.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Northeast Oregon Housing Authority

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.51%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(4.94%)	(4.94%)	(4.94%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**13.84%**	**4.35%**	**9.12%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**14.34%**	**4.78%**	**9.55%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 75%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	12.57%	12.57%
Minimum 2019-2021 Rate	9.57%	6.57%
Maximum 2019-2021 Rate	15.57%	18.57%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$3,078,550	$3,121,528	$42,978	99%	$816,864	5%
12/31/2011	2,794,568	3,360,981	566,413	83%	683,194	83%
12/31/2012	3,107,972	3,364,806	256,834	92%	703,856	36%
12/31/2013	3,340,344	3,620,147	279,803	92%	727,538	38%
12/31/2014	3,341,768	4,103,295	761,527	81%	755,052	101%
12/31/2015	3,184,383	4,221,502	1,037,119	75%	808,227	128%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Northeast Oregon Housing Authority

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$1,037,119	$761,527
Allocated pooled OPSRP UAL	114,901	86,319
Side account	0	0
Net unfunded pension actuarial accrued liability	1,152,020	847,846
Combined valuation payroll	808,227	755,052
Net pension UAL as a percentage of payroll	143%	112%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$3,924	$6,002

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$46,517	$61,028
Tier 1/Tier 2 valuation payroll	265,699	319,659
Tier 1/Tier 2 pension normal cost rate	17.51%	19.09%
Tier 1/ Tier 2 Actuarial accrued liability	$4,221,502	$4,103,295
Actuarial asset value	3,184,383	3,341,768
Tier 1/Tier 2 Unfunded actuarial accrued liability	1,037,119	761,527
Tier 1/ Tier 2 Funded status	75%	81%
Combined valuation payroll	$808,227	$755,052
Tier 1/Tier 2 UAL as a percentage of payroll	128%	101%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(4.94%)	(6.52%)
Tier 1/Tier 2 active members [1]	4	5
Tier 1/Tier 2 dormant members	6	7
Tier 1/Tier 2 retirees and beneficiaries	9	7

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	808,227	755,052
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$492,492	$646,722
2. Employer reserves	1,532,085	1,847,268
3. Benefits in force reserve	1,159,806	847,778
4. Total market value of assets ***(1. + 2. + 3.)***	**$3,184,383**	**$3,341,768**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$3,341,768
2. Regular employer contributions	5,491
3. Benefit payments and expense	(210,912)
4. Adjustments [1]	(40,511)
5. Interest credited	88,547
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$3,184,383**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	27,272	42,194
Tier 2 Police & Fire	0	0
Tier 2 General Service	19,245	18,834
Total	**$46,517**	**$61,028**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$46,517	$46,517	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	727,481	1,197,090
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	368,604	336,748
▪ **Total Active Members**	**$1,096,085**	**$1,533,838**
Dormant Members	621,175	924,789
Retired Members and Beneficiaries	2,504,242	1,644,668
Total Actuarial Accrued Liability	**$4,221,502**	**$4,103,295**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$4,221,502	$4,221,502	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$4,221,502	$4,103,295
2. Actuarial value of assets	3,184,383	3,341,768
3. Unfunded accrued liability *(1. – 2.)*	1,037,119	761,527
4. Funded percentage *(2. ÷ 1.)*	75%	81%
5. Combined valuation payroll	$808,227	$755,052
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	128%	101%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$280,400	$21,004	$20,191	$279,587	$21,739
December 31, 2015	N/A	N/A	N/A	$757,532	$54,814
Total				**$1,037,119**	**$76,553**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$4,103,295
b. Normal cost at December 31, 2014 (excluding assumed expenses)	58,379
c. Benefit payments during 2015	(209,283)
d. Interest at 7.50% to December 31, 2015	302,088
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	4,254,479
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	4,254,479
2. Actuarial accrued liability at December 31, 2015	4,221,502
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	32,977
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	3,341,768
b. Contributions for 2015[1]	5,491
c. Benefit payments and expenses during 2015	(210,912)
d. Interest at 7.50% to December 31, 2015	242,929
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	3,379,276
5. Actuarial value of assets at December 31, 2015	3,184,383
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(194,893)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($161,916)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$761,527**
2. Expected increase	113,676
3. Liability (gain)/loss	(32,977)
4. Asset (gain)/loss	194,893
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$1,037,119**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	27,272	128,574	21.21%	42,194	184,659	22.85%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	19,245	137,125	14.03%	18,834	135,000	13.95%
Total	**$46,517**	**$265,699**	**17.51%**	**$61,028**	**$319,659**	**19.09%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$1,037,119	$761,527
2. Next year's Tier 1/Tier 2 UAL payment	76,553	55,818
3. Combined valuation payroll	808,227	755,052
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.47%	7.39%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.51%	19.09%
b. Tier 1/Tier 2 UAL rate	9.47%	7.39%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	27.13%	26.63%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	9.57%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	9.57%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	1.91%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	75%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	6.57%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	12.57%
7. July 1, 2017 total pension rate, before adjustment	27.13%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(14.56%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	9.47%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(5.09%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	12.57%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.51%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.51%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	12.57%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.51%	19.09%
b. Tier 1/Tier 2 UAL rate	(5.09%)	(6.67%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	12.57%	12.57%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$128,574	$0	$128,574
Tier 2	137,125	0	137,125
Tier 1/Tier 2 valuation payroll	265,699	0	265,699
OPSRP valuation payroll	542,528	0	542,528
Combined valuation payroll	**$808,227**	**$0**	**$808,227**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	2	15	19	3	2	12	17
Police & Fire	0	0	0	0	0	0	0	0
Total	2	2	15	19	3	2	12	17
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	1	0	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	1	0	N/A	1
Dormant Members								
General Service	5	1	1	7	6	1	1	8
Police & Fire	0	0	0	0	0	0	0	0
Total	5	1	1	7	6	1	1	8
Retired Members and Beneficiaries								
General Service	7	2	0	9	6	1	0	7
Police & Fire	0	0	0	0	0	0	0	0
Total	7	2	0	9	6	1	0	7
Grand Total Number of Members	**14**	**5**	**16**	**35**	**16**	**4**	**13**	**33**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59			1							1
60-64				1		1				2
65-69					1					1
70-74										
75+										
Total	0	0	1	1	1	1	0	0	0	4

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	1	1,859
45-49		
50-54	2	421
55-59	2	701
60-64	1	1,263
65-69		
70-74		
75+		
Total	6	895

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	1,190
60-64		
65-69	7	2,044
70-74		
75-79		
80-84	1	1,367
85-89		
90-94		
95-99		
100+		
Total	9	1,874

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Nyssa Road Assessment District #2/2550
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Nyssa Road Assessment District #2/2550

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Nyssa Road Assessment District #2 -- #2550

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Nyssa Road Assessment District #2 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Nyssa Road Assessment District #2.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Nyssa Road Assessment District #2

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.36%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	15.42%	15.42%	15.42%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**36.05%**	**24.71%**	**29.48%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**36.55%**	**25.14%**	**29.91%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 75%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	34.78%	34.78%
Minimum 2019-2021 Rate	27.82%	20.86%
Maximum 2019-2021 Rate	41.74%	48.70%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,006,310	$1,752,967	$746,657	57%	$158,434	471%
12/31/2011	1,003,416	1,782,911	779,495	56%	162,497	480%
12/31/2012	1,092,540	1,592,557	500,017	69%	171,200	292%
12/31/2013	1,250,536	1,638,254	387,718	76%	175,770	221%
12/31/2014	1,328,253	1,887,894	559,641	70%	193,031	290%
12/31/2015	1,270,584	1,698,042	427,458	75%	216,210	198%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Nyssa Road Assessment District #2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$427,458	$559,641
Allocated pooled OPSRP UAL	30,737	22,068
Side account	0	0
Net unfunded pension actuarial accrued liability	458,195	581,709
Combined valuation payroll	216,210	193,031
Net pension UAL as a percentage of payroll	212%	301%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$1,050	$1,534

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$25,494	$24,460
Tier 1/Tier 2 valuation payroll	131,668	137,959
Tier 1/Tier 2 pension normal cost rate	19.36%	17.73%
Tier 1/ Tier 2 Actuarial accrued liability	$1,698,042	$1,887,894
Actuarial asset value	1,270,584	1,328,253
Tier 1/Tier 2 Unfunded actuarial accrued liability	427,458	559,641
Tier 1/ Tier 2 Funded status	75%	70%
Combined valuation payroll	$216,210	$193,031
Tier 1/Tier 2 UAL as a percentage of payroll	198%	290%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	15.42%	21.64%
Tier 1/Tier 2 active members [1]	3	3
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	5	7

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	216,210	193,031
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$302,215	$278,676
2. Employer reserves	524,425	441,920
3. Benefits in force reserve	443,943	607,656
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,270,584**	**$1,328,253**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$1,328,253
2. Regular employer contributions	72,528
3. Benefit payments and expense	(80,732)
4. Adjustments [1]	(87,273)
5. Interest credited	37,808
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,270,584**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	18,209	17,457
Tier 2 Police & Fire	0	0
Tier 2 General Service	7,285	7,003
Total	**$25,494**	**$24,460**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$25,494	$25,494	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	556,925	545,636
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	50,642	40,878
▪ **Total Active Members**	**$607,567**	**$586,514**
Dormant Members	131,916	122,542
Retired Members and Beneficiaries	958,559	1,178,838
Total Actuarial Accrued Liability	**$1,698,042**	**$1,887,894**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,698,042	$1,698,042	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,698,042	$1,887,894
2. Actuarial value of assets	1,270,584	1,328,253
3. Unfunded accrued liability *(1. – 2.)*	427,458	559,641
4. Funded percentage *(2. ÷ 1.)*	75%	70%
5. Combined valuation payroll	$216,210	$193,031
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	198%	290%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$388,545	$29,104	$27,978	$387,419	$30,124
December 31, 2015	N/A	N/A	N/A	$40,039	$2,897
Total				**$427,458**	**$33,021**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,887,894
b. Normal cost at December 31, 2014 (excluding assumed expenses)	23,399
c. Benefit payments during 2015	(80,108)
d. Interest at 7.50% to December 31, 2015	139,465
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,970,650
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,970,650
2. Actuarial accrued liability at December 31, 2015	1,698,042
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	272,608
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,328,253
b. Contributions for 2015[1]	72,528
c. Benefit payments and expenses during 2015	(80,732)
d. Interest at 7.50% to December 31, 2015	99,311
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,419,360
5. Actuarial value of assets at December 31, 2015	1,270,584
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(148,777)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**$123,831**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$559,641**
2. Expected increase	(8,352)
3. Liability (gain)/loss	(272,608)
4. Asset (gain)/loss	148,777
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$427,458**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	18,209	74,702	24.38%	17,457	81,835	21.33%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	7,285	56,966	12.79%	7,003	56,124	12.48%
Total	**$25,494**	**$131,668**	**19.36%**	**$24,460**	**$137,959**	**17.73%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$427,458	$559,641
2. Next year's Tier 1/Tier 2 UAL payment	33,021	41,484
3. Combined valuation payroll	216,210	193,031
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	15.27%	21.49%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.36%	17.73%
b. Tier 1/Tier 2 UAL rate	15.27%	21.49%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	34.78%	39.37%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	33.32%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	33.32%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	6.66%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	6.66%
	c. Funded percentage	75%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	6.66%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	26.66%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	39.98%
7.	July 1, 2017 total pension rate, before adjustment	34.78%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	0.00%
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	15.27%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	15.27%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	34.78%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.36%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.36%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	34.78%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.36%	17.73%
b. Tier 1/Tier 2 UAL rate	15.27%	21.49%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	34.78%	39.37%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$74,702	$0	$74,702
Tier 2	56,966	0	56,966
Tier 1/Tier 2 valuation payroll	131,668	0	131,668
OPSRP valuation payroll	84,542	0	84,542
Combined valuation payroll	**$216,210**	**$0**	**$216,210**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	1	2	5	2	1	2	5
Police & Fire	0	0	0	0	0	0	0	0
Total	2	1	2	5	2	1	2	5
Active Members with previous service segments with the employer								
General Service	1	0	N/A	1	1	0	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	0	N/A	1	1	0	N/A	1
Dormant Members								
General Service	1	0	1	2	1	0	1	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	1	2	1	0	1	2
Retired Members and Beneficiaries								
General Service	5	0	0	5	7	0	0	7
Police & Fire	0	0	0	0	0	0	0	0
Total	5	0	0	5	7	0	0	7
Grand Total Number of Members	**9**	**1**	**3**	**13**	**11**	**1**	**3**	**15**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54				1						**1**
55-59										
60-64					1	1				**2**
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**3**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64	1	813
65-69		
70-74		
75+		
Total	1	813

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	50
65-69		
70-74		
75-79	2	1,340
80-84	1	6,541
85-89		
90-94	1	171
95-99		
100+		
Total	5	1,889

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Oak Lodge Sanitary District/2524
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Oak Lodge Sanitary District/2524

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Oak Lodge Sanitary District -- #2524

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Oak Lodge Sanitary District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Oak Lodge Sanitary District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Oak Lodge Sanitary District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	12.65%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	2.63%	2.63%	2.63%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**16.55%**	**11.92%**	**16.69%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**17.05%**	**12.35%**	**17.12%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 76%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	15.28%	15.28%
Minimum 2019-2021 Rate	12.22%	9.16%
Maximum 2019-2021 Rate	18.34%	21.40%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$7,332,942	$8,828,349	$1,495,407	83%	$1,520,200	98%
12/31/2011	7,106,323	9,259,870	2,153,547	77%	1,814,102	119%
12/31/2012	7,723,464	9,061,693	1,338,229	85%	1,870,816	72%
12/31/2013	8,219,096	9,066,220	847,124	91%	1,921,520	44%
12/31/2014	8,520,732	10,729,670	2,208,938	79%	2,014,729	110%
12/31/2015	8,437,646	11,091,470	2,653,824	76%	2,075,567	128%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Oak Lodge Sanitary District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$2,653,824	$2,208,938
Allocated pooled OPSRP UAL	295,071	230,327
Side account	0	0
Net unfunded pension actuarial accrued liability	2,948,895	2,439,265
Combined valuation payroll	2,075,567	2,014,729
Net pension UAL as a percentage of payroll	142%	121%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$10,078	$16,014

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$134,338	$149,589
Tier 1/Tier 2 valuation payroll	1,062,073	1,164,956
Tier 1/Tier 2 pension normal cost rate	12.65%	12.84%
Tier 1/ Tier 2 Actuarial accrued liability	$11,091,470	$10,729,670
Actuarial asset value	8,437,646	8,520,732
Tier 1/Tier 2 Unfunded actuarial accrued liability	2,653,824	2,208,938
Tier 1/ Tier 2 Funded status	76%	79%
Combined valuation payroll	$2,075,567	$2,014,729
Tier 1/Tier 2 UAL as a percentage of payroll	128%	110%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	2.63%	2.44%
Tier 1/Tier 2 active members[1]	11	13
Tier 1/Tier 2 dormant members	6	5
Tier 1/Tier 2 retirees and beneficiaries	19	19

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,075,567	2,014,729
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,056,669	$981,283
2. Employer reserves	4,166,845	3,959,066
3. Benefits in force reserve	3,214,132	3,580,383
4. Total market value of assets *(1. + 2. + 3.)*	**$8,437,646**	**$8,520,732**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$8,520,732
2. Regular employer contributions	129,515
3. Benefit payments and expense	(584,494)
4. Adjustments [1]	173,587
5. Interest credited	198,306
6. Total transferred from side accounts	0
7. Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)*	**$8,437,646**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	66,745	64,365
Tier 2 Police & Fire	0	0
Tier 2 General Service	67,593	85,224
Total	**$134,338**	**$149,589**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$134,338	$134,338	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	1,443,280	1,269,534
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	1,282,629	1,376,659
▪ **Total Active Members**	**$2,725,909**	**$2,646,193**
Dormant Members	1,425,634	1,137,624
Retired Members and Beneficiaries	6,939,927	6,945,853
Total Actuarial Accrued Liability	**$11,091,470**	**$10,729,670**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$11,091,470	$11,091,470	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$11,091,470	$10,729,670
2. Actuarial value of assets	8,437,646	8,520,732
3. Unfunded accrued liability *(1. – 2.)*	2,653,824	2,208,938
4. Funded percentage *(2. ÷ 1.)*	76%	79%
5. Combined valuation payroll	$2,075,567	$2,014,729
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	128%	110%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$848,931	$63,590	$61,129	$846,470	$65,817
December 31, 2015	N/A	N/A	N/A	$1,807,354	$130,778
Total				**$2,653,824**	**$196,595**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$10,729,670
b. Normal cost at December 31, 2014 (excluding assumed expenses)	143,096
c. Benefit payments during 2015	(579,979)
d. Interest at 7.50% to December 31, 2015	788,342
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	11,081,129
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	11,081,129
2. Actuarial accrued liability at December 31, 2015	11,091,470
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(10,341)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	8,520,732
b. Contributions for 2015[1]	129,515
c. Benefit payments and expenses during 2015	(584,494)
d. Interest at 7.50% to December 31, 2015	621,993
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	8,687,746
5. Actuarial value of assets at December 31, 2015	8,437,646
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(250,100)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($260,441)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$2,208,938**
2. Expected increase	184,445
3. Liability (gain)/loss	10,341
4. Asset (gain)/loss	250,100
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$2,653,824**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	66,745	458,662	14.55%	64,365	445,172	14.46%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	67,593	603,411	11.20%	85,224	719,784	11.84%
Total	**$134,338**	**$1,062,073**	**12.65%**	**$149,589**	**$1,164,956**	**12.84%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$2,653,824	$2,208,938
2. Next year's Tier 1/Tier 2 UAL payment	196,595	161,999
3. Combined valuation payroll	2,075,567	2,014,729
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.47%	8.04%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.65%	12.84%
b. Tier 1/Tier 2 UAL rate	9.47%	8.04%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	22.27%	21.03%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	12.28%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	12.28%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	2.46%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	76%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	9.28%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	15.28%
7. July 1, 2017 total pension rate, before adjustment	22.27%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(6.99%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	9.47%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	2.48%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	15.28%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	12.65%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	12.65%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	15.28%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.65%	12.84%
b. Tier 1/Tier 2 UAL rate	2.48%	2.29%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	15.28%	15.28%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$458,662	$0	$458,662
Tier 2	603,411	0	603,411
Tier 1/Tier 2 valuation payroll	1,062,073	0	1,062,073
OPSRP valuation payroll	1,013,494	0	1,013,494
Combined valuation payroll	**$2,075,567**	**$0**	**$2,075,567**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	4	7	12	23	4	9	11	24
Police & Fire	0	0	0	0	0	0	0	0
Total	4	7	12	23	4	9	11	24
Active Members with previous service segments with the employer								
General Service	7	3	N/A	10	7	2	N/A	9
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	7	3	N/A	10	7	2	N/A	9
Dormant Members								
General Service	4	2	1	7	4	1	1	6
Police & Fire	0	0	0	0	0	0	0	0
Total	4	2	1	7	4	1	1	6
Retired Members and Beneficiaries								
General Service	16	3	0	19	18	1	0	19
Police & Fire	0	0	0	0	0	0	0	0
Total	16	3	0	19	18	1	0	19
Grand Total Number of Members	**31**	**15**	**13**	**59**	**33**	**13**	**12**	**58**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			1							1
40-44		1		1						2
45-49			1	1						2
50-54				1						1
55-59			2	1		1				4
60-64						1				1
65-69										
70-74										
75+										
Total	0	1	4	4	0	2	0	0	0	11

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	1	0
45-49		
50-54	2	1,579
55-59	1	4,908
60-64	1	727
65-69	1	2,319
70-74		
75+		
Total	6	1,852

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	167
60-64	3	5,435
65-69	10	1,991
70-74	1	1,404
75-79	2	2,159
80-84	1	3,363
85-89	1	2,742
90-94		
95-99		
100+		
Total	19	2,537

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Ontario/2118
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Ontario/2118

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Ontario -- #2118

September 2016

Secondary Employers

2762 Ontario Rural Fire Protection District

CONTENTS

Executive Summary

Milliman has prepared this report for City of Ontario to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Ontario.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Ontario

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.72%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	8.00%	8.00%	8.00%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**27.99%**	**17.29%**	**22.06%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**28.49%**	**17.72%**	**22.49%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 68%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	26.72%	26.72%
Minimum 2019-2021 Rate	21.38%	16.04%
Maximum 2019-2021 Rate	32.06%	37.40%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$27,876,104	$34,747,117	$6,871,013	80%	$4,869,659	141%
12/31/2011	27,279,942	36,378,159	9,098,217	75%	4,606,302	198%
12/31/2012	30,253,320	36,203,427	5,950,107	84%	4,494,055	132%
12/31/2013	32,785,346	37,071,655	4,286,309	88%	4,270,487	100%
12/31/2014	33,239,837	43,492,688	10,252,851	76%	2,772,185	370%
12/31/2015	31,068,639	45,363,359	14,294,720	68%	2,867,836	498%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Ontario

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$14,294,720	$10,252,851
Allocated pooled OPSRP UAL	407,703	316,921
Side account	0	0
Net unfunded pension actuarial accrued liability	14,702,423	10,569,772
Combined valuation payroll	2,867,836	2,772,185
Net pension UAL as a percentage of payroll	513%	381%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$13,925	$22,035

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$349,525	$351,775
Tier 1/Tier 2 valuation payroll	1,866,821	1,836,792
Tier 1/Tier 2 pension normal cost rate	18.72%	19.15%
Tier 1/ Tier 2 Actuarial accrued liability	$45,363,359	$43,492,688
Actuarial asset value	31,068,639	33,239,837
Tier 1/Tier 2 Unfunded actuarial accrued liability	14,294,720	10,252,851
Tier 1/ Tier 2 Funded status	68%	76%
Combined valuation payroll	$2,867,836	$2,772,185
Tier 1/Tier 2 UAL as a percentage of payroll	498%	370%
Tier 1/Tier 2 UAL rate	8.00%	6.71%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	26	26
Tier 1/Tier 2 dormant members	46	54
Tier 1/Tier 2 retirees and beneficiaries	121	110

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	2,867,836	2,772,185
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$3,689,545	$4,666,441
2. Employer reserves	13,318,407	14,877,500
3. Benefits in force reserve	14,060,687	13,695,896
4. Total market value of assets ***(1. + 2. + 3.)***	**$31,068,639**	**$33,239,837**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$33,239,837
2. Regular employer contributions	461,470
3. Benefit payments and expense	(2,556,954)
4. Adjustments [1]	(918,409)
5. Interest credited	842,695
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$31,068,639**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$192,199	$205,306
Tier 1 General Service	38,379	33,210
Tier 2 Police & Fire	108,342	106,124
Tier 2 General Service	10,605	7,135
Total	**$349,525**	**$351,775**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$349,525	$349,525	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$5,543,577	$7,203,465
▪ Tier 1 General Service	1,786,779	1,733,563
▪ Tier 2 Police & Fire	2,245,717	1,998,834
▪ Tier 2 General Service	1,105,649	943,155
▪ **Total Active Members**	**$10,681,722**	**$11,879,017**
Dormant Members	4,321,921	5,043,972
Retired Members and Beneficiaries	30,359,716	26,569,699
Total Actuarial Accrued Liability	**$45,363,359**	**$43,492,688**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$45,363,359	$45,363,359	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$45,363,359	$43,492,688
2. Actuarial value of assets	31,068,639	33,239,837
3. Unfunded accrued liability *(1. – 2.)*	14,294,720	10,252,851
4. Funded percentage *(2. ÷ 1.)*	68%	76%
5. Combined valuation payroll	$2,867,836	$2,772,185
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	498%	370%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$4,295,455	$321,757	$309,305	$4,283,003	$333,023
December 31, 2015	N/A	N/A	N/A	$10,011,717	$724,437
Total				**$14,294,720**	**$1,057,460**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$43,492,688
b. Normal cost at December 31, 2014 (excluding assumed expenses)	336,449
c. Benefit payments during 2015	(2,537,204)
d. Interest at 7.50% to December 31, 2015	3,179,423
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	44,471,356
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	44,471,356
2. Actuarial accrued liability at December 31, 2015	45,363,359
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(892,003)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	33,239,837
b. Contributions for 2015[1]	461,470
c. Benefit payments and expenses during 2015	(2,556,954)
d. Interest at 7.50% to December 31, 2015	2,414,407
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	33,558,760
5. Actuarial value of assets at December 31, 2015	31,068,639
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(2,490,121)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($3,382,124)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$10,252,851**
2. Expected increase	659,745
3. Liability (gain)/loss	892,003
4. Asset (gain)/loss	2,490,121
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$14,294,720**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$192,199	$899,460	21.37%	$205,306	$974,098	21.08%
Tier 1 General Service	38,379	291,136	13.18%	33,210	231,847	14.32%
Tier 2 Police & Fire	108,342	591,127	18.33%	106,124	581,003	18.27%
Tier 2 General Service	10,605	85,098	12.46%	7,135	49,844	14.31%
Total	**$349,525**	**$1,866,821**	**18.72%**	**$351,775**	**$1,836,792**	**19.15%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$14,294,720	$10,252,851
2. Next year's Tier 1/Tier 2 UAL payment	1,057,460	752,828
3. Combined valuation payroll	2,867,836	2,772,185
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	36.87%	27.16%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.72%	19.15%
b. Tier 1/Tier 2 UAL rate	36.87%	27.16%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	55.74%	46.46%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	21.55%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	21.55%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	4.31%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	4.31%
c. Funded percentage	68%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	5.17%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	16.38%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	26.72%
7. July 1, 2017 total pension rate, before adjustment	55.74%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(29.02%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	36.87%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	7.85%
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	26.72%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	18.72%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.72%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	26.72%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.72%	19.15%
b. Tier 1/Tier 2 UAL rate	7.85%	6.56%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	26.72%	25.86%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$291,136	$899,460	$1,190,596
Tier 2	85,098	591,127	676,225
Tier 1/Tier 2 valuation payroll	376,234	1,490,587	1,866,821
OPSRP valuation payroll	278,547	722,468	1,001,015
Combined valuation payroll	**$654,781**	**$2,213,055**	**$2,867,836**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	4	2	6	12	4	1	10	15
Police & Fire	12	8	11	31	13	8	9	30
Total	16	10	17	43	17	9	19	45
Active Members with previous service segments with the employer								
General Service	10	11	N/A	21	14	9	N/A	23
Police & Fire	7	8	N/A	15	10	8	N/A	18
Total	17	19	N/A	36	24	17	N/A	41
Dormant Members								
General Service	18	21	9	48	23	24	11	58
Police & Fire	4	3	1	8	4	3	1	8
Total	22	24	10	56	27	27	12	66
Retired Members and Beneficiaries								
General Service	79	10	2	91	74	8	2	84
Police & Fire	31	1	0	32	27	1	0	28
Total	110	11	2	123	101	9	2	112
Grand Total Number of Members	**165**	**64**	**29**	**258**	**169**	**62**	**33**	**264**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44			3	3						**6**
45-49				2	4	2				**8**
50-54			2		2	2				**6**
55-59				1	1	2				**4**
60-64		1				1				**2**
65-69										
70-74										
75+										
Total	**0**	**1**	**5**	**6**	**7**	**7**	**0**	**0**	**0**	**26**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	2	429
40-44	7	995
45-49	10	960
50-54	6	1,642
55-59	14	751
60-64	2	989
65-69	4	529
70-74		
75+	1	347
Total	46	918

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	4	11
45-49	5	911
50-54	4	276
55-59	10	2,552
60-64	25	1,833
65-69	27	1,733
70-74	19	1,822
75-79	9	1,755
80-84	12	1,167
85-89	5	987
90-94	1	65
95-99		
100+		
Total	121	1,597

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Oregon Community College Association/2685
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
Oregon Community College Association/2685

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Oregon Community College Association/2685

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Oregon Community College Association -- #2685

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Oregon Community College Association to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Oregon Community College Association.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Oregon Community College Association

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	11.60%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(3.13%)	(3.13%)	(3.13%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**9.74%**	**6.16%**	**10.93%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**10.24%**	**6.59%**	**11.36%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 104%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.47%	8.47%
Minimum 2019-2021 Rate	5.47%	2.47%
Maximum 2019-2021 Rate	11.47%	14.47%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,448,455	$1,302,346	($146,109)	111%	$351,534	(42%)
12/31/2011	1,413,315	1,307,049	(106,266)	108%	361,227	(29%)
12/31/2012	1,581,197	1,310,878	(270,319)	121%	379,961	(71%)
12/31/2013	1,769,162	1,361,219	(407,943)	130%	373,823	(109%)
12/31/2014	1,843,244	1,631,176	(212,068)	113%	622,484	(34%)
12/31/2015	1,832,813	1,754,979	(77,834)	104%	578,412	(13%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Oregon Community College Association

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($77,834)	($212,068)
Allocated pooled OPSRP UAL	82,229	71,163
Side account	0	0
Net unfunded pension actuarial accrued liability	4,395	(140,905)
Combined valuation payroll	578,412	622,484
Net pension UAL as a percentage of payroll	1%	(23%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$2,809	$4,948

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$24,330	$22,891
Tier 1/Tier 2 valuation payroll	209,731	192,688
Tier 1/Tier 2 pension normal cost rate	11.60%	11.88%
Tier 1/ Tier 2 Actuarial accrued liability	$1,754,979	$1,631,176
Actuarial asset value	1,832,813	1,843,244
Tier 1/Tier 2 Unfunded actuarial accrued liability	(77,834)	(212,068)
Tier 1/ Tier 2 Funded status	104%	113%
Combined valuation payroll	$578,412	$622,484
Tier 1/Tier 2 UAL as a percentage of payroll	(13%)	(34%)
Tier 1/Tier 2 UAL rate	(3.13%)	(3.41%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	2	2
Tier 1/Tier 2 dormant members	0	1
Tier 1/Tier 2 retirees and beneficiaries	6	6

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	578,412	622,484
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$275,102	$261,503
2. Employer reserves	1,214,236	1,199,183
3. Benefits in force reserve	343,474	382,559
4. Total market value of assets *(1. + 2. + 3.)*	**$1,832,813**	**$1,843,244**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$1,843,244
2. Regular employer contributions	(7,650)
3. Benefit payments and expense	(62,461)
4. Adjustments [1]	20,556
5. Interest credited	39,123
6. Total transferred from side accounts	0
7. Market value of assets at end of year *(1. + 2. + 3. + 4. + 5. + 6.)*	**$1,832,813**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	24,330	22,891
Total	**$24,330**	**$22,891**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$24,330	$24,330	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	299,960	243,097
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	713,392	609,751
▪ **Total Active Members**	**$1,013,352**	**$852,848**
Dormant Members	0	36,173
Retired Members and Beneficiaries	741,627	742,155
Total Actuarial Accrued Liability	**$1,754,979**	**$1,631,176**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,754,979	$1,754,979	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,754,979	$1,631,176
2. Actuarial value of assets	1,832,813	1,843,244
3. Unfunded accrued liability *(1. – 2.)*	(77,834)	(212,068)
4. Funded percentage *(2. ÷ 1.)*	104%	113%
5. Combined valuation payroll	$578,412	$622,484
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(13%)	(34%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($408,813)	($30,623)	($29,438)	($407,628)	($31,695)
December 31, 2015	N/A	N/A	N/A	$329,794	$23,864
Total				**($77,834)**	**($7,831)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,631,176
b. Normal cost at December 31, 2014 (excluding assumed expenses)	21,898
c. Benefit payments during 2015	(61,979)
d. Interest at 7.50% to December 31, 2015	120,835
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,711,930
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,711,930
2. Actuarial accrued liability at December 31, 2015	1,754,979
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(43,049)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,843,244
b. Contributions for 2015[1]	(7,650)
c. Benefit payments and expenses during 2015	(62,461)
d. Interest at 7.50% to December 31, 2015	135,614
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,908,748
5. Actuarial value of assets at December 31, 2015	1,832,813
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(75,935)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($118,984)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($212,068)**
2. Expected increase	15,250
3. Liability (gain)/loss	43,049
4. Asset (gain)/loss	75,935
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($77,834)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	24,330	209,731	11.60%	22,891	192,688	11.88%
Total	**$24,330**	**$209,731**	**11.60%**	**$22,891**	**$192,688**	**11.88%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($77,834)	($212,068)
2. Next year's Tier 1/Tier 2 UAL payment	(7,831)	(16,387)
3. Combined valuation payroll	578,412	622,484
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(1.35%)	(2.63%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.60%	11.88%
b. Tier 1/Tier 2 UAL rate	(1.35%)	(2.63%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	10.40%	9.40%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	5.47%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.47%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	1.09%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	104%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	2.47%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	8.47%
7. July 1, 2017 total pension rate, before adjustment	10.40%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(1.93%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(1.35%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(3.28%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	8.47%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	11.60%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	11.60%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	8.47%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.60%	11.88%
b. Tier 1/Tier 2 UAL rate	(3.28%)	(3.56%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	8.47%	8.47%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	209,731	0	209,731
Tier 1/Tier 2 valuation payroll	209,731	0	209,731
OPSRP valuation payroll	368,681	0	368,681
Combined valuation payroll	**$578,412**	**$0**	**$578,412**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	2	5	7	0	2	6	8
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	5	7	0	2	6	8
Active Members with previous service segments with the employer								
General Service	4	4	N/A	8	3	4	N/A	7
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	4	4	N/A	8	3	4	N/A	7
Dormant Members								
General Service	0	0	0	0	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1
Retired Members and Beneficiaries								
General Service	6	0	1	7	6	0	1	7
Police & Fire	0	0	0	0	0	0	0	0
Total	6	0	1	7	6	0	1	7
Grand Total Number of Members	**10**	**6**	**6**	**22**	**10**	**6**	**7**	**23**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49				2						**2**
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	2	547
65-69	2	1,273
70-74		
75-79	1	1,055
80-84	1	548
85-89		
90-94		
95-99		
100+		
Total	6	874

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Oregon Municipal Electric Utilities Association/2876
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Oregon Municipal Electric Utilities Association/2876

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Oregon Municipal Electric Utilities Association -- #2876

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Oregon Municipal Electric Utilities Association to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Oregon Municipal Electric Utilities Association.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Oregon Municipal Electric Utilities Association

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	12.02%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.35%)	(0.35%)	(0.35%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.94%**	**8.94%**	**13.71%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.44%**	**9.37%**	**14.14%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 116%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.67%	11.67%
Minimum 2019-2021 Rate	8.67%	5.67%
Maximum 2019-2021 Rate	14.67%	17.67%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$0	$0	$0	0%	$0	0%
12/31/2011	0	0	0	0%	0	0%
12/31/2012	5,029	4,809	(220)	105%	92,028	0%
12/31/2013	18,644	14,353	(4,291)	130%	99,464	(4%)
12/31/2014	35,378	28,880	(6,498)	123%	97,533	(7%)
12/31/2015	48,729	42,142	(6,587)	116%	99,935	(7%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Oregon Municipal Electric Utilities Association

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($6,587)	($6,498)
Allocated pooled OPSRP UAL	14,207	11,150
Side account	0	0
Net unfunded pension actuarial accrued liability	7,620	4,652
Combined valuation payroll	99,935	97,533
Net pension UAL as a percentage of payroll	8%	5%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$485	$775

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$12,011	$11,766
Tier 1/Tier 2 valuation payroll	99,935	97,533
Tier 1/Tier 2 pension normal cost rate	12.02%	12.06%
Tier 1/ Tier 2 Actuarial accrued liability	$42,142	$28,880
Actuarial asset value	48,729	35,378
Tier 1/Tier 2 Unfunded actuarial accrued liability	(6,587)	(6,498)
Tier 1/ Tier 2 Funded status	116%	123%
Combined valuation payroll	$99,935	$97,533
Tier 1/Tier 2 UAL as a percentage of payroll	(7%)	(7%)
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.35%)	(0.34%)
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	0	0

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	99,935	97,533
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$0	$0
2. Employer reserves	48,729	35,378
3. Benefits in force reserve	0	0
4. Total market value of assets ***(1. + 2. + 3.)***	**$48,729**	**$35,378**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$35,378
2.	Regular employer contributions	12,520
3.	Benefit payments and expense	0
4.	Adjustments [1]	(67)
5.	Interest credited	897
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$48,729**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	12,011	11,766
Total	**$12,011**	**$11,766**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$12,011	$12,011	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	42,142	28,880
▪ **Total Active Members**	**$42,142**	**$28,880**
Dormant Members	0	0
Retired Members and Beneficiaries	0	0
Total Actuarial Accrued Liability	**$42,142**	**$28,880**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$42,142	$42,142	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$42,142	$28,880
2. Actuarial value of assets	48,729	35,378
3. Unfunded accrued liability *(1. – 2.)*	(6,587)	(6,498)
4. Funded percentage *(2. ÷ 1.)*	116%	123%
5. Combined valuation payroll	$99,935	$97,533
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(7%)	(7%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($4,300)	($322)	($310)	($4,288)	($333)
December 31, 2015	N/A	N/A	N/A	($2,299)	($166)
Total				**($6,587)**	**($499)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$28,880
b. Normal cost at December 31, 2014 (excluding assumed expenses)	11,255
c. Benefit payments during 2015	0
d. Interest at 7.50% to December 31, 2015	2,588
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	42,723
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	42,723
2. Actuarial accrued liability at December 31, 2015	42,142
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	581
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	35,378
b. Contributions for 2015[1]	12,520
c. Benefit payments and expenses during 2015	0
d. Interest at 7.50% to December 31, 2015	3,123
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	51,021
5. Actuarial value of assets at December 31, 2015	48,729
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(2,292)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($1,711)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($6,498)**
2. Expected increase	(1,800)
3. Liability (gain)/loss	(581)
4. Asset (gain)/loss	2,292
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($6,587)**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	12,011	99,935	12.02%	11,766	97,533	12.06%
Total	**$12,011**	**$99,935**	**12.02%**	**$11,766**	**$97,533**	**12.06%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($6,587)	($6,498)
2. Next year's Tier 1/Tier 2 UAL payment	(499)	(481)
3. Combined valuation payroll	99,935	97,533
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(0.50%)	(0.49%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.02%	12.06%
b. Tier 1/Tier 2 UAL rate	(0.50%)	(0.49%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	11.67%	11.72%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate	9.81%
2. Employer contribution rate attributable to side accounts	0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	9.81%
4. Size of rate collar	
a. 20% of current employer contribution rate *(20% x 3.)*	1.96%
b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
c. Funded percentage	116%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	6.81%
6. July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	12.81%
7. July 1, 2017 total pension rate, before adjustment	11.67%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	0.00%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(0.50%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.50%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.67%
12. Tier 1/Tier 2 retiree healthcare rate	0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	12.02%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	12.02%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.67%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.02%	12.06%
b. Tier 1/Tier 2 UAL rate	(0.50%)	(0.49%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.67%	11.72%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	99,935	0	99,935
Tier 1/Tier 2 valuation payroll	99,935	0	99,935
OPSRP valuation payroll	0	0	0
Combined valuation payroll	**$99,935**	**$0**	**$99,935**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	0	1	0	1	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total Number of Members	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54				1						1
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	1	0	0	0	0	0	1

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total		

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Owyhee Irrigation District/2533
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Owyhee Irrigation District/2533

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Owyhee Irrigation District -- #2533

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Owyhee Irrigation District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Owyhee Irrigation District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Owyhee Irrigation District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.28%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	10.23%	10.23%	10.23%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**27.78%**	**19.52%**	**24.29%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**28.28%**	**19.95%**	**24.72%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 72%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	26.51%	26.51%
Minimum 2019-2021 Rate	21.21%	15.91%
Maximum 2019-2021 Rate	31.81%	37.11%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$5,822,565	$8,742,967	$2,920,402	67%	$1,218,051	240%
12/31/2011	5,806,866	8,836,456	3,029,590	66%	1,230,438	246%
12/31/2012	6,153,054	8,361,630	2,208,576	74%	1,221,590	181%
12/31/2013	7,013,954	8,601,934	1,587,980	82%	1,350,553	118%
12/31/2014	6,932,463	9,470,845	2,538,382	73%	1,286,014	197%
12/31/2015	6,802,734	9,512,700	2,709,966	72%	1,333,645	203%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Owyhee Irrigation District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$2,709,966	$2,538,382
Allocated pooled OPSRP UAL	189,596	147,019
Side account	0	0
Net unfunded pension actuarial accrued liability	2,899,562	2,685,401
Combined valuation payroll	1,333,645	1,286,014
Net pension UAL as a percentage of payroll	217%	209%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$6,476	$10,222

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$103,528	$114,143
Tier 1/Tier 2 valuation payroll	635,727	707,443
Tier 1/Tier 2 pension normal cost rate	16.28%	16.13%
Tier 1/ Tier 2 Actuarial accrued liability	$9,512,700	$9,470,845
Actuarial asset value	6,802,734	6,932,463
Tier 1/Tier 2 Unfunded actuarial accrued liability	2,709,966	2,538,382
Tier 1/ Tier 2 Funded status	72%	73%
Combined valuation payroll	$1,333,645	$1,286,014
Tier 1/Tier 2 UAL as a percentage of payroll	203%	197%
Tier 1/Tier 2 UAL rate	10.23%	10.38%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	13	15
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	28	27

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,333,645	1,286,014
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$969,428	$956,412
2. Employer reserves	2,851,308	2,690,870
3. Benefits in force reserve	2,981,998	3,285,182
4. Total market value of assets ***(1. + 2. + 3.)***	**$6,802,734**	**$6,932,463**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$6,932,463
2. Regular employer contributions	228,465
3. Benefit payments and expense	(542,280)
4. Adjustments [1]	16,040
5. Interest credited	168,047
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$6,802,734**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	74,948	78,211
Tier 2 Police & Fire	0	0
Tier 2 General Service	28,580	35,932
Total	**$103,528**	**$114,143**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$103,528	$103,528	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	2,192,382	2,182,087
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	565,246	594,111
▪ **Total Active Members**	**$2,757,628**	**$2,776,198**
Dormant Members	316,368	321,476
Retired Members and Beneficiaries	6,438,704	6,373,171
Total Actuarial Accrued Liability	**$9,512,700**	**$9,470,845**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$9,512,700	$9,512,700	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$9,512,700	$9,470,845
2. Actuarial value of assets	6,802,734	6,932,463
3. Unfunded accrued liability *(1. – 2.)*	2,709,966	2,538,382
4. Funded percentage *(2. ÷ 1.)*	72%	73%
5. Combined valuation payroll	$1,333,645	$1,286,014
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	203%	197%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$1,591,368	$119,204	$114,590	$1,586,754	$123,377
December 31, 2015	N/A	N/A	N/A	$1,123,212	$81,274
Total				**$2,709,966**	**$204,651**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$9,470,845
b. Normal cost at December 31, 2014 (excluding assumed expenses)	109,182
c. Benefit payments during 2015	(538,092)
d. Interest at 7.50% to December 31, 2015	694,229
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	9,736,164
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	9,736,164
2. Actuarial accrued liability at December 31, 2015	9,512,700
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	223,464
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	6,932,463
b. Contributions for 2015[1]	228,465
c. Benefit payments and expenses during 2015	(542,280)
d. Interest at 7.50% to December 31, 2015	508,167
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	7,126,815
5. Actuarial value of assets at December 31, 2015	6,802,734
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(324,080)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($100,616)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$2,538,382**
2. Expected increase	70,968
3. Liability (gain)/loss	(223,464)
4. Asset (gain)/loss	324,080
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$2,709,966**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	74,948	416,977	17.97%	78,211	442,748	17.66%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	28,580	218,750	13.07%	35,932	264,695	13.57%
Total	**$103,528**	**$635,727**	**16.28%**	**$114,143**	**$707,443**	**16.13%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$2,709,966	$2,538,382
2. Next year's Tier 1/Tier 2 UAL payment	204,651	187,729
3. Combined valuation payroll	1,333,645	1,286,014
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	15.35%	14.60%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.28%	16.13%
b. Tier 1/Tier 2 UAL rate	15.35%	14.60%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	31.78%	30.88%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	22.09%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	22.09%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	4.42%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	4.42%
	c. Funded percentage	72%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	4.42%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	17.67%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	26.51%
7.	July 1, 2017 total pension rate, before adjustment	31.78%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(5.27%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	15.35%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	10.08%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	26.51%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.28%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.28%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	26.51%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.28%	16.13%
b. Tier 1/Tier 2 UAL rate	10.08%	10.23%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	26.51%	26.51%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$416,977	$0	$416,977
Tier 2	218,750	0	218,750
Tier 1/Tier 2 valuation payroll	635,727	0	635,727
OPSRP valuation payroll	697,918	0	697,918
Combined valuation payroll	**$1,333,645**	**$0**	**$1,333,645**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	9	4	18	31	10	5	15	30
Police & Fire	0	0	0	0	0	0	0	0
Total	9	4	18	31	10	5	15	30
Active Members with previous service segments with the employer								
General Service	3	1	N/A	4	3	1	N/A	4
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	3	1	N/A	4	3	1	N/A	4
Dormant Members								
General Service	1	0	1	2	1	0	1	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	1	2	1	0	1	2
Retired Members and Beneficiaries								
General Service	26	2	1	29	26	1	1	28
Police & Fire	0	0	0	0	0	0	0	0
Total	26	2	1	29	26	1	1	28
Grand Total Number of Members	**39**	**7**	**20**	**66**	**40**	**7**	**17**	**64**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						**1**
45-49										
50-54				1	1	1	1			**4**
55-59					2					**2**
60-64			1	1	2	2				**6**
65-69										
70-74										
75+										
Total	**0**	**0**	**1**	**3**	**5**	**3**	**1**	**0**	**0**	**13**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64	1	1,964
65-69		
70-74		
75+		
Total	1	1,964

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	2,794
60-64	2	2,716
65-69	6	1,680
70-74	3	1,731
75-79	8	1,728
80-84	6	1,213
85-89	1	846
90-94	1	289
95-99		
100+		
Total	28	1,634

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Polk County Fire District #1/2688
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Polk County Fire District #1/2688

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Polk County Fire District #1 -- #2688

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Polk County Fire District #1 to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Polk County Fire District #1.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Polk County Fire District #1

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.57%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	2.19%	2.19%	2.19%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**22.03%**	**11.48%**	**16.25%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**22.53%**	**11.91%**	**16.68%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 74%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	20.76%	20.76%
Minimum 2019-2021 Rate	16.61%	12.46%
Maximum 2019-2021 Rate	24.91%	29.06%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$2,752,119	$3,185,564	$433,445	86%	$1,099,325	39%
12/31/2011	2,877,755	3,340,925	463,170	86%	1,112,055	42%
12/31/2012	3,362,223	3,697,465	335,242	91%	1,132,943	30%
12/31/2013	3,617,028	4,043,451	426,423	89%	924,111	46%
12/31/2014	3,853,496	4,937,704	1,084,208	78%	979,822	111%
12/31/2015	3,877,835	5,265,161	1,387,326	74%	1,125,528	123%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Polk County Fire District #1

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$1,387,326	$1,084,208
Allocated pooled OPSRP UAL	160,009	112,015
Side account	0	0
Net unfunded pension actuarial accrued liability	1,547,335	1,196,223
Combined valuation payroll	1,125,528	979,822
Net pension UAL as a percentage of payroll	137%	122%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$5,465	$7,788

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$108,775	$105,214
Tier 1/Tier 2 valuation payroll	585,831	567,213
Tier 1/Tier 2 pension normal cost rate	18.57%	18.55%
Tier 1/ Tier 2 Actuarial accrued liability	$5,265,161	$4,937,704
Actuarial asset value	3,877,835	3,853,496
Tier 1/Tier 2 Unfunded actuarial accrued liability	1,387,326	1,084,208
Tier 1/ Tier 2 Funded status	74%	78%
Combined valuation payroll	$1,125,528	$979,822
Tier 1/Tier 2 UAL as a percentage of payroll	123%	111%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	2.19%	2.21%
Tier 1/Tier 2 active members [1]	7	7
Tier 1/Tier 2 dormant members	7	6
Tier 1/Tier 2 retirees and beneficiaries	16	13

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,125,528	979,822
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$293,886	$337,578
2. Employer reserves	2,705,951	2,602,069
3. Benefits in force reserve	877,997	913,849
4. Total market value of assets ***(1. + 2. + 3.)***	**$3,877,835**	**$3,853,496**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$3,853,496
2.	Regular employer contributions	97,879
3.	Benefit payments and expense	(159,665)
4.	Adjustments [1]	11,437
5.	Interest credited	74,687
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$3,877,835**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	98,416	95,219
Tier 2 General Service	10,359	9,995
Total	**$108,775**	**$105,214**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$108,775	$108,775	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$743,361	$756,048
▪ Tier 1 General Service	285,859	261,454
▪ Tier 2 Police & Fire	1,571,876	1,383,363
▪ Tier 2 General Service	132,595	119,912
▪ **Total Active Members**	**$2,733,691**	**$2,520,777**
Dormant Members	635,706	644,081
Retired Members and Beneficiaries	1,895,764	1,772,846
Total Actuarial Accrued Liability	**$5,265,161**	**$4,937,704**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$5,265,161	$5,265,161	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$5,265,161	$4,937,704
2. Actuarial value of assets	3,877,835	3,853,496
3. Unfunded accrued liability *(1. – 2.)*	1,387,326	1,084,208
4. Funded percentage *(2. ÷ 1.)*	74%	78%
5. Combined valuation payroll	$1,125,528	$979,822
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	123%	111%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$427,333	$32,010	$30,771	$426,094	$33,131
December 31, 2015	N/A	N/A	N/A	$961,232	$69,554
Total				**$1,387,326**	**$102,685**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$4,937,704
b. Normal cost at December 31, 2014 (excluding assumed expenses)	100,641
c. Benefit payments during 2015	(158,432)
d. Interest at 7.50% to December 31, 2015	368,161
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	5,248,074
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	5,248,074
2. Actuarial accrued liability at December 31, 2015	5,265,161
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(17,087)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	3,853,496
b. Contributions for 2015[1]	97,879
c. Benefit payments and expenses during 2015	(159,665)
d. Interest at 7.50% to December 31, 2015	286,695
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	4,078,406
5. Actuarial value of assets at December 31, 2015	3,877,835
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(200,571)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($217,658)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$1,084,208**
2. Expected increase	85,460
3. Liability (gain)/loss	17,087
4. Asset (gain)/loss	200,571
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$1,387,326**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	98,416	521,113	18.89%	95,219	504,166	18.89%
Tier 2 General Service	10,359	64,718	16.01%	9,995	63,047	15.85%
Total	**$108,775**	**$585,831**	**18.57%**	**$105,214**	**$567,213**	**18.55%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$1,387,326	$1,084,208
2. Next year's Tier 1/Tier 2 UAL payment	102,685	79,541
3. Combined valuation payroll	1,125,528	979,822
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.12%	8.12%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.57%	18.55%
b. Tier 1/Tier 2 UAL rate	9.12%	8.12%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	27.84%	26.82%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	17.30%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	17.30%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.46%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.46%
	c. Funded percentage	74%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.46%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	13.84%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	20.76%
7.	July 1, 2017 total pension rate, before adjustment	27.84%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(7.08%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	9.12%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	2.04%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	20.76%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	18.57%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.57%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	20.76%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.57%	18.55%
b. Tier 1/Tier 2 UAL rate	2.04%	2.06%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	20.76%	20.76%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	64,718	521,113	585,831
Tier 1/Tier 2 valuation payroll	64,718	521,113	585,831
OPSRP valuation payroll	33,310	506,387	539,697
Combined valuation payroll	**$98,028**	**$1,027,500**	**$1,125,528**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	1	2	0	1	1	2
Police & Fire	0	6	7	13	0	6	5	11
Total	0	7	8	15	0	7	6	13
Active Members with previous service segments with the employer								
General Service	7	2	N/A	9	7	2	N/A	9
Police & Fire	5	3	N/A	8	6	3	N/A	9
Total	12	5	N/A	17	13	5	N/A	18
Dormant Members								
General Service	0	0	0	0	0	1	0	1
Police & Fire	7	0	0	7	5	0	0	5
Total	7	0	0	7	5	1	0	6
Retired Members and Beneficiaries								
General Service	4	1	0	5	4	0	0	4
Police & Fire	11	0	1	12	9	0	1	10
Total	15	1	1	17	13	0	1	14
Grand Total Number of Members	**34**	**13**	**9**	**56**	**31**	**13**	**7**	**51**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44			3	1						4
45-49				1						1
50-54										
55-59				1						1
60-64			1							1
65-69										
70-74										
75+										
Total	0	0	4	3	0	0	0	0	0	7

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	2	98
50-54	2	1,235
55-59	2	513
60-64	1	207
65-69		
70-74		
75+		
Total	7	557

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	2	139
60-64	5	1,016
65-69	9	642
70-74		
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	16	696

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Polk County/2037
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Polk County/2037

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Polk County -- #2037

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Polk County to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Polk County.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Polk County

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.47%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	2.72%	2.72%	2.72%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**20.46%**	**12.01%**	**16.78%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**20.96%**	**12.44%**	**17.21%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 73%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	19.19%	19.19%
Minimum 2019-2021 Rate	15.35%	11.51%
Maximum 2019-2021 Rate	23.03%	26.87%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$59,956,853	$72,381,493	$12,424,640	83%	$13,663,943	91%
12/31/2011	59,227,350	75,481,554	16,254,204	78%	14,950,846	109%
12/31/2012	64,520,822	76,733,759	12,212,937	84%	14,922,763	82%
12/31/2013	71,511,022	79,488,788	7,977,766	90%	14,698,729	54%
12/31/2014	73,270,515	92,628,817	19,358,302	79%	13,757,575	141%
12/31/2015	69,808,717	95,739,939	25,931,222	73%	15,014,365	173%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Polk County

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$25,931,222	$19,358,302
Allocated pooled OPSRP UAL	2,134,501	1,572,790
Side account	0	0
Net unfunded pension actuarial accrued liability	28,065,723	20,931,092
Combined valuation payroll	15,014,365	13,757,575
Net pension UAL as a percentage of payroll	187%	152%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$72,905	$109,353

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$1,077,495	$1,199,284
Tier 1/Tier 2 valuation payroll	6,542,817	7,100,670
Tier 1/Tier 2 pension normal cost rate	16.47%	16.89%
Tier 1/ Tier 2 Actuarial accrued liability	$95,739,939	$92,628,817
Actuarial asset value	69,808,717	73,270,515
Tier 1/Tier 2 Unfunded actuarial accrued liability	25,931,222	19,358,302
Tier 1/ Tier 2 Funded status	73%	79%
Combined valuation payroll	$15,014,365	$13,757,575
Tier 1/Tier 2 UAL as a percentage of payroll	173%	141%
Tier 1/Tier 2 UAL rate	2.72%	2.30%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members[1]	97	108
Tier 1/Tier 2 dormant members	95	103
Tier 1/Tier 2 retirees and beneficiaries	408	384

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) **RHIA**	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	**Continuing**	**Total**
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	15,014,365	13,757,575
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$9,641,535	$10,618,718
2. Employer reserves	33,054,214	34,887,280
3. Benefits in force reserve	27,112,968	27,764,517
4. Total market value of assets ***(1. + 2. + 3.)***	**$69,808,717**	**$73,270,515**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$73,270,515
2. Regular employer contributions	1,120,807
3. Benefit payments and expense	(4,930,527)
4. Adjustments [1]	(1,357,523)
5. Interest credited	1,705,445
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$69,808,717**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$124,145	$190,558
Tier 1 General Service	326,119	323,291
Tier 2 Police & Fire	313,622	342,304
Tier 2 General Service	313,609	343,131
Total	**$1,077,495**	**$1,199,284**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$1,077,495	$1,077,495	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$3,697,109	$4,728,564
▪ Tier 1 General Service	13,315,928	13,997,831
▪ Tier 2 Police & Fire	6,054,887	5,814,299
▪ Tier 2 General Service	8,356,360	8,272,268
▪ **Total Active Members**	**$31,424,284**	**$32,812,962**
Dormant Members	5,773,567	5,953,380
Retired Members and Beneficiaries	58,542,088	53,862,475
Total Actuarial Accrued Liability	**$95,739,939**	**$92,628,817**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$95,739,939	$95,739,939	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$95,739,939	$92,628,817
2. Actuarial value of assets	69,808,717	73,270,515
3. Unfunded accrued liability *(1. – 2.)*	25,931,222	19,358,302
4. Funded percentage *(2. ÷ 1.)*	73%	79%
5. Combined valuation payroll	$15,014,365	$13,757,575
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	173%	141%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$7,994,788	$598,861	$575,684	$7,971,611	$619,828
December 31, 2015	N/A	N/A	N/A	$17,959,611	$1,299,538
Total				**$25,931,222**	**$1,919,366**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$92,628,817
b. Normal cost at December 31, 2014 (excluding assumed expenses)	1,147,069
c. Benefit payments during 2015	(4,892,444)
d. Interest at 7.50% to December 31, 2015	6,806,710
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	95,690,152
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	95,690,152
2. Actuarial accrued liability at December 31, 2015	95,739,939
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(49,787)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	73,270,515
b. Contributions for 2015[1]	1,120,807
c. Benefit payments and expenses during 2015	(4,930,527)
d. Interest at 7.50% to December 31, 2015	5,352,424
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	74,813,219
5. Actuarial value of assets at December 31, 2015	69,808,717
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(5,004,502)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($5,054,289)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$19,358,302**
2. Expected increase	1,518,631
3. Liability (gain)/loss	49,787
4. Asset (gain)/loss	5,004,502
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$25,931,222**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$124,145	$581,238	21.36%	$190,558	$809,958	23.53%
Tier 1 General Service	326,119	1,764,928	18.48%	323,291	1,785,731	18.10%
Tier 2 Police & Fire	313,622	1,618,614	19.38%	342,304	1,762,727	19.42%
Tier 2 General Service	313,609	2,578,037	12.16%	343,131	2,742,254	12.51%
Total	**$1,077,495**	**$6,542,817**	**16.47%**	**$1,199,284**	**$7,100,670**	**16.89%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$25,931,222	$19,358,302
2. Next year's Tier 1/Tier 2 UAL payment	1,919,366	1,421,112
3. Combined valuation payroll	15,014,365	13,757,575
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	12.78%	10.33%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.47%	16.89%
b. Tier 1/Tier 2 UAL rate	12.78%	10.33%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	29.40%	27.37%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	15.99%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	15.99%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.20%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.20%
	c. Funded percentage	73%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.20%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	12.79%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	19.19%
7.	July 1, 2017 total pension rate, before adjustment	29.40%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(10.21%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	12.78%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	2.57%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	19.19%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.47%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.47%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	19.19%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.47%	16.89%
b. Tier 1/Tier 2 UAL rate	2.57%	2.15%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	19.19%	19.19%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$1,764,928	$581,238	$2,346,166
Tier 2	2,578,037	1,618,614	4,196,651
Tier 1/Tier 2 valuation payroll	4,342,965	2,199,852	6,542,817
OPSRP valuation payroll	7,194,447	1,277,101	8,471,548
Combined valuation payroll	**$11,537,412**	**$3,476,953**	**$15,014,365**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	28	43	144	215	28	48	121	197
Police & Fire	6	20	23	49	9	23	10	42
Total	34	63	167	264	37	71	131	239
Active Members with previous service segments with the employer								
General Service	72	57	N/A	129	79	57	N/A	136
Police & Fire	10	18	N/A	28	11	16	N/A	27
Total	82	75	N/A	157	90	73	N/A	163
Dormant Members								
General Service	36	47	23	106	41	49	22	112
Police & Fire	5	7	3	15	6	7	3	16
Total	41	54	26	121	47	56	25	128
Retired Members and Beneficiaries								
General Service	314	34	3	351	312	16	0	328
Police & Fire	55	5	0	60	54	2	0	56
Total	369	39	3	411	366	18	0	384
Grand Total Number of Members	**526**	**231**	**196**	**953**	**540**	**218**	**156**	**914**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34			1							**1**
35-39		1	6	2						**9**
40-44	1		4	10						**15**
45-49			6	10	4	1				**21**
50-54			3	9	3	4				**19**
55-59			6	5	1	4				**16**
60-64	1		2	2	3	3	1			**12**
65-69			1	1	2					**4**
70-74										
75+										
Total	**2**	**1**	**29**	**39**	**13**	**12**	**1**	**0**	**0**	**97**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	12	617
40-44	13	471
45-49	18	774
50-54	12	455
55-59	15	884
60-64	12	694
65-69	9	219
70-74	3	397
75+	1	10
Total	95	607

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45	1	121
45-49	4	1,096
50-54	11	824
55-59	19	668
60-64	73	1,094
65-69	115	1,020
70-74	71	1,042
75-79	54	1,093
80-84	26	781
85-89	25	810
90-94	8	655
95-99	1	169
100+		
Total	408	986

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Polk Soil & Water Conservation District/2613
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
Polk Soil & Water Conservation District/2613

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Polk Soil & Water Conservation District/2613

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Polk Soil & Water Conservation District -- #2613

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Polk Soil & Water Conservation District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Polk Soil & Water Conservation District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Polk Soil & Water Conservation District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.71%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.20%)	(0.20%)	(0.20%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**17.78%**	**9.09%**	**13.86%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**18.28%**	**9.52%**	**14.29%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 78%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.51%	16.51%
Minimum 2019-2021 Rate	13.21%	9.91%
Maximum 2019-2021 Rate	19.81%	23.11%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$295,692	$404,871	$109,179	73%	$207,679	53%
12/31/2011	287,707	412,046	124,339	70%	188,085	66%
12/31/2012	322,307	440,320	118,013	73%	218,163	54%
12/31/2013	360,579	392,394	31,815	92%	198,395	16%
12/31/2014	365,179	451,078	85,899	81%	190,563	45%
12/31/2015	356,282	459,287	103,005	78%	195,141	53%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Polk Soil & Water Conservation District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$103,005	$85,899
Allocated pooled OPSRP UAL	27,742	21,785
Side account	0	0
Net unfunded pension actuarial accrued liability	130,747	107,684
Combined valuation payroll	195,141	190,563
Net pension UAL as a percentage of payroll	67%	57%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$948	$1,515

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$0	$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
Tier 1/ Tier 2 Actuarial accrued liability	$459,287	$451,078
Actuarial asset value	356,282	365,179
Tier 1/Tier 2 Unfunded actuarial accrued liability	103,005	85,899
Tier 1/ Tier 2 Funded status	78%	81%
Combined valuation payroll	$195,141	$190,563
Tier 1/Tier 2 UAL as a percentage of payroll	53%	45%
Tier 1/Tier 2 UAL rate	(0.20%)	(0.50%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	2	2
Tier 1/Tier 2 retirees and beneficiaries	1	1

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	195,141	190,563
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$54,575	$51,282
2. Employer reserves	166,502	162,763
3. Benefits in force reserve	135,205	151,134
4. Total market value of assets ***(1. + 2. + 3.)***	**$356,282**	**$365,179**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$365,179
2. Regular employer contributions	760
3. Benefit payments and expense	(24,587)
4. Adjustments [1]	6,724
5. Interest credited	8,206
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$356,282**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$0**	**$0**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	50,695	48,698
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	13,468	11,987
▪ **Total Active Members**	**$64,163**	**$60,685**
Dormant Members	103,191	97,198
Retired Members and Beneficiaries	291,933	293,195
Total Actuarial Accrued Liability	**$459,287**	**$451,078**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$459,287	$459,287	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$459,287	$451,078
2. Actuarial value of assets	356,282	365,179
3. Unfunded accrued liability *(1. – 2.)*	103,005	85,899
4. Funded percentage *(2. ÷ 1.)*	78%	81%
5. Combined valuation payroll	$195,141	$190,563
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	53%	45%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$31,883	$2,388	$2,296	$31,791	$2,472
December 31, 2015	N/A	N/A	N/A	$71,214	$5,153
Total				**$103,005**	**$7,625**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$451,078
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	(24,397)
d. Interest at 7.50% to December 31, 2015	32,916
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	459,597
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	459,597
2. Actuarial accrued liability at December 31, 2015	459,287
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	310
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	365,179
b. Contributions for 2015[1]	760
c. Benefit payments and expenses during 2015	(24,587)
d. Interest at 7.50% to December 31, 2015	26,495
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	367,847
5. Actuarial value of assets at December 31, 2015	356,282
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(11,565)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($11,255)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$85,899**
2. Expected increase	5,851
3. Liability (gain)/loss	(310)
4. Asset (gain)/loss	11,565
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$103,005**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$0**	**$0**	**16.71%**	**$0**	**$0**	**17.01%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$103,005	$85,899
2. Next year's Tier 1/Tier 2 UAL payment	7,625	6,297
3. Combined valuation payroll	195,141	190,563
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	3.91%	3.30%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	3.91%	3.30%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	20.77%	20.46%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	13.51%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.51%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.70%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	78%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.51%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.51%
7.	July 1, 2017 total pension rate, before adjustment	20.77%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(4.26%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	3.91%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.35%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.51%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.71%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.71%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.51%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	(0.35%)	(0.65%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.51%	16.51%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	195,141	0	195,141
Combined valuation payroll	**$195,141**	**$0**	**$195,141**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	6	6	0	0	6	6
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	6	6	0	0	6	6
Active Members with previous service segments with the employer								
General Service	1	2	N/A	3	1	2	N/A	3
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	2	N/A	3	1	2	N/A	3
Dormant Members								
General Service	0	2	3	5	0	2	3	5
Police & Fire	0	0	0	0	0	0	0	0
Total	0	2	3	5	0	2	3	5
Retired Members and Beneficiaries								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
Grand Total Number of Members	**2**	**4**	**9**	**15**	**2**	**4**	**9**	**15**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	0	0	0	0	0	0	0	0	0	0

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	1	138
40-44		
45-49		
50-54	1	1,229
55-59		
60-64		
65-69		
70-74		
75+		
Total	2	684

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74	1	2,144
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	1	2,144

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Port of Astoria/2507
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

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In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Port of Astoria/2507

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Port of Astoria -- #2507

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Port of Astoria to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Port of Astoria.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Port of Astoria

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.26%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.02%)	(0.02%)	(0.02%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**14.51%**	**9.27%**	**14.04%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**15.01%**	**9.70%**	**14.47%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 84%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	13.24%	13.24%
Minimum 2019-2021 Rate	10.24%	7.24%
Maximum 2019-2021 Rate	16.24%	19.24%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$4,723,404	$5,478,397	$754,993	86%	$1,217,796	62%
12/31/2011	4,672,295	5,646,482	974,187	83%	1,358,257	72%
12/31/2012	5,195,703	5,444,429	248,726	95%	1,487,753	17%
12/31/2013	5,438,787	5,486,807	48,020	99%	1,294,017	4%
12/31/2014	5,452,817	6,228,155	775,338	88%	1,418,154	55%
12/31/2015	5,233,641	6,263,210	1,029,569	84%	1,503,469	68%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Port of Astoria

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$1,029,569	$775,338
Allocated pooled OPSRP UAL	213,739	162,126
Side account	0	0
Net unfunded pension actuarial accrued liability	1,243,308	937,464
Combined valuation payroll	1,503,469	1,418,154
Net pension UAL as a percentage of payroll	83%	66%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$7,300	$11,272

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$19,598	$31,041
Tier 1/Tier 2 valuation payroll	147,811	263,074
Tier 1/Tier 2 pension normal cost rate	13.26%	11.80%
Tier 1/ Tier 2 Actuarial accrued liability	$6,263,210	$6,228,155
Actuarial asset value	5,233,641	5,452,817
Tier 1/Tier 2 Unfunded actuarial accrued liability	1,029,569	775,338
Tier 1/ Tier 2 Funded status	84%	88%
Combined valuation payroll	$1,503,469	$1,418,154
Tier 1/Tier 2 UAL as a percentage of payroll	68%	55%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.02%)	1.44%
Tier 1/Tier 2 active members [1]	3	4
Tier 1/Tier 2 dormant members	5	3
Tier 1/Tier 2 retirees and beneficiaries	32	31

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,503,469	1,418,154
3. Average Amortization factor	9.504	10.118
4. Total side account rate ***(-1. ÷ 2. ÷ 3.)*** [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$326,017	$329,525
2. Employer reserves	2,487,929	2,529,895
3. Benefits in force reserve	2,419,695	2,593,398
4. Total market value of assets ***(1. + 2. + 3.)***	**$5,233,641**	**$5,452,817**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$5,452,817
2.	Regular employer contributions	42,112
3.	Benefit payments and expense	(440,025)
4.	Adjustments [1]	67,741
5.	Interest credited	110,996
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$5,233,641**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	19,598	31,041
Total	**$19,598**	**$31,041**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$19,598	$19,598	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	501,993	497,571
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	306,902	538,112
▪ **Total Active Members**	**$808,895**	**$1,035,683**
Dormant Members	229,730	161,345
Retired Members and Beneficiaries	5,224,585	5,031,127
Total Actuarial Accrued Liability	**$6,263,210**	**$6,228,155**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$6,263,210	$6,263,210	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$6,263,210	$6,228,155
2. Actuarial value of assets	5,233,641	5,452,817
3. Unfunded accrued liability *(1. – 2.)*	1,029,569	775,338
4. Funded percentage *(2. ÷ 1.)*	84%	88%
5. Combined valuation payroll	$1,503,469	$1,418,154
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	68%	55%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$48,122	$3,605	$3,465	$47,982	$3,731
December 31, 2015	N/A	N/A	N/A	$981,587	$71,027
Total				**$1,029,569**	**$74,758**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$6,228,155
b. Normal cost at December 31, 2014 (excluding assumed expenses)	29,694
c. Benefit payments during 2015	(436,626)
d. Interest at 7.50% to December 31, 2015	451,852
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	6,273,075
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	6,273,075
2. Actuarial accrued liability at December 31, 2015	6,263,210
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	9,865
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	5,452,817
b. Contributions for 2015[1]	42,112
c. Benefit payments and expenses during 2015	(440,025)
d. Interest at 7.50% to December 31, 2015	394,040
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	5,448,944
5. Actuarial value of assets at December 31, 2015	5,233,641
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(215,303)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($205,438)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$775,338**
2. Expected increase	48,793
3. Liability (gain)/loss	(9,865)
4. Asset (gain)/loss	215,303
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$1,029,569**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	19,598	147,811	13.26%	31,041	263,074	11.80%
Total	**$19,598**	**$147,811**	**13.26%**	**$31,041**	**$263,074**	**11.80%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$1,029,569	$775,338
2. Next year's Tier 1/Tier 2 UAL payment	74,758	56,226
3. Combined valuation payroll	1,503,469	1,418,154
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	4.97%	3.96%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.26%	11.80%
b. Tier 1/Tier 2 UAL rate	4.97%	3.96%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	18.38%	15.91%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	10.24%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	10.24%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.05%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	84%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	7.24%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	13.24%
7.	July 1, 2017 total pension rate, before adjustment	18.38%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(5.14%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	4.97%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.17%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	13.24%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.26%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.26%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	13.24%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.26%	11.80%
b. Tier 1/Tier 2 UAL rate	(0.17%)	1.29%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	13.24%	13.24%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	147,811	0	147,811
Tier 1/Tier 2 valuation payroll	147,811	0	147,811
OPSRP valuation payroll	1,355,658	0	1,355,658
Combined valuation payroll	**$1,503,469**	**$0**	**$1,503,469**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	3	27	30	0	4	25	29
Police & Fire	0	0	0	0	0	0	0	0
Total	0	3	27	30	0	4	25	29
Active Members with previous service segments with the employer								
General Service	4	0	N/A	4	4	1	N/A	5
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	4	0	N/A	4	4	1	N/A	5
Dormant Members								
General Service	1	4	5	10	1	2	5	8
Police & Fire	0	0	0	0	0	0	0	0
Total	1	4	5	10	1	2	5	8
Retired Members and Beneficiaries								
General Service	25	5	0	30	26	3	0	29
Police & Fire	2	0	0	2	2	0	0	2
Total	27	5	0	32	28	3	0	31
Grand Total Number of Members	**32**	**12**	**32**	**76**	**33**	**10**	**30**	**73**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1							**1**
45-49			1							**1**
50-54										
55-59				1						**1**
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**3**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	1,039
50-54	1	50
55-59	1	636
60-64	2	515
65-69		
70-74		
75+		
Total	5	551

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	1	41
55-59		
60-64	6	1,676
65-69	10	726
70-74	8	959
75-79	3	1,934
80-84	1	760
85-89	1	2,661
90-94	1	1,596
95-99	1	887
100+		
Total	32	1,148

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Port of Cascade Locks/2633
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Port of Cascade Locks/2633

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Port of Cascade Locks -- #2633

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Port of Cascade Locks to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Port of Cascade Locks.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Port of Cascade Locks

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.76%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(5.01%)	(5.01%)	(5.01%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**10.02%**	**4.28%**	**9.05%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**10.52%**	**4.71%**	**9.48%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 89%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	8.75%	8.75%
Minimum 2019-2021 Rate	5.75%	2.75%
Maximum 2019-2021 Rate	11.75%	14.75%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$5,420,488	$5,350,182	($70,306)	101%	$593,226	(12%)
12/31/2011	5,389,060	5,535,473	146,413	97%	627,202	23%
12/31/2012	5,740,612	5,705,510	(35,102)	101%	427,714	(8%)
12/31/2013	6,273,515	5,803,343	(470,172)	108%	447,857	(105%)
12/31/2014	6,314,643	6,629,236	314,593	95%	387,075	81%
12/31/2015	6,322,162	7,087,889	765,727	89%	538,108	142%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Port of Cascade Locks

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$765,727	$314,593
Allocated pooled OPSRP UAL	76,500	44,251
Side account	0	0
Net unfunded pension actuarial accrued liability	842,227	358,844
Combined valuation payroll	538,108	387,075
Net pension UAL as a percentage of payroll	157%	93%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$2,613	$3,077

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$18,280	$17,230
Tier 1/Tier 2 valuation payroll	132,833	124,255
Tier 1/Tier 2 pension normal cost rate	13.76%	13.87%
Tier 1/ Tier 2 Actuarial accrued liability	$7,087,889	$6,629,236
Actuarial asset value	6,322,162	6,314,643
Tier 1/Tier 2 Unfunded actuarial accrued liability	765,727	314,593
Tier 1/ Tier 2 Funded status	89%	95%
Combined valuation payroll	$538,108	$387,075
Tier 1/Tier 2 UAL as a percentage of payroll	142%	81%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(5.01%)	(5.12%)
Tier 1/Tier 2 active members [1]	3	3
Tier 1/Tier 2 dormant members	13	12
Tier 1/Tier 2 retirees and beneficiaries	33	33

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	538,108	387,075
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,041,346	$859,023
2. Employer reserves	3,274,395	3,218,879
3. Benefits in force reserve	2,006,421	2,236,742
4. Total market value of assets ***(1. + 2. + 3.)***	**$6,322,162**	**$6,314,643**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$6,314,643
2.	Regular employer contributions	(7,256)
3.	Benefit payments and expense	(364,870)
4.	Adjustments [1]	221,603
5.	Interest credited	158,042
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$6,322,162**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	18,280	17,230
Total	**$18,280**	**$17,230**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$18,280	$18,280	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	367,044	342,907
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	386,213	337,720
▪ **Total Active Members**	**$753,257**	**$680,627**
Dormant Members	2,002,386	1,609,386
Retired Members and Beneficiaries	4,332,246	4,339,223
Total Actuarial Accrued Liability	**$7,087,889**	**$6,629,236**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$7,087,889	$7,087,889	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$7,087,889	$6,629,236
2. Actuarial value of assets	6,322,162	6,314,643
3. Unfunded accrued liability *(1. – 2.)*	765,727	314,593
4. Funded percentage *(2. ÷ 1.)*	89%	95%
5. Combined valuation payroll	$538,108	$387,075
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	142%	81%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($471,175)	($35,294)	($33,928)	($469,809)	($36,530)
December 31, 2015	N/A	N/A	N/A	$1,235,536	$89,402
Total				**$765,727**	**$52,872**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$6,629,236
b. Normal cost at December 31, 2014 (excluding assumed expenses)	16,482
c. Benefit payments during 2015	(362,052)
d. Interest at 7.50% to December 31, 2015	484,234
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	6,767,900
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	6,767,900
2. Actuarial accrued liability at December 31, 2015	7,087,889
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(319,989)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	6,314,643
b. Contributions for 2015[1]	(7,256)
c. Benefit payments and expenses during 2015	(364,870)
d. Interest at 7.50% to December 31, 2015	459,644
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	6,402,161
5. Actuarial value of assets at December 31, 2015	6,322,162
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(79,999)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($399,988)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$314,593**
2. Expected increase	51,146
3. Liability (gain)/loss	319,989
4. Asset (gain)/loss	79,999
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$765,727**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	18,280	132,833	13.76%	17,230	124,255	13.87%
Total	**$18,280**	**$132,833**	**13.76%**	**$17,230**	**$124,255**	**13.87%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$765,727	$314,593
2. Next year's Tier 1/Tier 2 UAL payment	52,872	21,563
3. Combined valuation payroll	538,108	387,075
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.83%	5.57%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.76%	13.87%
b. Tier 1/Tier 2 UAL rate	9.83%	5.57%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	23.74%	19.59%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	5.75%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.75%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.15%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	89%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	2.75%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	8.75%
7.	July 1, 2017 total pension rate, before adjustment	23.74%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(14.99%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	9.83%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(5.16%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	8.75%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.76%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.76%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	8.75%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.76%	13.87%
b. Tier 1/Tier 2 UAL rate	(5.16%)	(5.27%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	8.75%	8.75%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	132,833	0	132,833
Tier 1/Tier 2 valuation payroll	132,833	0	132,833
OPSRP valuation payroll	405,275	0	405,275
Combined valuation payroll	**$538,108**	**$0**	**$538,108**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	3	12	15	0	3	8	11
Police & Fire	0	0	0	0	0	0	0	0
Total	0	3	12	15	0	3	8	11
Active Members with previous service segments with the employer								
General Service	2	1	N/A	3	2	1	N/A	3
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	2	1	N/A	3	2	1	N/A	3
Dormant Members								
General Service	9	4	2	15	8	4	2	14
Police & Fire	0	0	0	0	0	0	0	0
Total	9	4	2	15	8	4	2	14
Retired Members and Beneficiaries								
General Service	29	4	2	35	29	4	2	35
Police & Fire	0	0	0	0	0	0	0	0
Total	29	4	2	35	29	4	2	35
Grand Total Number of Members	**40**	**12**	**16**	**68**	**39**	**12**	**12**	**63**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59			1							**1**
60-64			1	1						**2**
65-69										
70-74										
75+										
Total	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**3**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	1	701
45-49		
50-54	6	2,159
55-59	2	1,767
60-64		
65-69	2	388
70-74	2	57
75+		
Total	13	1,391

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	6	1,763
65-69	9	784
70-74	5	428
75-79	7	808
80-84	5	442
85-89	1	184
90-94		
95-99		
100+		
Total	33	843

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Port of Hood River/2788
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Port of Hood River/2788

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Port of Hood River -- #2788

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Port of Hood River to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Port of Hood River.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Port of Hood River

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	12.87%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	1.75%	1.75%	1.75%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**15.89%**	**11.04%**	**15.81%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.39%**	**11.47%**	**16.24%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 77%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.62%	14.62%
Minimum 2019-2021 Rate	11.62%	8.62%
Maximum 2019-2021 Rate	17.62%	20.62%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,847,219	$1,892,645	$45,426	98%	$874,376	5%
12/31/2011	1,776,221	1,927,241	151,020	92%	898,223	17%
12/31/2012	2,009,040	2,223,288	214,248	90%	1,003,206	21%
12/31/2013	2,341,088	2,399,064	57,976	98%	1,035,612	6%
12/31/2014	2,370,756	2,932,042	561,286	81%	1,045,521	54%
12/31/2015	2,413,916	3,122,338	708,422	77%	1,165,124	61%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Port of Hood River

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$708,422	$561,286
Allocated pooled OPSRP UAL	165,639	119,526
Side account	0	0
Net unfunded pension actuarial accrued liability	874,061	680,812
Combined valuation payroll	1,165,124	1,045,521
Net pension UAL as a percentage of payroll	75%	65%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$5,657	$8,310

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$86,193	$82,614
Tier 1/Tier 2 valuation payroll	669,818	643,819
Tier 1/Tier 2 pension normal cost rate	12.87%	12.83%
Tier 1/ Tier 2 Actuarial accrued liability	$3,122,338	$2,932,042
Actuarial asset value	2,413,916	2,370,756
Tier 1/Tier 2 Unfunded actuarial accrued liability	708,422	561,286
Tier 1/ Tier 2 Funded status	77%	81%
Combined valuation payroll	$1,165,124	$1,045,521
Tier 1/Tier 2 UAL as a percentage of payroll	61%	54%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	1.75%	1.79%
Tier 1/Tier 2 active members [1]	12	13
Tier 1/Tier 2 dormant members	6	6
Tier 1/Tier 2 retirees and beneficiaries	10	9

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,165,124	1,045,521
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$365,567	$351,647
2. Employer reserves	1,592,816	1,543,045
3. Benefits in force reserve	455,533	476,064
4. Total market value of assets ***(1. + 2. + 3.)***	**$2,413,916**	**$2,370,756**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$2,370,756
2.	Regular employer contributions	68,263
3.	Benefit payments and expense	(82,839)
4.	Adjustments [1]	3,187
5.	Interest credited	54,550
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$2,413,916**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	22,245	21,551
Tier 2 Police & Fire	0	0
Tier 2 General Service	63,948	61,063
Total	**$86,193**	**$82,614**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$86,193	$86,193	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	874,644	819,374
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	974,275	912,095
▪ **Total Active Members**	**$1,848,919**	**$1,731,469**
Dormant Members	289,836	277,021
Retired Members and Beneficiaries	983,583	923,552
Total Actuarial Accrued Liability	**$3,122,338**	**$2,932,042**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$3,122,338	$3,122,338	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$3,122,338	$2,932,042
2. Actuarial value of assets	2,413,916	2,370,756
3. Unfunded accrued liability *(1. – 2.)*	708,422	561,286
4. Funded percentage *(2. ÷ 1.)*	77%	81%
5. Combined valuation payroll	$1,165,124	$1,045,521
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	61%	54%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$58,100	$4,352	$4,184	$57,932	$4,504
December 31, 2015	N/A	N/A	N/A	$650,490	$47,069
Total				**$708,422**	**$51,573**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$2,932,042
b. Normal cost at December 31, 2014 (excluding assumed expenses)	79,028
c. Benefit payments during 2015	(82,199)
d. Interest at 7.50% to December 31, 2015	219,784
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	3,148,655
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	3,148,655
2. Actuarial accrued liability at December 31, 2015	3,122,338
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	26,317
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,370,756
b. Contributions for 2015[1]	68,263
c. Benefit payments and expenses during 2015	(82,839)
d. Interest at 7.50% to December 31, 2015	177,260
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	2,533,439
5. Actuarial value of assets at December 31, 2015	2,413,916
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(119,523)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($93,206)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$561,286**
2. Expected increase	53,930
3. Liability (gain)/loss	(26,317)
4. Asset (gain)/loss	119,523
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$708,422**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	22,245	179,798	12.37%	21,551	173,786	12.40%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	63,948	490,020	13.05%	61,063	470,033	12.99%
Total	**$86,193**	**$669,818**	**12.87%**	**$82,614**	**$643,819**	**12.83%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$708,422	$561,286
2. Next year's Tier 1/Tier 2 UAL payment	51,573	40,762
3. Combined valuation payroll	1,165,124	1,045,521
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	4.43%	3.90%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.87%	12.83%
b. Tier 1/Tier 2 UAL rate	4.43%	3.90%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	17.45%	16.88%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	11.62%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	11.62%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.32%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	77%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	8.62%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	14.62%
7.	July 1, 2017 total pension rate, before adjustment	17.45%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(2.83%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	4.43%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	1.60%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	14.62%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	12.87%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	12.87%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	14.62%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	12.87%	12.83%
b. Tier 1/Tier 2 UAL rate	1.60%	1.64%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	14.62%	14.62%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$179,798	$0	$179,798
Tier 2	490,020	0	490,020
Tier 1/Tier 2 valuation payroll	669,818	0	669,818
OPSRP valuation payroll	495,306	0	495,306
Combined valuation payroll	**$1,165,124**	**$0**	**$1,165,124**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	3	9	12	24	3	10	12	25
Police & Fire	0	0	0	0	0	0	0	0
Total	3	9	12	24	3	10	12	25
Active Members with previous service segments with the employer								
General Service	2	1	N/A	3	2	1	N/A	3
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	2	1	N/A	3	2	1	N/A	3
Dormant Members								
General Service	2	4	1	7	2	4	1	7
Police & Fire	0	0	0	0	0	0	0	0
Total	2	4	1	7	2	4	1	7
Retired Members and Beneficiaries								
General Service	8	2	0	10	8	1	0	9
Police & Fire	0	0	0	0	0	0	0	0
Total	8	2	0	10	8	1	0	9
Grand Total Number of Members	**15**	**16**	**13**	**44**	**15**	**16**	**13**	**44**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40+**	**Total**
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1						**1**
45-49				2						**2**
50-54				1						**1**
55-59			1		1					**2**
60-64		1	3	1						**5**
65-69										
70-74										
75+					1					**1**
Total	**0**	**1**	**4**	**5**	**2**	**0**	**0**	**0**	**0**	**12**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59	3	532
60-64	1	473
65-69	1	50
70-74		
75+	1	235
Total	6	392

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	2	1,459
60-64	2	609
65-69	1	228
70-74	1	298
75-79	2	355
80-84	2	402
85-89		
90-94		
95-99		
100+		
Total	10	618

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Port of St Helens/2570
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
Port of St Helens/2570

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Port of St Helens/2570

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Port of St Helens -- #2570

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Port of St Helens to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Port of St Helens.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Port of St Helens

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	11.00%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.01%)	(0.01%)	(0.01%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.26%**	**9.28%**	**14.05%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**12.76%**	**9.71%**	**14.48%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 100%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	10.99%	10.99%
Minimum 2019-2021 Rate	7.99%	4.99%
Maximum 2019-2021 Rate	13.99%	16.99%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,687,521	$1,734,253	$46,732	97%	$557,265	8%
12/31/2011	1,659,759	1,763,906	104,147	94%	703,056	15%
12/31/2012	1,808,628	1,712,608	(96,020)	106%	737,966	(13%)
12/31/2013	1,971,697	1,758,059	(213,638)	112%	740,374	(29%)
12/31/2014	2,023,680	2,101,780	78,100	96%	781,936	10%
12/31/2015	2,008,811	2,005,253	(3,558)	100%	869,839	0%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Port of St Helens

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($3,558)	$78,100
Allocated pooled OPSRP UAL	123,660	89,392
Side account	0	0
Net unfunded pension actuarial accrued liability	120,102	167,492
Combined valuation payroll	869,839	781,936
Net pension UAL as a percentage of payroll	14%	21%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$4,224	$6,215

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$14,564	$28,351
Tier 1/Tier 2 valuation payroll	132,351	199,717
Tier 1/Tier 2 pension normal cost rate	11.00%	14.20%
Tier 1/ Tier 2 Actuarial accrued liability	$2,005,253	$2,101,780
Actuarial asset value	2,008,811	2,023,680
Tier 1/Tier 2 Unfunded actuarial accrued liability	(3,558)	78,100
Tier 1/ Tier 2 Funded status	100%	96%
Combined valuation payroll	$869,839	$781,936
Tier 1/Tier 2 UAL as a percentage of payroll	0%	10%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.01%)	(1.24%)
Tier 1/Tier 2 active members [1]	1	2
Tier 1/Tier 2 dormant members	3	4
Tier 1/Tier 2 retirees and beneficiaries	5	6

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	869,839	781,936
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$178,527	$122,796
2. Employer reserves	1,235,666	1,157,668
3. Benefits in force reserve	594,619	743,216
4. Total market value of assets *(1. + 2. + 3.)*	**$2,008,811**	**$2,023,680**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$2,023,680
2.	Regular employer contributions	4,267
3.	Benefit payments and expense	(108,132)
4.	Adjustments [1]	51,477
5.	Interest credited	37,520
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$2,008,811**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	16,600
Tier 2 Police & Fire	0	0
Tier 2 General Service	14,564	11,751
Total	**$14,564**	**$28,351**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$14,564	$14,564	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	126,638	93,128
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	328,685	314,158
▪ **Total Active Members**	**$455,323**	**$407,286**
Dormant Members	266,034	252,674
Retired Members and Beneficiaries	1,283,896	1,441,820
Total Actuarial Accrued Liability	**$2,005,253**	**$2,101,780**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$2,005,253	$2,005,253	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$2,005,253	$2,101,780
2. Actuarial value of assets	2,008,811	2,023,680
3. Unfunded accrued liability *(1. – 2.)*	(3,558)	78,100
4. Funded percentage *(2. ÷ 1.)*	100%	96%
5. Combined valuation payroll	$869,839	$781,936
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	0%	10%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($214,094)	($16,037)	($15,416)	($213,473)	($16,598)
December 31, 2015	N/A	N/A	N/A	$209,915	$15,189
Total				**($3,558)**	**($1,409)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$2,101,780
b. Normal cost at December 31, 2014 (excluding assumed expenses)	27,120
c. Benefit payments during 2015	(107,297)
d. Interest at 7.50% to December 31, 2015	154,627
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	2,176,230
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	2,176,230
2. Actuarial accrued liability at December 31, 2015	2,005,253
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	170,977
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	2,023,680
b. Contributions for 2015[1]	4,267
c. Benefit payments and expenses during 2015	(108,132)
d. Interest at 7.50% to December 31, 2015	147,881
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	2,067,696
5. Actuarial value of assets at December 31, 2015	2,008,811
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(58,884)
7. Total actuarial gain/(loss) *(3. + 6.)*	**$112,093**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$78,100**
2. Expected increase	30,435
3. Liability (gain)/loss	(170,977)
4. Asset (gain)/loss	58,884
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**($3,558)**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	16,600	91,090	18.22%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	14,564	132,351	11.00%	11,751	108,627	10.82%
Total	**$14,564**	**$132,351**	**11.00%**	**$28,351**	**$199,717**	**14.20%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($3,558)	$78,100
2. Next year's Tier 1/Tier 2 UAL payment	(1,409)	5,106
3. Combined valuation payroll	869,839	781,936
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(0.16%)	0.65%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.00%	14.20%
b. Tier 1/Tier 2 UAL rate	(0.16%)	0.65%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	10.99%	15.00%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		9.96%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*		9.96%
4. Size of rate collar		
a. 20% of current employer contribution rate *(20% x 3.)*		1.99%
b. Preliminary size of rate collar *(maximum of 3% or a.)*		3.00%
c. Funded percentage		100%
d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*		3.00%
5. July 1, 2017 minimum employer contribution rate	*(3. – 4.d. but not < 0%)*	6.96%
6. July 1, 2017 maximum employer contribution rate	*(3. + 4.d.)*	12.96%
7. July 1, 2017 total pension rate, before adjustment		10.99%
8. Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*		0.00%
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		(0.16%)
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	*(8. + 9.)*	(0.16%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		10.99%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*		0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		11.00%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*		11.00%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	*(11. + 13.)*	10.99%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.00%	14.20%
b. Tier 1/Tier 2 UAL rate	(0.16%)	(1.39%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	10.99%	12.96%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	132,351	0	132,351
Tier 1/Tier 2 valuation payroll	132,351	0	132,351
OPSRP valuation payroll	737,488	0	737,488
Combined valuation payroll	**$869,839**	**$0**	**$869,839**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	1	12	13	1	1	9	11
Police & Fire	0	0	0	0	0	0	0	0
Total	0	1	12	13	1	1	9	11
Active Members with previous service segments with the employer								
General Service	1	2	N/A	3	0	1	N/A	1
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	1	2	N/A	3	0	1	N/A	1
Dormant Members								
General Service	0	3	0	3	1	3	0	4
Police & Fire	0	0	0	0	0	0	0	0
Total	0	3	0	3	1	3	0	4
Retired Members and Beneficiaries								
General Service	4	1	1	6	5	1	1	7
Police & Fire	0	0	0	0	0	0	0	0
Total	4	1	1	6	5	1	1	7
Grand Total Number of Members	**5**	**7**	**13**	**25**	**7**	**6**	**10**	**23**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49			1							**1**
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59	2	725
60-64	1	505
65-69		
70-74		
75+		
Total	3	652

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64		
65-69	1	5,784
70-74	1	1,756
75-79		
80-84	2	467
85-89		
90-94	1	948
95-99		
100+		
Total	5	1,885

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Port of Umatilla/2581
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

Milliman

September 2016
Port of Umatilla/2581

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Port of Umatilla/2581

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Port of Umatilla -- #2581

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Port of Umatilla to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Port of Umatilla.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Port of Umatilla

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	19.95%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.40%	0.40%	0.40%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**21.62%**	**9.69%**	**14.46%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**22.12%**	**10.12%**	**14.89%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 76%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	20.35%	20.35%
Minimum 2019-2021 Rate	16.28%	12.21%
Maximum 2019-2021 Rate	24.42%	28.49%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,286,852	$1,460,214	$173,362	88%	$142,337	122%
12/31/2011	1,302,983	1,727,626	424,643	75%	209,068	203%
12/31/2012	1,466,216	1,609,488	143,272	91%	155,036	92%
12/31/2013	1,478,945	1,673,028	194,083	88%	152,543	127%
12/31/2014	1,514,304	1,936,061	421,757	78%	147,945	285%
12/31/2015	1,486,213	1,953,811	467,598	76%	149,789	312%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Port of Umatilla

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$467,598	$421,757
Allocated pooled OPSRP UAL	21,295	16,913
Side account	0	0
Net unfunded pension actuarial accrued liability	488,893	438,670
Combined valuation payroll	149,789	147,945
Net pension UAL as a percentage of payroll	326%	297%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$727	$1,176

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$29,882	$28,626
Tier 1/Tier 2 valuation payroll	149,789	147,945
Tier 1/Tier 2 pension normal cost rate	19.95%	19.35%
Tier 1/ Tier 2 Actuarial accrued liability	$1,953,811	$1,936,061
Actuarial asset value	1,486,213	1,514,304
Tier 1/Tier 2 Unfunded actuarial accrued liability	467,598	421,757
Tier 1/ Tier 2 Funded status	76%	78%
Combined valuation payroll	$149,789	$147,945
Tier 1/Tier 2 UAL as a percentage of payroll	312%	285%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	0.40%	1.00%
Tier 1/Tier 2 active members [1]	1	1
Tier 1/Tier 2 dormant members	0	0
Tier 1/Tier 2 retirees and beneficiaries	3	4

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	149,789	147,945
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$180,467	$165,784
2. Employer reserves	700,854	665,541
3. Benefits in force reserve	604,892	682,980
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,486,213**	**$1,514,304**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$1,514,304
2.	Regular employer contributions	21,902
3.	Benefit payments and expense	(110,000)
4.	Adjustments [1]	23,553
5.	Interest credited	36,454
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,486,213**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	29,882	28,626
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$29,882**	**$28,626**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$29,882	$29,882	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	647,732	611,097
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$647,732**	**$611,097**
Dormant Members	0	0
Retired Members and Beneficiaries	1,306,079	1,324,964
Total Actuarial Accrued Liability	**$1,953,811**	**$1,936,061**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,953,811	$1,953,811	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,953,811	$1,936,061
2. Actuarial value of assets	1,486,213	1,514,304
3. Unfunded accrued liability *(1. – 2.)*	467,598	421,757
4. Funded percentage *(2. ÷ 1.)*	76%	78%
5. Combined valuation payroll	$149,789	$147,945
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	312%	285%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$194,497	$14,569	$14,005	$193,933	$15,079
December 31, 2015	N/A	N/A	N/A	$273,665	$19,802
Total				**$467,598**	**$34,881**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,936,061
b. Normal cost at December 31, 2014 (excluding assumed expenses)	27,383
c. Benefit payments during 2015	(109,151)
d. Interest at 7.50% to December 31, 2015	142,138
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,996,431
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,996,431
2. Actuarial accrued liability at December 31, 2015	1,953,811
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	42,620
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,514,304
b. Contributions for 2015[1]	21,902
c. Benefit payments and expenses during 2015	(110,000)
d. Interest at 7.50% to December 31, 2015	110,269
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,536,476
5. Actuarial value of assets at December 31, 2015	1,486,213
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(50,262)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($7,642)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$421,757**
2. Expected increase	38,199
3. Liability (gain)/loss	(42,620)
4. Asset (gain)/loss	50,262
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$467,598**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	29,882	149,789	19.95%	28,626	147,945	19.35%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$29,882**	**$149,789**	**19.95%**	**$28,626**	**$147,945**	**19.35%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$467,598	$421,757
2. Next year's Tier 1/Tier 2 UAL payment	34,881	31,013
3. Combined valuation payroll	149,789	147,945
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	23.29%	20.96%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.95%	19.35%
b. Tier 1/Tier 2 UAL rate	23.29%	20.96%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	43.39%	40.46%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	16.96%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	16.96%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	3.39%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.39%
	c. Funded percentage	76%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.39%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	13.57%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	20.35%
7.	July 1, 2017 total pension rate, before adjustment	43.39%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(23.04%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	23.29%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.25%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	20.35%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	19.95%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	19.95%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	20.35%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	19.95%	19.35%
b. Tier 1/Tier 2 UAL rate	0.25%	0.85%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	20.35%	20.35%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$149,789	$0	$149,789
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	149,789	0	149,789
OPSRP valuation payroll	0	0	0
Combined valuation payroll	**$149,789**	**$0**	**$149,789**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	0	0	N/A	0	0	0	N/A	0
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Retired Members and Beneficiaries								
General Service	3	0	0	3	4	0	0	4
Police & Fire	0	0	0	0	0	0	0	0
Total	3	0	0	3	4	0	0	4
Grand Total Number of Members	**4**	**0**	**0**	**4**	**5**	**0**	**0**	**5**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64					1					**1**
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+		
Total		

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	1	3,551
65-69	1	2,449
70-74	1	1,906
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	3	2,635

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Powers/2215
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
City of Powers/2215

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Powers -- #2215

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Powers to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Powers.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Powers

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	18.92%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(13.42%)	(13.42%)	(13.42%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**6.77%**	**0.00%**	**0.64%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**7.27%**	**0.43%**	**1.07%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 302%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	5.50%	5.50%
Minimum 2019-2021 Rate	2.50%	0.00%
Maximum 2019-2021 Rate	8.50%	11.50%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$102,721	$45,009	($57,712)	228%	$40,511	(142%)
12/31/2011	106,075	52,769	(53,306)	201%	65,891	(81%)
12/31/2012	121,512	51,982	(69,530)	234%	45,124	(154%)
12/31/2013	134,165	47,018	(87,147)	285%	48,604	(179%)
12/31/2014	138,439	46,595	(91,844)	297%	48,944	(188%)
12/31/2015	134,574	44,578	(89,996)	302%	51,440	(175%)

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Powers

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	($89,996)	($91,844)
Allocated pooled OPSRP UAL	7,313	5,595
Side account	0	0
Net unfunded pension actuarial accrued liability	(82,683)	(86,249)
Combined valuation payroll	51,440	48,944
Net pension UAL as a percentage of payroll	(161%)	(176%)
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$250	$389

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$0	$0
Tier 1/Tier 2 valuation payroll	0	0
Tier 1/Tier 2 pension normal cost rate	18.92%	19.38%
Tier 1/ Tier 2 Actuarial accrued liability	$44,578	$46,595
Actuarial asset value	134,574	138,439
Tier 1/Tier 2 Unfunded actuarial accrued liability	(89,996)	(91,844)
Tier 1/ Tier 2 Funded status	302%	297%
Combined valuation payroll	$51,440	$48,944
Tier 1/Tier 2 UAL as a percentage of payroll	(175%)	(188%)
Tier 1/Tier 2 UAL rate	(13.42%)	(13.88%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	0	0
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	4	4

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	51,440	48,944
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$3,378	$3,103
2. Employer reserves	114,740	116,288
3. Benefits in force reserve	16,456	19,048
4. Total market value of assets ***(1. + 2. + 3.)***	**$134,574**	**$138,439**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$138,439
2.	Regular employer contributions	(3,699)
3.	Benefit payments and expense	(2,992)
4.	Adjustments [1]	188
5.	Interest credited	2,639
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$134,574**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	0	0
Tier 2 Police & Fire	0	0
Tier 2 General Service	0	0
Total	**$0**	**$0**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$0	$0	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$9,047	$9,643
▪ Tier 1 General Service	0	0
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	0	0
▪ **Total Active Members**	**$9,047**	**$9,643**
Dormant Members	0	0
Retired Members and Beneficiaries	35,531	36,952
Total Actuarial Accrued Liability	**$44,578**	**$46,595**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$44,578	$44,578	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$44,578	$46,595
2. Actuarial value of assets	134,574	138,439
3. Unfunded accrued liability *(1. – 2.)*	(89,996)	(91,844)
4. Funded percentage *(2. ÷ 1.)*	302%	297%
5. Combined valuation payroll	$51,440	$48,944
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	(175%)	(188%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($87,333)	($6,542)	($6,289)	($87,080)	($6,771)
December 31, 2015	N/A	N/A	N/A	($2,916)	($211)
Total				**($89,996)**	**($6,982)**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$46,595
b. Normal cost at December 31, 2014 (excluding assumed expenses)	0
c. Benefit payments during 2015	(2,969)
d. Interest at 7.50% to December 31, 2015	3,383
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	47,009
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	47,009
2. Actuarial accrued liability at December 31, 2015	44,578
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	2,431
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	138,439
b. Contributions for 2015[1]	(3,699)
c. Benefit payments and expenses during 2015	(2,992)
d. Interest at 7.50% to December 31, 2015	10,132
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	141,879
5. Actuarial value of assets at December 31, 2015	134,574
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(7,305)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($4,874)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($91,844)**
2. Expected increase	(3,026)
3. Liability (gain)/loss	(2,431)
4. Asset (gain)/loss	7,305
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**($89,996)**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	0	0	0.00%	0	0	0.00%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	0	0	0.00%	0	0	0.00%
Total	**$0**	**$0**	**16.71%**	**$0**	**$0**	**17.01%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	($89,996)	($91,844)
2. Next year's Tier 1/Tier 2 UAL payment	(6,982)	(6,868)
3. Combined valuation payroll	51,440	48,944
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	(13.57%)	(14.03%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.71%	17.01%
b. Tier 1/Tier 2 UAL rate	(13.57%)	(14.03%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	3.29%	3.13%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	5.47%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	5.47%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.09%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	302%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	6.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	0.00%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.47%
7.	July 1, 2017 total pension rate, before adjustment	3.29%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	0.00%
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	(13.57%)
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(13.57%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	3.29%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	2.21%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.71%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	18.92%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	5.50%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	18.92%	19.38%
b. Tier 1/Tier 2 UAL rate	(13.57%)	(14.03%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	5.50%	5.50%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$0	$0
Tier 2	0	0	0
Tier 1/Tier 2 valuation payroll	0	0	0
OPSRP valuation payroll	0	51,440	51,440
Combined valuation payroll	**$0**	**$51,440**	**$51,440**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	0	1	1	0	0	1	1
Total	0	0	1	1	0	0	1	1
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	1	0	N/A	1	1	0	N/A	1
Total	1	0	N/A	1	1	0	N/A	1
Dormant Members								
General Service	0	0	0	0	0	0	0	0
Police & Fire	0	1	0	1	0	1	0	1
Total	0	1	0	1	0	1	0	1
Retired Members and Beneficiaries								
General Service	0	0	0	0	0	0	0	0
Police & Fire	4	0	0	4	4	0	0	4
Total	4	0	0	4	4	0	0	4
Grand Total Number of Members	**5**	**1**	**1**	**7**	**5**	**1**	**1**	**7**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59										
60-64										
65-69										
70-74										
75+										
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64		
65-69		
70-74		
75+	1	0
Total	1	0

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59		
60-64	2	61
65-69	1	38
70-74	1	78
75-79		
80-84		
85-89		
90-94		
95-99		
100+		
Total	4	60

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Prairie City/2218
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
City of Prairie City/2218

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Prairie City -- #2218

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Prairie City to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Prairie City.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Prairie City

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	11.31%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(0.19%)	(0.19%)	(0.19%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**12.39%**	**9.10%**	**13.87%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**12.89%**	**9.53%**	**14.30%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 86%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.12%	11.12%
Minimum 2019-2021 Rate	8.12%	5.12%
Maximum 2019-2021 Rate	14.12%	17.12%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,316,020	$1,342,502	$26,482	98%	$186,224	14%
12/31/2011	1,335,696	1,442,081	106,385	93%	186,382	57%
12/31/2012	1,502,438	1,452,831	(49,607)	103%	169,129	(29%)
12/31/2013	1,646,646	1,601,587	(45,059)	103%	140,853	(32%)
12/31/2014	1,689,674	1,929,150	239,476	88%	155,302	154%
12/31/2015	1,698,113	1,984,239	286,126	86%	192,008	149%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Prairie City

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$286,126	$239,476
Allocated pooled OPSRP UAL	27,297	17,754
Side account	0	0
Net unfunded pension actuarial accrued liability	313,423	257,230
Combined valuation payroll	192,008	155,302
Net pension UAL as a percentage of payroll	163%	166%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$932	$1,234

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
Normal cost	$13,936	$13,472
Tier 1/Tier 2 valuation payroll	123,262	119,386
Tier 1/Tier 2 pension normal cost rate	11.31%	11.28%
Tier 1/ Tier 2 Actuarial accrued liability	$1,984,239	$1,929,150
Actuarial asset value	1,698,113	1,689,674
Tier 1/Tier 2 Unfunded actuarial accrued liability	286,126	239,476
Tier 1/ Tier 2 Funded status	86%	88%
Combined valuation payroll	$192,008	$155,302
Tier 1/Tier 2 UAL as a percentage of payroll	149%	154%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	(0.19%)	(0.16%)
Tier 1/Tier 2 active members [1]	3	3
Tier 1/Tier 2 dormant members	1	1
Tier 1/Tier 2 retirees and beneficiaries	10	10

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	192,008	155,302
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$395,541	$365,277
2. Employer reserves	943,424	926,606
3. Benefits in force reserve	359,148	397,791
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,698,113**	**$1,689,674**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$1,689,674
2.	Regular employer contributions	7,538
3.	Benefit payments and expense	(65,312)
4.	Adjustments [1]	16,319
5.	Interest credited	49,893
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,698,113**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	5,157	4,931
Tier 2 Police & Fire	0	0
Tier 2 General Service	8,779	8,541
Total	**$13,936**	**$13,472**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Normal Cost	$13,936	$13,936	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	172,312	156,351
▪ Tier 2 Police & Fire	94,398	131,902
▪ Tier 2 General Service	136,794	119,781
▪ **Total Active Members**	**$403,504**	**$408,034**
Dormant Members	805,265	749,411
Retired Members and Beneficiaries	775,470	771,705
Total Actuarial Accrued Liability	**$1,984,239**	**$1,929,150**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$1,984,239	$1,984,239	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,984,239	$1,929,150
2. Actuarial value of assets	1,698,113	1,689,674
3. Unfunded accrued liability *(1. – 2.)*	286,126	239,476
4. Funded percentage *(2. ÷ 1.)*	86%	88%
5. Combined valuation payroll	$192,008	$155,302
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	149%	154%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($45,156)	($3,382)	($3,252)	($45,026)	($3,501)
December 31, 2015	N/A	N/A	N/A	$331,152	$23,962
Total				**$286,126**	**$20,461**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,929,150
b. Normal cost at December 31, 2014 (excluding assumed expenses)	12,887
c. Benefit payments during 2015	(64,807)
d. Interest at 7.50% to December 31, 2015	142,739
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	2,019,969
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	2,019,969
2. Actuarial accrued liability at December 31, 2015	1,984,239
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	35,730
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,689,674
b. Contributions for 2015[1]	7,538
c. Benefit payments and expenses during 2015	(65,312)
d. Interest at 7.50% to December 31, 2015	124,559
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,756,460
5. Actuarial value of assets at December 31, 2015	1,698,113
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(58,347)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($22,617)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$239,476**
2. Expected increase	24,033
3. Liability (gain)/loss	(35,730)
4. Asset (gain)/loss	58,347
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$286,126**

1 *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	5,157	33,688	15.31%	4,931	31,960	15.43%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	8,779	89,574	9.80%	8,541	87,426	9.77%
Total	**$13,936**	**$123,262**	**11.31%**	**$13,472**	**$119,386**	**11.28%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$286,126	$239,476
2. Next year's Tier 1/Tier 2 UAL payment	20,461	17,214
3. Combined valuation payroll	192,008	155,302
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	10.66%	11.08%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.31%	11.28%
b. Tier 1/Tier 2 UAL rate	10.66%	11.08%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	22.12%	22.51%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	8.12%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	8.12%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	1.62%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	86%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	5.12%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	11.12%
7.	July 1, 2017 total pension rate, before adjustment	22.12%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(11.00%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	10.66%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(0.34%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	11.12%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	11.31%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	11.31%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	11.12%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	11.31%	11.28%
b. Tier 1/Tier 2 UAL rate	(0.34%)	(0.31%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.12%	11.12%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$33,688	$0	$33,688
Tier 2	89,574	0	89,574
Tier 1/Tier 2 valuation payroll	123,262	0	123,262
OPSRP valuation payroll	68,746	0	68,746
Combined valuation payroll	**$192,008**	**$0**	**$192,008**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	1	2	2	5	1	2	1	4
Police & Fire	0	0	0	0	0	0	0	0
Total	1	2	2	5	1	2	1	4
Active Members with previous service segments with the employer								
General Service	0	0	N/A	0	0	0	N/A	0
Police & Fire	0	1	N/A	1	0	1	N/A	1
Total	0	1	N/A	1	0	1	N/A	1
Dormant Members								
General Service	1	0	0	1	1	0	0	1
Police & Fire	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1
Retired Members and Beneficiaries								
General Service	4	1	0	5	4	1	0	5
Police & Fire	3	2	0	5	3	2	0	5
Total	7	3	0	10	7	3	0	10
Grand Total Number of Members	**9**	**6**	**2**	**17**	**9**	**6**	**1**	**16**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39			1							**1**
40-44										
45-49			1							**1**
50-54										
55-59										
60-64										
65-69						1				**1**
70-74										
75+										
Total	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**3**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49		
50-54		
55-59		
60-64	1	5,120
65-69		
70-74		
75+		
Total	1	5,120

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	1	120
55-59		
60-64	2	506
65-69	4	689
70-74		
75-79	1	289
80-84	1	260
85-89	1	623
90-94		
95-99		
100+		
Total	10	506

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Prineville/2146
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Prineville/2146

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Prineville/2146

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Prineville -- #2146

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Prineville to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Prineville.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Prineville

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	16.18%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	0.25%	0.25%	0.25%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	(6.03%)	(6.03%)	(6.03%)
Net pension contribution rate	**11.67%**	**3.51%**	**8.28%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**12.17%**	**3.94%**	**8.71%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 73%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	16.43%	16.43%
Minimum 2019-2021 Rate	13.14%	9.85%
Maximum 2019-2021 Rate	19.72%	23.01%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$14,080,970	$16,407,260	$2,326,290	86%	$3,605,853	65%
12/31/2011	13,842,964	17,171,719	3,328,755	81%	3,614,154	92%
12/31/2012	15,017,643	17,271,790	2,254,147	87%	3,682,268	61%
12/31/2013	16,602,350	18,041,760	1,439,410	92%	3,875,956	37%
12/31/2014	20,033,316	21,184,360	1,151,044	95%	3,864,509	30%
12/31/2015	18,680,228	21,263,318	2,583,090	88%	4,049,315	64%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Prineville

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$5,723,290	$4,246,687
Allocated pooled OPSRP UAL	575,667	441,798
Side account	3,140,201	3,095,644
Net unfunded pension actuarial accrued liability	3,158,756	1,592,841
Combined valuation payroll	4,049,315	3,864,509
Net pension UAL as a percentage of payroll	78%	41%
Calculated side account rate relief	(6.03%)	(6.00%)
Allocated pooled RHIA UAL	$19,662	$30,717

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$266,506	$273,301
Tier 1/Tier 2 valuation payroll	1,647,479	1,708,367
Tier 1/Tier 2 pension normal cost rate	16.18%	16.00%
Tier 1/ Tier 2 Actuarial accrued liability	$21,263,318	$21,184,360
Actuarial asset value	15,540,028	16,937,673
Tier 1/Tier 2 Unfunded actuarial accrued liability	5,723,290	4,246,687
Tier 1/ Tier 2 Funded status	73%	80%
Combined valuation payroll	$4,049,315	$3,864,509
Tier 1/Tier 2 UAL as a percentage of payroll	141%	110%
Tier 1/Tier 2 UAL rate	0.25%	0.43%
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	24	26
Tier 1/Tier 2 dormant members	21	20
Tier 1/Tier 2 retirees and beneficiaries	58	57

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	December 31, 2015	December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**	**$3,095,644**	**$3,095,644**
2. Deposits made during 2015		N/A	
3. Administrative expenses		(1,000)	(1,000)
4. Amount transferred to employer reserves during 2015		(18,833)	
5. Side account earnings during 2015		64,389	64,389
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***		**$3,140,201**	**$3,140,201**

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$3,140,201	$3,095,644
Side account 2	0	0
Side account 3	0	0
Total	**$3,140,201**	**$3,095,644**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$3,140,201	$3,095,644
2. Combined valuation payroll	4,049,315	3,864,509
3. Average Amortization factor	12.861	13.350
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	(6.03%)	(6.00%)

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$2,585,115	$2,928,777
2. Employer reserves	7,546,579	8,547,880
3. Benefits in force reserve	5,408,334	5,461,016
4. Total market value of assets ***(1. + 2. + 3.)***	**$15,540,028**	**$16,937,673**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$16,937,673
2. Regular employer contributions	145,491
3. Benefit payments and expense	(983,512)
4. Adjustments [1]	(994,393)
5. Interest credited	415,937
6. Total transferred from side accounts	18,833
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$15,540,028**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$31,063	$51,482
Tier 1 General Service	96,803	103,350
Tier 2 Police & Fire	55,922	37,740
Tier 2 General Service	82,718	80,729
Total	**$266,506**	**$273,301**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$266,506	$266,506	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$2,336,012	$2,920,939
▪ Tier 1 General Service	2,824,163	3,019,074
▪ Tier 2 Police & Fire	1,364,840	1,286,652
▪ Tier 2 General Service	1,646,959	1,472,478
▪ **Total Active Members**	**$8,171,974**	**$8,699,143**
Dormant Members	1,413,716	1,890,982
Retired Members and Beneficiaries	11,677,628	10,594,235
Total Actuarial Accrued Liability	**$21,263,318**	**$21,184,360**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$21,263,318	$21,263,318	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$21,263,318	$21,184,360
2. Actuarial value of assets	15,540,028	16,937,673
3. Unfunded accrued liability *(1. – 2.)*	5,723,290	4,246,687
4. Funded percentage *(2. ÷ 1.)*	73%	80%
5. Combined valuation payroll	$4,049,315	$3,864,509
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	141%	110%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$1,442,482	$108,051	$103,869	$1,438,300	$111,834
December 31, 2015	N/A	N/A	N/A	$4,284,990	$310,057
Total				**$5,723,290**	**$421,891**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$21,184,360
b. Normal cost at December 31, 2014 (excluding assumed expenses)	261,424
c. Benefit payments during 2015	(975,916)
d. Interest at 7.50% to December 31, 2015	1,562,034
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	22,031,902
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	22,031,902
2. Actuarial accrued liability at December 31, 2015	21,263,318
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	768,584
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	16,937,673
b. Contributions for 2015[1]	164,324
c. Benefit payments and expenses during 2015	(983,512)
d. Interest at 7.50% to December 31, 2015	1,239,606
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	17,358,090
5. Actuarial value of assets at December 31, 2015	15,540,028
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(1,818,062)
7. Total actuarial gain/(loss) *(3. + 6.)*	**($1,049,478)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$4,246,687**
2. Expected increase	427,125
3. Liability (gain)/loss	(768,584)
4. Asset (gain)/loss	1,818,062
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 *(1. + 2. + 3. + 4. + 5.)*	**$5,723,290**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$31,063	$137,196	22.64%	$51,482	$227,936	22.59%
Tier 1 General Service	96,803	561,349	17.24%	103,350	632,849	16.33%
Tier 2 Police & Fire	55,922	275,473	20.30%	37,740	176,636	21.37%
Tier 2 General Service	82,718	673,461	12.28%	80,729	670,946	12.03%
Total	**$266,506**	**$1,647,479**	**16.18%**	**$273,301**	**$1,708,367**	**16.00%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$5,723,290	$4,246,687
2. Next year's Tier 1/Tier 2 UAL payment	421,891	310,960
3. Combined valuation payroll	4,049,315	3,864,509
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	10.42%	8.05%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.18%	16.00%
b. Tier 1/Tier 2 UAL rate	10.42%	8.05%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	26.75%	24.20%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	7.43%
2.	Employer contribution rate attributable to side accounts	(6.00%)
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	13.43%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.69%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	73%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	10.43%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	16.43%
7.	July 1, 2017 total pension rate, before adjustment	26.75%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(10.32%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	10.42%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	0.10%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	16.43%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	16.18%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	16.18%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	16.43%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	16.18%	16.00%
b. Tier 1/Tier 2 UAL rate	0.10%	0.28%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	16.43%	16.43%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$561,349	$137,196	$698,545
Tier 2	673,461	275,473	948,934
Tier 1/Tier 2 valuation payroll	1,234,810	412,669	1,647,479
OPSRP valuation payroll	1,596,802	805,034	2,401,836
Combined valuation payroll	**$2,831,612**	**$1,217,703**	**$4,049,315**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	9	10	31	50	10	11	30	51
Police & Fire	2	3	10	15	3	2	10	15
Total	11	13	41	65	13	13	40	66
Active Members with previous service segments with the employer								
General Service	6	8	N/A	14	6	7	N/A	13
Police & Fire	7	9	N/A	16	8	9	N/A	17
Total	13	17	N/A	30	14	16	N/A	30
Dormant Members								
General Service	3	11	13	27	2	11	9	22
Police & Fire	1	6	1	8	1	6	1	8
Total	4	17	14	35	3	17	10	30
Retired Members and Beneficiaries								
General Service	29	2	0	31	29	2	0	31
Police & Fire	25	2	0	27	24	2	0	26
Total	54	4	0	58	53	4	0	57
Grand Total Number of Members	**82**	**51**	**55**	**188**	**83**	**50**	**50**	**183**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29			1							**1**
30-34										
35-39			1							**1**
40-44				3						**3**
45-49										
50-54			2	2	1	4				**9**
55-59			3	1	3					**7**
60-64						1				**1**
65-69			1			1				**2**
70-74										
75+										
Total	**0**	**0**	**8**	**6**	**4**	**6**	**0**	**0**	**0**	**24**

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39	3	424
40-44	4	279
45-49	1	0
50-54	5	1,245
55-59	4	691
60-64	3	340
65-69	1	112
70-74		
75+		
Total	21	596

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54	2	1,951
55-59	9	1,327
60-64	10	1,254
65-69	19	1,269
70-74	8	1,477
75-79	6	957
80-84	2	984
85-89	2	306
90-94		
95-99		
100+		
Total	58	1,252

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

City of Rainier/2297
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

September 2016
City of Rainier/2297

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
City of Rainier/2297

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

City of Rainier -- #2297

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for City of Rainier to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to City of Rainier.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for City of Rainier

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	17.76%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(3.05%)	(3.05%)	(3.05%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**15.98%**	**6.24%**	**11.01%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**16.48%**	**6.67%**	**11.44%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 78%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	14.71%	14.71%
Minimum 2019-2021 Rate	11.71%	8.71%
Maximum 2019-2021 Rate	17.71%	20.71%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$3,747,957	$4,261,276	$513,319	88%	$1,009,433	51%
12/31/2011	3,641,708	4,207,024	565,316	87%	1,076,703	53%
12/31/2012	3,755,949	3,944,269	188,320	95%	950,115	20%
12/31/2013	4,623,898	4,379,839	(244,059)	106%	792,879	(31%)
12/31/2014	4,621,424	5,012,677	391,253	92%	954,098	41%
12/31/2015	4,399,799	5,608,244	1,208,445	78%	888,719	136%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

City of Rainier

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$1,208,445	$391,253
Allocated pooled OPSRP UAL	126,344	109,074
Side account	0	0
Net unfunded pension actuarial accrued liability	1,334,789	500,327
Combined valuation payroll	888,719	954,098
Net pension UAL as a percentage of payroll	150%	52%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$4,315	$7,584

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$93,251	$98,314
Tier 1/Tier 2 valuation payroll	525,026	501,891
Tier 1/Tier 2 pension normal cost rate	17.76%	19.59%
Tier 1/ Tier 2 Actuarial accrued liability	$5,608,244	$5,012,677
Actuarial asset value	4,399,799	4,621,424
Tier 1/Tier 2 Unfunded actuarial accrued liability	1,208,445	391,253
Tier 1/ Tier 2 Funded status	78%	92%
Combined valuation payroll	$888,719	$954,098
Tier 1/Tier 2 UAL as a percentage of payroll	136%	41%
Tier 1/Tier 2 UAL rate	(3.05%)	(4.88%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	7	8
Tier 1/Tier 2 dormant members	2	2
Tier 1/Tier 2 retirees and beneficiaries	15	13

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions) RHIA	Actuarial Valuation as of December 31, 2015	Actuarial Valuation as of December 31, 2014
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	888,719	954,098
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$431,891	$545,285
2. Employer reserves	2,404,913	2,674,131
3. Benefits in force reserve	1,562,995	1,402,009
4. Total market value of assets ***(1. + 2. + 3.)***	**$4,399,799**	**$4,621,424**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

		December 31, 2014 to December 31, 2015
1.	Market value of assets at beginning of year	$4,621,424
2.	Regular employer contributions	34,546
3.	Benefit payments and expense	(284,233)
4.	Adjustments [1]	(72,734)
5.	Interest credited	100,795
6.	Total transferred from side accounts	0
7.	**Market value of assets at end of year** ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$4,399,799**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$11,870	$24,947
Tier 1 General Service	0	7,847
Tier 2 Police & Fire	63,731	47,424
Tier 2 General Service	17,650	18,096
Total	**$93,251**	**$98,314**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$93,251	$93,251	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	December 31, 2014
Active Members		
▪ Tier 1 Police & Fire	$434,607	$516,201
▪ Tier 1 General Service	431,091	567,647
▪ Tier 2 Police & Fire	926,258	804,809
▪ Tier 2 General Service	350,392	319,104
▪ **Total Active Members**	**$2,142,348**	**$2,207,761**
Dormant Members	91,091	85,054
Retired Members and Beneficiaries	3,374,805	2,719,862
Total Actuarial Accrued Liability	**$5,608,244**	**$5,012,677**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	After Changes	Net Change
Actuarial Accrued Liability	$5,608,244	$5,608,244	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$5,608,244	$5,012,677
2. Actuarial value of assets	4,399,799	4,621,424
3. Unfunded accrued liability *(1. – 2.)*	1,208,445	391,253
4. Funded percentage *(2. ÷ 1.)*	78%	92%
5. Combined valuation payroll	$888,719	$954,098
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	136%	41%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($244,580)	($18,321)	($17,612)	($243,871)	($18,962)
December 31, 2015	N/A	N/A	N/A	$1,452,316	$105,088
Total				**$1,208,445**	**$86,126**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$5,012,677
b. Normal cost at December 31, 2014 (excluding assumed expenses)	94,045
c. Benefit payments during 2015	(282,037)
d. Interest at 7.50% to December 31, 2015	368,901
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	5,193,586
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	5,193,586
2. Actuarial accrued liability at December 31, 2015	5,608,244
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(414,658)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	4,621,424
b. Contributions for 2015[1]	34,546
c. Benefit payments and expenses during 2015	(284,233)
d. Interest at 7.50% to December 31, 2015	337,244
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	4,708,981
5. Actuarial value of assets at December 31, 2015	4,399,799
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(309,182)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($723,840)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$391,253**
2. Expected increase	93,352
3. Liability (gain)/loss	414,658
4. Asset (gain)/loss	309,182
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$1,208,445**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate	Normal Cost	Employer Tier 1/Tier 2 Valuation Payroll	Normal Cost Rate
Tier 1 Police & Fire	$11,870	$49,084	24.18%	$24,947	$91,738	27.19%
Tier 1 General Service	0	0	0.00%	7,847	21,768	36.05%
Tier 2 Police & Fire	63,731	346,137	18.41%	47,424	252,140	18.81%
Tier 2 General Service	17,650	129,805	13.60%	18,096	136,245	13.28%
Total	**$93,251**	**$525,026**	**17.76%**	**$98,314**	**$501,891**	**19.59%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$1,208,445	$391,253
2. Next year's Tier 1/Tier 2 UAL payment	86,126	27,687
3. Combined valuation payroll	888,719	954,098
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	9.69%	2.90%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.76%	19.59%
b. Tier 1/Tier 2 UAL rate	9.69%	2.90%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	27.60%	22.64%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	11.71%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	11.71%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.34%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	78%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	8.71%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	14.71%
7.	July 1, 2017 total pension rate, before adjustment	27.60%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(12.89%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	9.69%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	(3.20%)
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	14.71%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	17.76%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	17.76%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	14.71%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	17.76%	19.59%
b. Tier 1/Tier 2 UAL rate	(3.20%)	(5.03%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	14.71%	14.71%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$0	$49,084	$49,084
Tier 2	129,805	346,137	475,942
Tier 1/Tier 2 valuation payroll	129,805	395,221	525,026
OPSRP valuation payroll	284,919	78,774	363,693
Combined valuation payroll	**$414,724**	**$473,995**	**$888,719**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	0	2	5	7	1	2	7	10
Police & Fire	1	4	1	6	2	3	1	6
Total	1	6	6	13	3	5	8	16
Active Members with previous service segments with the employer								
General Service	3	1	N/A	4	3	1	N/A	4
Police & Fire	1	1	N/A	2	1	1	N/A	2
Total	4	2	N/A	6	4	2	N/A	6
Dormant Members								
General Service	1	1	1	3	1	1	0	2
Police & Fire	0	0	0	0	0	0	0	0
Total	1	1	1	3	1	1	0	2
Retired Members and Beneficiaries								
General Service	7	0	0	7	6	0	0	6
Police & Fire	8	0	0	8	7	0	0	7
Total	15	0	0	15	13	0	0	13
Grand Total Number of Members	**21**	**9**	**7**	**37**	**21**	**8**	**8**	**37**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44			1	1						2
45-49				3						3
50-54										
55-59				1						1
60-64					1					1
65-69										
70-74										
75+										
Total	0	0	1	5	1	0	0	0	0	7

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	704
50-54	1	358
55-59		
60-64		
65-69		
70-74		
75+		
Total	2	531

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49	1	2,626
50-54	1	278
55-59	2	2,022
60-64		
65-69	6	1,807
70-74	2	1,044
75-79	1	130
80-84	2	973
85-89		
90-94		
95-99		
100+		
Total	15	1,463

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members’ regular account balances. 7.50% compounded annually on members’ variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	\$5.5 million added to OPSRP normal cost. \$33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Redmond Area Park & Recreation District/2689
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System (“PERS” or “the System”) as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

September 2016
Redmond Area Park & Recreation District/2689

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee

Scott Preppernau

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

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Principal and Consulting Actuary

Milliman

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Redmond Area Park & Recreation District -- #2689

September 2016

CONTENTS

Executive Summary

Milliman has prepared this report for Redmond Area Park & Recreation District to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Redmond Area Park & Recreation District.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Redmond Area Park & Recreation District

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.49%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	(1.53%)	(1.53%)	(1.53%)
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**13.23%**	**7.76%**	**12.53%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**13.73%**	**8.19%**	**12.96%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

1 *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 97%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	11.96%	11.96%
Minimum 2019-2021 Rate	8.96%	5.96%
Maximum 2019-2021 Rate	14.96%	17.96%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$1,158,697	$1,021,030	($137,667)	113%	$522,965	(26%)
12/31/2011	1,131,545	1,064,956	(66,589)	106%	590,808	(11%)
12/31/2012	1,271,322	1,134,298	(137,024)	112%	766,663	(18%)
12/31/2013	1,428,866	1,179,561	(249,305)	121%	719,810	(35%)
12/31/2014	1,488,341	1,421,829	(66,512)	105%	739,768	(9%)
12/31/2015	1,509,179	1,555,618	46,439	97%	740,008	6%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Redmond Area Park & Recreation District

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$46,439	($66,512)
Allocated pooled OPSRP UAL	105,202	84,572
Side account	0	0
Net unfunded pension actuarial accrued liability	151,641	18,060
Combined valuation payroll	740,008	739,768
Net pension UAL as a percentage of payroll	20%	2%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$3,593	$5,880

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$34,583	$32,808
Tier 1/Tier 2 valuation payroll	256,273	240,566
Tier 1/Tier 2 pension normal cost rate	13.49%	13.64%
Tier 1/ Tier 2 Actuarial accrued liability	$1,555,618	$1,421,829
Actuarial asset value	1,509,179	1,488,341
Tier 1/Tier 2 Unfunded actuarial accrued liability	46,439	(66,512)
Tier 1/ Tier 2 Funded status	97%	105%
Combined valuation payroll	$740,008	$739,768
Tier 1/Tier 2 UAL as a percentage of payroll	6%	(9%)
Tier 1/Tier 2 UAL rate	(1.53%)	(1.68%)
(includes Multnomah Fire District #10)		
Tier 1/Tier 2 active members [1]	6	6
Tier 1/Tier 2 dormant members	6	7
Tier 1/Tier 2 retirees and beneficiaries	9	8

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	740,008	739,768
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$340,707	$317,662
2. Employer reserves	972,227	959,056
3. Benefits in force reserve	196,244	211,623
4. Total market value of assets ***(1. + 2. + 3.)***	**$1,509,179**	**$1,488,341**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$1,488,341
2. Regular employer contributions	4,309
3. Benefit payments and expense	(35,687)
4. Adjustments [1]	9,252
5. Interest credited	42,964
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$1,509,179**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	16,464	15,555
Tier 2 Police & Fire	0	0
Tier 2 General Service	18,119	17,253
Total	**$34,583**	**$32,808**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$34,583	$34,583	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	622,180	556,556
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	365,027	306,643
▪ **Total Active Members**	**$987,207**	**$863,199**
Dormant Members	144,681	148,088
Retired Members and Beneficiaries	423,730	410,542
Total Actuarial Accrued Liability	**$1,555,618**	**$1,421,829**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$1,555,618	$1,555,618	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$1,555,618	$1,421,829
2. Actuarial value of assets	1,509,179	1,488,341
3. Unfunded accrued liability *(1. – 2.)*	46,439	(66,512)
4. Funded percentage *(2. ÷ 1.)*	97%	105%
5. Combined valuation payroll	$740,008	$739,768
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	6%	(9%)

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	($249,837)	($18,714)	($17,990)	($249,113)	($19,370)
December 31, 2015	N/A	N/A	N/A	$295,552	$21,386
Total				**$46,439**	**$2,016**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$1,421,829
b. Normal cost at December 31, 2014 (excluding assumed expenses)	31,384
c. Benefit payments during 2015	(35,412)
d. Interest at 7.50% to December 31, 2015	106,486
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	1,524,287
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	1,524,287
2. Actuarial accrued liability at December 31, 2015	1,555,618
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	(31,331)
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	1,488,341
b. Contributions for 2015[1]	4,309
c. Benefit payments and expenses during 2015	(35,687)
d. Interest at 7.50% to December 31, 2015	110,449
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	1,567,411
5. Actuarial value of assets at December 31, 2015	1,509,179
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(58,232)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($89,563)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**($66,512)**
2. Expected increase	23,388
3. Liability (gain)/loss	31,331
4. Asset (gain)/loss	58,232
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$46,439**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	16,464	104,905	15.69%	15,555	98,089	15.86%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	18,119	151,368	11.97%	17,253	142,477	12.11%
Total	**$34,583**	**$256,273**	**13.49%**	**$32,808**	**$240,566**	**13.64%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$46,439	($66,512)
2. Next year's Tier 1/Tier 2 UAL payment	2,016	(5,449)
3. Combined valuation payroll	740,008	739,768
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	0.27%	(0.74%)

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.49%	13.64%
b. Tier 1/Tier 2 UAL rate	0.27%	(0.74%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	13.91%	13.05%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1. Current net Tier 1/Tier 2 pension contribution rate		8.96%
2. Employer contribution rate attributable to side accounts		0.00%
3. Current employer Tier 1/Tier 2 pension contribution rate	*(1. – 2.)*	8.96%
4. Size of rate collar		
a. 20% of current employer contribution rate	*(20% x 3.)*	1.79%
b. Preliminary size of rate collar	*(maximum of 3% or a.)*	3.00%
c. Funded percentage		97%
d. Size of rate collar	*(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5. July 1, 2017 minimum employer contribution rate	*(3. – 4.d. but not < 0%)*	5.96%
6. July 1, 2017 maximum employer contribution rate	*(3. + 4.d.)*	11.96%
7. July 1, 2017 total pension rate, before adjustment		13.91%
8. Net adjustment due to rate collar	*(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(1.95%)
9. July 1, 2017 Tier 1/Tier 2 UAL rate, before collar		0.27%
10. July 1, 2017 Tier 1/Tier 2 UAL rate, after collar	*(8. + 9.)*	(1.68%)
11. July 1, 2017 Tier 1/Tier 2 pension rate, after collar		11.96%
12. Tier 1/Tier 2 retiree healthcare rate		0.50%
13. Net adjustment due to 6% minimum	*(6% - 11. - 12., minimum 0%)*	0.00%
14. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment		13.49%
15. July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment	*(13. + 14.)*	13.49%
16. July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment	*(11. + 13.)*	11.96%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	**Advisory July 1, 2017 Rates calculated as of December 31, 2014**
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.49%	13.64%
b. Tier 1/Tier 2 UAL rate	(1.68%)	(1.83%)
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	11.96%	11.96%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$104,905	$0	$104,905
Tier 2	151,368	0	151,368
Tier 1/Tier 2 valuation payroll	256,273	0	256,273
OPSRP valuation payroll	483,735	0	483,735
Combined valuation payroll	**$740,008**	**$0**	**$740,008**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	2	4	28	34	2	4	31	37
Police & Fire	0	0	0	0	0	0	0	0
Total	2	4	28	34	2	4	31	37
Active Members with previous service segments with the employer								
General Service	7	1	N/A	8	7	1	N/A	8
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	7	1	N/A	8	7	1	N/A	8
Dormant Members								
General Service	2	4	1	7	2	5	0	7
Police & Fire	0	0	0	0	0	0	0	0
Total	2	4	1	7	2	5	0	7
Retired Members and Beneficiaries								
General Service	8	1	0	9	8	0	0	8
Police & Fire	0	0	0	0	0	0	0	0
Total	8	1	0	9	8	0	0	8
Grand Total Number of Members	**19**	**10**	**29**	**58**	**19**	**10**	**31**	**60**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

Age	Years of Service									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34										
35-39										
40-44				1	1					2
45-49										
50-54			1	1						2
55-59				1						1
60-64					1					1
65-69										
70-74										
75+										
Total	0	0	1	3	2	0	0	0	0	6

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44	3	86
45-49	1	912
50-54		
55-59	2	210
60-64		
65-69		
70-74		
75+		
Total	6	265

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	1	84
60-64		
65-69	4	454
70-74	2	291
75-79		
80-84		
85-89	1	341
90-94	1	68
95-99		
100+		
Total	9	321

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called “actuarial present value,” the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer’s accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer’s accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer’s accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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September 2016

Rockwood Water PUD/2672
Oregon Public Employees Retirement System

Dear Sir or Madam:

As part of our engagement with the Oregon Public Employees Retirement Board, we performed a system-wide actuarial valuation of the Oregon Public Employees Retirement System ("PERS" or "the System") as of December 31, 2015. The attached report, which is an informational supplement to the system-wide report, provides you with employer-specific contribution rates that will become effective July 1, 2017. Information is also provided to assist you in preparing your required financial reporting disclosures under Statement 45 of the Governmental Accounting Standards Board. GASB 68 information will be provided separately by PERS and is not included in this report.

This report reflects the System's benefit provisions in effect as of December 31, 2015. The full development of the valuation results for the OPSRP and Retiree Health Insurance Account (RHIA) programs can be found in the separate system-wide actuarial valuation report. Costs of the IAP (Individual Account Program) are not included in this or the system-wide actuarial valuation report. Further, costs of pension obligation bond payments are not included in this or the system-wide actuarial valuation report.

If you have any questions about this report, please contact Debra Hembree, Actuarial Services Coordinator at Oregon PERS, at 503 603 7704 or Debra.Hembree@state.or.us.

Contents of Report

The executive summary provides the basic information you need including:

- Contribution rates for Tier 1/Tier 2, OPSRP general service, and OPSRP police and fire payroll,
- Information to assist you in completing GASB 45 financial reporting requirements, and
- A summary of principal valuation results.

The remainder of the report provides additional information including:

- Side account balances, transactions and rate relief,
- Detailed development of Tier 1/Tier 2 valuation results,
- A brief summary of methods and assumptions, and
- A brief summary of any changes in System benefit provisions.

Additional information is provided in the system-wide actuarial valuation report, which is available at www.oregon.gov/PERS/Pages/section/financial_reports/financials.aspx.

Milliman

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by statute, member census data, and financial information. We found this information 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.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

A valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While a 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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 System's funded status); and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in September 2015.

Some of the actuarial computations presented in this report are for purposes of determining the contribution rates effective from July 2017 to June 2019 for System employers. Other actuarial computations presented in this report under GASB Statement No. 45 are for purposes of assisting System employers in fulfilling their financial reporting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. The calculations in this report have been made on a basis consistent with our understanding of the System benefit provisions described in the appendixes of this report, and of GASB Statement No. 45. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman

September 2016
Rockwood Water PUD/2672

This report is prepared solely for the use and benefit of the Oregon Public Employees Retirement System, the employer named above, or its auditors solely for the purpose of completing an audit related to the matters herein. To the extent that this report is not subject to disclosure under applicable public records laws, it may not be provided to other 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 this report. Milliman's consent to release this report to any third party may be conditioned on the third party signing a release except for situations where such release is prohibited by law.

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

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

The signing actuaries are independent of the System. 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 accurate and has been prepared in accordance with generally recognized and 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.

Additional information is provided in the system-wide actuarial valuation report.

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

ACTUARIAL VALUATION REPORT
DECEMBER 31, 2015

OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM

INDEPENDENT EMPLOYERS

Rockwood Water PUD -- #2672

September 2016

Secondary Employers

2554	Hazelwood Water District

CONTENTS

Executive Summary

Milliman has prepared this report for Rockwood Water PUD to:

- Provide summary December 31, 2015 valuation results for the Oregon Public Service Retirement Plan (OPSRP) and the Retiree Health Insurance Account (RHIA),
- Provide employer-specific contribution rates effective July 1, 2017 through June 30, 2019,
- Provide employer-specific valuation results for side accounts and Tier 1/Tier 2 assets and liabilities as of December 31, 2015, and
- Provide reporting and disclosure information for financial statements for governmental agencies and pursuant to GASB Statement Number 45. GASB 68 information will be provided separately by PERS and is not included in this report.

This report summarizes the valuation results for the OPSRP and RHIA. The full development of these results can be found in the December 31, 2015 system-wide actuarial valuation report. This report develops employer-specific Tier 1/Tier 2 and side account rates and applies the results from the system-wide valuation to Rockwood Water PUD.

Employer Contribution Rates

The following table summarizes the employer contribution rates effective July 1, 2017 through June 30, 2019 for each type of payroll. There are separate normal cost rates for each of the payrolls based on the benefit structure supported by that payroll. The other rates apply to all payrolls regardless of the benefit structure to which they are attributed.

Employer Rates Effective July 1, 2017 for Rockwood Water PUD

	Payroll		
		OPSRP	
	Tier 1/Tier 2	General Service	Police & Fire
Pension			
Normal cost rate	13.84%	8.02%	12.79%
Tier 1/Tier 2 UAL rate[1]	3.78%	3.78%	3.78%
OPSRP UAL rate	1.27%	1.27%	1.27%
Side account rate relief	0.00%	0.00%	0.00%
Net pension contribution rate	**18.89%**	**13.07%**	**17.84%**
Retiree Healthcare			
Normal cost rate	0.07%	0.00%	0.00%
UAL rate	0.43%	0.43%	0.43%
Net retiree healthcare rate	**0.50%**	**0.43%**	**0.43%**
Total net employer contribution rate	**19.39%**	**13.50%**	**18.27%**

In this report, the payroll of Tier 1 and Tier 2 members is referred to as Tier 1/Tier 2 valuation payroll. Combined valuation payroll refers to the payroll for Tier 1/Tier 2 members, OPSRP general service members and OPSRP police and fire members.

[1] *Includes Multnomah Fire District #10 rate.*

Executive Summary

Employer Contribution Rates (continued)

Range of Potential Tier 1/Tier 2 Employer Pension Contribution Rates for the July 2019 to June 2021 Biennium

The rate collar limits changes in contribution rates, but does not limit changes in rates for individual employers related to side accounts. The table below shows the possible minimum and maximum rates first effective as of July 1, 2019, which will depend on the funded status as of December 31, 2017. If the employer's funded status excluding side accounts is less than 60 percent or greater than 140 percent, the rate collar doubles in size. If the employer's funded status excluding side accounts is between 60 and 70 percent or between 130 and 140 percent, the size of the rate collar is increased on a graded scale. Also, please note that by Board policy, independent employers with less than 2,500 employees cannot have a Tier 1/Tier 2 pension rate less than 6 percent of payroll (excludes side accounts and OPSRP UAL rates). The rates shown are before any adjustment for side account offsets or the 6 percent minimum independent employer contribution rate.

For comparison, the funded status as of December 31, 2015 is 75%.

Funded Status as of December 31, 2017	70% to 130%	Under 60% or Over 140%
2017-2019 Normal Cost + Tier 1/Tier 2 UAL Rate	17.62%	17.62%
Minimum 2019-2021 Rate	14.10%	10.58%
Maximum 2019-2021 Rate	21.14%	24.66%

Executive Summary

Accounting Information

Milliman is not an accounting or audit firm and cannot provide accounting advice. Milliman is not responsible for the interpretation of, or compliance with, accounting standards; citations to, and descriptions of accounting standards provided in this report are for reference purposes only. The information provided in this section is intended to assist the employer in completing its financial statements, but any accounting determination should be reviewed by your auditor.

Pension

In June 2012 the GASB issued Statement No. 68, which replaced GASB 27 and governs employer financial reporting for fiscal years beginning after June 15, 2014. The new standard replaced many of the key elements of the prior reporting requirements. Under the new rules, employers are required to record a balance sheet liability for their unfunded pension obligations. In addition, the timing and coordination of plan and employer reporting has changed under the new requirements. GASB 68 information for employers will be provided separately by PERS and is not included in this report.

Schedule of Funding Progress

Under GASB 27, the Schedule of Funding Progress for Tier 1/Tier 2 pension liabilities was reported in the Required Supplementary Information. This schedule is no longer required now that GASB 68 has replaced GASB 27. However, for additional information and the sake of historical comparison, the updated schedule is shown below for the last several valuations. For employers with side accounts, the actuarial value of assets in this Schedule includes the value of the employer's side accounts.

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (b - a)	Funded Ratio (a ÷ b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a) ÷ c)
12/31/2010	$7,086,107	$8,405,996	$1,319,889	84%	$1,403,320	94%
12/31/2011	6,767,732	8,570,288	1,802,556	79%	1,285,852	140%
12/31/2012	7,031,202	8,782,146	1,750,944	80%	1,153,789	152%
12/31/2013	7,741,377	8,677,555	936,178	89%	1,240,344	75%
12/31/2014	7,886,747	9,725,263	1,838,516	81%	1,207,711	152%
12/31/2015	7,411,554	9,839,789	2,428,235	75%	1,306,692	186%

Executive Summary

Accounting Information (continued)

Retiree Healthcare

The Retiree Health Insurance Account (RHIA) is a cost-sharing pool under Statement No. 45 of the Governmental Accounting Standards Board (GASB 45). Consequently, each employer reports the contractually required contribution. The contractually required contribution for retiree healthcare liabilities for the period July 1, 2017 through June 30, 2019 was calculated as a part of this valuation, and is expressed as contribution rates that are applied to the appropriate payroll. The rates and appropriate payroll are shown in the table below.

Contractually Required Contribution Rate

	Payroll		
		OPSRP	
	Tier 1 / Tier 2	General Service	Police & Fire
July 1, 2015 to June 30, 2017	0.53%	0.45%	0.45%
July 1, 2017 to June 30, 2019	0.50%	0.43%	0.43%

In June 2015, the GASB issued Statement 75, which will replace GASB 45 and govern employer financial reporting for retiree healthcare obligations for fiscal years beginning after June 15, 2017. In general, the changes required by GASB 75 parallel those that occurred for pension reporting when GASB 68 replaced GASB 27. Accounting information for reporting under GASB 75 will be provided separately and is not included in this report.

Executive Summary

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or plan provisions between the two valuations are described later in this report. More detailed information can be found in the system-wide actuarial valuation report.

Rockwood Water PUD

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
T1/T2 UAL	$2,428,235	$1,838,516
Allocated pooled OPSRP UAL	185,764	138,068
Side account	0	0
Net unfunded pension actuarial accrued liability	2,613,999	1,976,584
Combined valuation payroll	1,306,692	1,207,711
Net pension UAL as a percentage of payroll	200%	164%
Calculated side account rate relief	0.00%	0.00%
Allocated pooled RHIA UAL	$6,345	$9,600

In the above exhibit, UAL amounts for the pools (OPSRP and RHIA) are allocated pro-rata based on the ratio of an employer's combined valuation payroll to that of the applicable pool. Pool total results are summarized on page 7 of this report. Allocated amounts shown above differ from the proportionate share of Net Pension Liability (NPL) that will be allocated to employers under GASB 68.

Executive Summary

Principal Valuation Results (continued)

Tier 1/Tier 2

	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
Normal cost	$77,316	$74,505
Tier 1/Tier 2 valuation payroll	558,543	532,542
Tier 1/Tier 2 pension normal cost rate	13.84%	13.99%
Tier 1/ Tier 2 Actuarial accrued liability	$9,839,789	$9,725,263
Actuarial asset value	7,411,554	7,886,747
Tier 1/Tier 2 Unfunded actuarial accrued liability	2,428,235	1,838,516
Tier 1/ Tier 2 Funded status	75%	81%
Combined valuation payroll	$1,306,692	$1,207,711
Tier 1/Tier 2 UAL as a percentage of payroll	186%	152%
Tier 1/Tier 2 UAL rate (includes Multnomah Fire District #10)	3.78%	3.63%
Tier 1/Tier 2 active members [1]	7	7
Tier 1/Tier 2 dormant members	8	8
Tier 1/Tier 2 retirees and beneficiaries	25	23

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Executive Summary

Principal Valuation Results (continued)

OPSRP

($ in millions)	Actuarial Valuation as of	
	December 31, 2015	**December 31, 2014**
General service normal cost	$342.2	$301.3
OPSRP general service valuation payroll	4,266.9	3,720.4
General service normal cost rate	8.02%	8.10%
Police and fire normal cost	$69.9	$59.6
OPSRP police and fire valuation payroll	546.4	462.3
Police and fire normal cost rate	12.79%	12.90%
Actuarial accrued liability	$3,742.5	$3,064.1
Actuarial asset value	2,389.1	2,024.6
Unfunded actuarial accrued liability	1,353.5	1,039.5
Funded status	64%	66%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	14%	11%
UAL rate	1.27%	1.01%

Retiree Healthcare

($ in millions)	Actuarial Valuation as of	
RHIA	**December 31, 2015**	**December 31, 2014**
Normal cost	$3.3	$3.5
Tier 1 / Tier 2 valuation payroll	4,730.8	4,933.1
Normal cost rate	0.07%	0.07%
Actuarial accrued liability	$465.6	$468.4
Actuarial asset value	419.3	395.9
Unfunded actuarial accrued liability	46.3	72.5
Funded status	90%	85%
Combined valuation payroll	$9,544.1	$9,115.8
UAL as a percentage of payroll	0%	1%
UAL rate	0.43%	0.43%

Side Account Information

Reconciliation of Side Accounts

The following table reconciles the total side account from the beginning of the year to the end of the year. Side account transfers were calculated by PERS and made on a monthly basis. The amount of these transfers is shown in the table below.

All information in this table has been provided by PERS.

	New	Continuing	Total
1. Side account as of December 31, 2014	**N/A**		
2. Deposits made during 2015		N/A	
3. Administrative expenses			
4. Amount transferred to employer reserves during 2015			
5. Side account earnings during 2015			
6. Side account as of December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***			

Side Account Information

Side Account Balances

	December 31, 2015	December 31, 2014
Side account 1	$0	$0
Side account 2	0	0
Side account 3	0	0
Total	**$0**	**$0**

Development of Side Account Rate

The rate relief attributable to an employer's side account is determined by amortizing the side account balance on the valuation date over a fixed period, and expressing the result as a percentage of combined valuation payroll. For side accounts established prior to December 31, 2009, the fixed period ends December 31, 2027. For side accounts established at a later date, the fixed period ends 18 years after the first rate-setting valuation following its creation.

	December 31, 2015	December 31, 2014
1. Total side account	$0	$0
2. Combined valuation payroll	1,306,692	1,207,711
3. Average Amortization factor	9.504	10.118
4. Total side account rate *(-1. ÷ 2. ÷ 3.)* [1]	0.00%	0.00%

[1] *For employers with more than one side account, the Total Side Account Rate is determined by calculating the rate on each side account separately and adding the rates together.*

Tier 1/Tier 2 Valuation Results

Assets

A summary of the market value of pension assets, and reconciliation from the prior year are shown below.

Summary of Market Value of Tier 1/Tier 2 Pension Assets

	December 31, 2015	December 31, 2014
1. Member reserves	$1,039,600	$1,268,273
2. Employer reserves	3,223,630	3,268,420
3. Benefits in force reserve	3,148,324	3,350,054
4. Total market value of assets ***(1. + 2. + 3.)***	**$7,411,554**	**$7,886,747**

The market value of member and employer reserves is provided by PERS. The benefits in force reserve provided by PERS is allocated each year among employers in proportion to their liabilities for retired members and beneficiaries.

Reconciliation of Tier 1/Tier 2 Pension Assets

	December 31, 2014 to December 31, 2015
1. Market value of assets at beginning of year	$7,886,747
2. Regular employer contributions	83,831
3. Benefit payments and expense	(572,527)
4. Adjustments [1]	(175,990)
5. Interest credited	189,493
6. Total transferred from side accounts	0
7. Market value of assets at end of year ***(1. + 2. + 3. + 4. + 5. + 6.)***	**$7,411,554**

[1] *Note the adjustment item above includes a reallocation of the benefits in force reserve, transfers to Multnomah Fire District #10, and other adjustments made by PERS.*

Tier 1/Tier 2 Valuation Results

Liabilities

Normal Cost

The normal cost represents the value of benefits assigned to the next year of service by the actuarial cost method. If all actuarial assumptions are met, the normal cost represents the amount that would need to be contributed each year to fund plan benefits. Amounts shown below include assumed administrative expenses, which are allocated pro-rata based on normal cost.

Summary of Normal Cost by Tier/Member Classification

	December 31, 2015	December 31, 2014
Tier 1 Police & Fire	$0	$0
Tier 1 General Service	39,740	38,240
Tier 2 Police & Fire	0	0
Tier 2 General Service	37,576	36,265
Total	**$77,316**	**$74,505**

Change in Tier 1/Tier 2 Normal Cost

The following table shows the impact of the assumption, method, and plan changes on normal cost as of December 31, 2015.

	Before Changes	After Changes	Net Change
Normal Cost	$77,316	$77,316	$0

Tier 1/Tier 2 Valuation Results

Liabilities

Actuarial Accrued Liability

The actuarial accrued liability represents the value of benefits allocated to service performed before the valuation date by the actuarial cost method. If all actuarial assumptions are met, the actuarial accrued liability represents the amount of assets that would need to be accumulated as of the valuation date to provide for the portion of benefits allocated to service already performed.

Summary of Actuarial Accrued Liability by Tier/Member Classification

	December 31, 2015	**December 31, 2014**
Active Members		
▪ Tier 1 Police & Fire	$0	$0
▪ Tier 1 General Service	971,379	1,339,984
▪ Tier 2 Police & Fire	0	0
▪ Tier 2 General Service	843,319	744,640
▪ **Total Active Members**	**$1,814,698**	**$2,084,624**
Dormant Members	1,227,257	1,141,617
Retired Members and Beneficiaries	6,797,834	6,499,022
Total Actuarial Accrued Liability	**$9,839,789**	**$9,725,263**

Change in Tier 1/Tier 2 Actuarial Accrued Liability

The following table shows the impact of the assumption, method, and plan changes on the actuarial accrued liability as of December 31, 2015.

	Before Changes	**After Changes**	**Net Change**
Actuarial Accrued Liability	$9,839,789	$9,839,789	$0

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Summary of UAL

The UAL represents the difference between the assets accumulated and the liability attributed to prior years of service by the cost method.

	December 31, 2015	December 31, 2014
1. Actuarial accrued liability	$9,839,789	$9,725,263
2. Actuarial value of assets	7,411,554	7,886,747
3. Unfunded accrued liability *(1. – 2.)*	2,428,235	1,838,516
4. Funded percentage *(2. ÷ 1.)*	75%	81%
5. Combined valuation payroll	$1,306,692	$1,207,711
6. Unfunded accrued liability as % of combined valuation payroll *(3. ÷ 5.)*	186%	152%

Reconciliation of UAL Bases

Beginning with the December 31, 2013 actuarial valuation, each odd-year valuation establishes a 20-year closed-period amortization schedule for outstanding Tier 1/Tier 2 UAL amounts. Amortization schedules are calculated based on the total Tier 1/Tier 2 UAL as of that valuation date less the remaining unamortized balance of previously established Tier 1/Tier 2 UAL bases.

Amortization Base	UAL December 31, 2014	Payment	Interest	UAL December 31, 2015	Next Year's Payment
December 31, 2013	$938,176	$70,275	$67,556	$935,457	$72,736
December 31, 2015	N/A	N/A	N/A	$1,492,778	$108,016
Total				**$2,428,235**	**$180,752**

Tier 1/Tier 2 Valuation Results

Unfunded Accrued Liability (UAL)

Actuarial Gain or Loss since Prior Valuation

The system-wide actuarial valuation report contains a detailed analysis of gains and losses since the last valuation. The table below shows the gain or loss for the individual employer.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at December 31, 2014	$9,725,263
b. Normal cost at December 31, 2014 (excluding assumed expenses)	71,271
c. Benefit payments during 2015	(568,105)
d. Interest at 7.50% to December 31, 2015	710,763
e. Expected actuarial accrued liability before changes *(a. + b. + c. + d.)*	9,939,192
f. Change in actuarial accrued liability due to assumption, method, and plan changes	0
g. Expected actuarial accrued liability at December 31, 2015 *(e. + f.)*	9,939,192
2. Actuarial accrued liability at December 31, 2015	9,839,789
3. Gain/(loss) on actuarial accrued liability *(1.g. – 2.)*	99,403
4. Expected actuarial value of assets	
a. Actuarial value of assets at December 31, 2014	7,886,747
b. Contributions for 2015[1]	83,831
c. Benefit payments and expenses during 2015	(572,527)
d. Interest at 7.50% to December 31, 2015	573,180
e. Expected actuarial value of assets at December 31, 2015 *(a. + b. + c. + d.)*	7,971,231
5. Actuarial value of assets at December 31, 2015	7,411,554
6. Gain/(loss) on actuarial value of assets *(5. - 4.e.)*	(559,677)
7. Total actuarial gain/(loss) ***(3. + 6.)***	**($460,274)**

Unfunded Accrued Liability Reconciliation

A reconciliation of the Tier 1/Tier 2 UAL from December 31, 2014 is provided below.

1. UAL at December 31, 2014	**$1,838,516**
2. Expected increase	129,445
3. Liability (gain)/loss	(99,403)
4. Asset (gain)/loss	559,677
5. Change due to changes in assumptions, methods, and plan provisions	0
6. UAL at December 31, 2015 ***(1. + 2. + 3. + 4. + 5.)***	**$2,428,235**

[1] *Includes rate relief from side accounts.*

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Normal Cost Rate

For independent employers, the normal cost calculated previously is divided by projected payroll to determine a normal cost rate. The table below shows the development of the rate for each tier and member classification.

Development of Tier 1/Tier 2 Normal Cost Rate

	December 31, 2015			December 31, 2014		
	Normal Cost	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**	**Normal Cost**	**Employer Tier 1/Tier 2 Valuation Payroll**	**Normal Cost Rate**
Tier 1 Police & Fire	$0	$0	0.00%	$0	$0	0.00%
Tier 1 General Service	39,740	187,875	21.15%	38,240	174,668	21.89%
Tier 2 Police & Fire	0	0	0.00%	0	0	0.00%
Tier 2 General Service	37,576	370,668	10.14%	36,265	357,874	10.13%
Total	**$77,316**	**$558,543**	**13.84%**	**$74,505**	**$532,542**	**13.99%**

An independent employer that has no Tier 1/Tier 2 active payroll will be assigned the weighted average normal cost of all independent employers as calculated in the system-wide actuarial valuation report.

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Development of Tier 1/Tier 2 UAL Rates

The UAL rate is determined by calculating the next year's scheduled payment to the UAL as a percentage of combined valuation payroll.

	December 31, 2015	December 31, 2014
1. Total Tier 1/Tier 2 UAL	$2,428,235	$1,838,516
2. Next year's Tier 1/Tier 2 UAL payment	180,752	135,423
3. Combined valuation payroll	1,306,692	1,207,711
4. Tier 1/Tier 2 UAL rate *(2. ÷ 3.)*	13.83%	11.21%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Pre-Rate Collar)

The following table summarizes the employer's pension contribution rate for Tier 1/Tier 2. The normal cost rates apply to Tier 1/Tier 2 payroll only, but all other rates apply to combined valuation payroll. These rates do not reflect adjustments due to the rate collar, the minimum 6 percent rate for independent employers with fewer than 2,500 members, or side accounts.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.84%	13.99%
b. Tier 1/Tier 2 UAL rate	13.83%	11.21%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c.)*	27.82%	25.35%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Adjustments Due to Rate Collar and Minimum Rate Requirements

Employer contribution rates are generally limited to change by no more than the greater of 3 percent of payroll or 20 percent from the current contribution rate. However, if the funded percentage excluding side accounts is below 60 percent or above 140 percent the rate collar doubles in size. If the funded percentage excluding side accounts is between 60 and 70 percent or 130 and 140 percent, the size of the collar is increased on a graded scale. In addition, for independent employers with less than 2,500 active members, the net employer Tier 1/Tier 2 contribution rate cannot be less than 6 percent of payroll. All collar and minimum rate calculations are performed prior to adjustments for side accounts and the OPSRP UAL rate.

The table below shows the current contribution rate for the period from July 1, 2015 through June 30, 2017, develops the maximum and minimum contribution rates effective July 1, 2017 based on the collar, and calculates the net adjustment due to the collar and minimum independent employer contribution rate. The net adjustment due to the rate collar is applied to the UAL rate. The net adjustment due to the 6 percent minimum independent employer contribution rate is applied to the pension normal cost rate.

1.	Current net Tier 1/Tier 2 pension contribution rate	14.62%
2.	Employer contribution rate attributable to side accounts	0.00%
3.	Current employer Tier 1/Tier 2 pension contribution rate *(1. – 2.)*	14.62%
4.	Size of rate collar	
	a. 20% of current employer contribution rate *(20% x 3.)*	2.92%
	b. Preliminary size of rate collar *(maximum of 3% or a.)*	3.00%
	c. Funded percentage	75%
	d. Size of rate collar *(If c. < 60% or c. > 140%, 2 x b. If c. is 70%-130%, b. Otherwise, a graded rate between b. and 2 x b.)*	3.00%
5.	July 1, 2017 minimum employer contribution rate *(3. – 4.d. but not < 0%)*	11.62%
6.	July 1, 2017 maximum employer contribution rate *(3. + 4.d.)*	17.62%
7.	July 1, 2017 total pension rate, before adjustment	27.82%
8.	Net adjustment due to rate collar *(5. – 7., but not < 0, or 6. – 7., but not > 0)*	(10.20%)
9.	July 1, 2017 Tier 1/Tier 2 UAL rate, before collar	13.83%
10.	July 1, 2017 Tier 1/Tier 2 UAL rate, after collar *(8. + 9.)*	3.63%
11.	July 1, 2017 Tier 1/Tier 2 pension rate, after collar	17.62%
12.	Tier 1/Tier 2 retiree healthcare rate	0.50%
13.	Net adjustment due to 6% minimum *(6% - 11. - 12., minimum 0%)*	0.00%
14.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, before minimum adjustment	13.84%
15.	July 1, 2017 Tier 1/Tier 2 pension normal cost rate, after minimum adjustment *(13. + 14.)*	13.84%
16.	July 1, 2017 Tier 1/Tier 2 pension rate, after minimum adjustment *(11. + 13.)*	17.62%

Tier 1/Tier 2 Valuation Results

Contribution Rate Development

Tier 1/Tier 2 Employer Contribution Rate Summary (Post-Rate Collar)

The table below summarizes the employer's pension contribution rate for Tier 1 /Tier 2 after adjustments for the rate collar and the 6 percent of payroll minimum employer contribution rate.

	July 1, 2017 Rates calculated as of December 31, 2015	Advisory July 1, 2017 Rates calculated as of December 31, 2014
1. Tier 1/Tier 2 pension contribution rates		
a. Employer Tier 1/Tier 2 pension normal cost rate	13.84%	13.99%
b. Tier 1/Tier 2 UAL rate	3.63%	3.48%
c. Multnomah Fire District #10 rate	0.15%	0.15%
d. Total Tier 1/Tier 2 pension rate *(a. + b. + c., minimum of 5.50%)*	17.62%	17.62%

Data

Demographic Information

Employer Valuation Payroll

	General Service	Police & Fire	Total
Tier 1	$187,875	$0	$187,875
Tier 2	370,668	0	370,668
Tier 1/Tier 2 valuation payroll	558,543	0	558,543
OPSRP valuation payroll	748,149	0	748,149
Combined valuation payroll	**$1,306,692**	**$0**	**$1,306,692**

Employer Member Census

	December 31							
	2015				2014			
	Tier 1	Tier 2	OPSRP	Total	Tier 1	Tier 2	OPSRP	Total
Active Members [1]								
General Service	3	4	12	19	3	4	11	18
Police & Fire	0	0	0	0	0	0	0	0
Total	3	4	12	19	3	4	11	18
Active Members with previous service segments with the employer								
General Service	2	1	N/A	3	3	1	N/A	4
Police & Fire	0	0	N/A	0	0	0	N/A	0
Total	2	1	N/A	3	3	1	N/A	4
Dormant Members								
General Service	6	2	1	9	6	2	1	9
Police & Fire	0	0	0	0	0	0	0	0
Total	6	2	1	9	6	2	1	9
Retired Members and Beneficiaries								
General Service	23	2	0	25	22	1	0	23
Police & Fire	0	0	0	0	0	0	0	0
Total	23	2	0	25	22	1	0	23
Grand Total Number of Members	**34**	**9**	**13**	**56**	**34**	**8**	**12**	**54**

[1] *Active counts do not include concurrent employees who have a separate dominant employer.*

Data

Demographic Information (continued)

Employer Tier 1/Tier 2 Active Members as of December 31, 2015

	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
<20										
20-24										
25-29										
30-34			1							1
35-39										
40-44			1	1						2
45-49			1							1
50-54				1						1
55-59					1	1				2
60-64										
65-69										
70-74										
75+										
Total	0	0	3	2	1	1	0	0	0	7

Distribution of Employer Tier 1/Tier 2 Members as of December 31, 2015

Dormant Members

Age	Count	Average Deferred Monthly Benefit
<20		
20-24		
25-29		
30-34		
35-39		
40-44		
45-49	1	1,614
50-54	2	1,912
55-59	2	67
60-64	2	2,108
65-69	1	0
70-74		
75+		
Total	8	1,223

Retired Members and Beneficiaries

Age	Count	Average Monthly Benefit
<45		
45-49		
50-54		
55-59	3	1,735
60-64	6	2,725
65-69	7	1,960
70-74	2	42
75-79	1	205
80-84	3	1,409
85-89	1	642
90-94	1	2,103
95-99	1	36
100+		
Total	25	1,703

Brief Summary of Actuarial Methods and Assumptions

A detailed summary of the actuarial methods and assumptions used to prepare the December 31, 2015 valuation can be found in the system-wide actuarial valuation report.

Actuarial Methods and Valuation Procedures

A brief summary of the methods used in this valuation is shown below:

Actuarial cost method	Entry Age Normal.
Amortization Method	The UAL is amortized as a level percentage of combined payroll. The OPSRP UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 16 year period. The Retiree Healthcare UAL as of December 31, 2007 and experience in each subsequent biennium is amortized over a closed 10 year period. All existing Tier 1/Tier 2 UAL was re-amortized over a 20 year period as of the December 31, 2013 rate-setting valuation. Gains and losses between subsequent odd-year valuations will be amortized as a level percentage of projected combined valuation payroll over a closed 20 year period.
Asset valuation method	Market value of assets, excluding reserves.
Contribution rate stabilization method (rate collar)	Contribution rates for a rate pool (e.g. Tier 1/Tier 2 SLGRP, Tier 1/Tier 2 School Districts, OPSRP) or independent employer are confined to a collar based on the rate pool's prior pension contribution rate (excluding side account rate offsets). The new contribution rate generally will not increase or decrease from the prior contribution rate by more than the greater of 3 percent of payroll or 20 percent of the current rate. If the funded percentage excluding side accounts drops below 60% or increases above 140%, the size of the collar doubles. If the funding percentage excluding side accounts is between 60% and 70% or between 130% and 140%, the size of the rate collar is increased on a graded scale.

Economic Assumptions

A brief summary of the key economic assumptions used in this valuation is shown below:

Net investment return	7.50% compounded annually on system assets.
Interest crediting	7.50% compounded annually on members' regular account balances. 7.50% compounded annually on members' variable account balances.
Consumer price inflation	2.50% per year.
Future general wage inflation	3.50% per year.
Healthcare cost inflation	Ranging from 6.3% in 2016 to 4.4% in 2094.
Administrative Expenses	$5.5 million added to OPSRP normal cost. $33.0 million added to Tier 1/Tier 2 normal cost.

Brief Summary of Actuarial Methods and Assumptions

Changes Since Last Valuation

The key changes since the December 31, 2014 actuarial valuation are described briefly below and are described in additional detail in the system-wide report.

Changes in Actuarial Methods and Allocation Procedures

There were no changes in actuarial methods and allocation procedures since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA actuarial methods and allocation procedures is provided as part of the system-wide valuation report.

Changes in Assumptions

There were no changes in assumptions since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA assumptions is provided as part of the system-wide valuation report.

Brief Summary of Changes in Plan Provisions

There were no changes in plan provisions occurred since the December 31, 2014 actuarial valuation. A complete summary of the Tier 1/Tier 2, OPSRP, RHIA, and RHIPA plan provisions valued is provided as part of the system-wide actuarial valuation report.

Glossary

Actuarial Accrued Liability

The portion of the present value of prospective benefits allocated to service and compensation before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value

The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method

Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss)

A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Combined Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for both Tier 1/Tier 2 and OPSRP active members. This payroll is used to calculate UAL rates.

Cost Sharing Multiple-Employer Plan

A single plan used to provide pensions to the employees of more than one employer wherein pension obligations are pooled and plan assets can be used to pay the benefits of the employees of any employer that provides pension through the plan.

Employer Contribution Rate

Consists of the normal cost rate and the UAL rates, plus adjustments for other items such as side account rate offsets.

Funded Status

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Normal Cost

The annual cost allocated to the current year, under the actuarial cost method in use. The normal cost divided by the applicable payroll is the normal cost rate.

OPSRP Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for OPSRP active members. This payroll is used to calculate OPSRP normal cost rates.

Glossary

Pre-SLGRP Liability

The sum of Pre-SLGRP Pooled Liabilities and Transition Liabilities.

Pre-SLGRP Pooled Liability

The difference between the total UAL and the UAL attributable to the SLGRP for a pool of employers that joined the SLGRP. There are currently two pre-SLGRP pools. One was created for State Agencies and Community Colleges when the SLGRP was formed. The other one was created when the Local Government Rate Pool joined the SLGRP.

Present Value

Sometimes called "actuarial present value," the estimated cost (as of the valuation date) of a series of future payments. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Rate Collar

A methodology that defines the maximum permissible period-to-period change in the base employer contribution rate. The width of the rate collar is determined by the current contribution rate and funded status.

Required Supplementary Information (RSI)

Schedules, statistical data, and other information that are an essential part of financial reporting and should be presented with, but are not part of, the basic financial statements of a governmental entity.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27)

The accounting standard governing a state or local governmental employer's accounting for pensions prior to GASB 68.

Statement No. 45 of the Governmental Accounting Standards Board (GASB 45)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68)

The accounting standard governing a state or local governmental employer's accounting for pensions for fiscal years beginning after June 15, 2014.

Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)

The accounting standard governing a state or local governmental employer's accounting for post-employment benefits other than pensions for fiscal years beginning after June 15, 2017.

Tier 1/Tier 2 Valuation Payroll

Projected payroll subject to PERS employer contribution rates for the calendar year following the valuation date for Tier 1 and Tier 2 active members. This payroll is used to calculate the Tier 1/Tier 2 normal cost rate.

Transition Liability

The difference between the total UAL and the UAL attributable to the SLGRP for an individual employer that joined the SLGRP or the Local Government Rate Pool.

Unfunded Accrued Liability (UAL)

The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The UAL is divided by combined valuation payroll and an amortization factor to determine an initial pre-collar UAL rate. The final UAL rate can be adjusted by the rate collar.

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