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October 28, 2016

**VIA E-MAIL**

Steve Rodeman  
Executive Director  
Oregon PERS

**Re: Request Number: 2016-008  
Analysis of Potential 2017 Legislation: Reduced Pension Multipliers**

Dear Steve:

Per the request noted above, we estimated the system-wide average effects of changing the pension multiplier used in final average pay benefit calculations according to two different proposals. Both proposals would apply changes prospectively, and would affect both Tier 1/ Tier 2 members and OPSRP pension members.

Our analysis is based upon our understanding of the proposed changes as informed by discussions with PERS staff.

The two alternative proposals analyzed are:

- For service after January 1, 2018, change the pension multiplier to 1.00% of Final Average Salary (FAS) per year of service for general service members and 1.20% of FAS for police & fire members.
- For service after January 1, 2018, change the pension multiplier to 0.25% of FAS per year of service for general service members and 0.30% of FAS for police & fire members.

We understand the proposed changes would apply as follows:

- The change would apply to the calculation of all OPSRP pension benefits and to Tier 1/Tier 2 benefits determined under the Full Formula calculation method. Tier 1/Tier 2 benefits determined under the Money Match or Formula Plus Annuity calculation methods would not be affected. Also, we understand benefits for the state judiciary would be unaffected.
- Service earned prior to January 1, 2018 would continue to receive the current pension multiplier in benefit calculations. The current multipliers are summarized below:

Offices in Principal Cities Worldwide

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Current Pension Multipliers	General Service	Police & Fire
Tier 1/Tier 2 (Full Formula)	1.67%	2.00%
OPSRP	1.50%	1.80%

Other than as described herein, our analysis used the same assumptions as used in the December 31, 2015 Actuarial Valuation. The analysis estimates the impact of the changes and assumed implementation dates described above on the Actuarial Accrued Liability and system-wide average uncollared base pension contribution rates calculated in the December 31, 2015 Actuarial Valuation.

The uncollared base pension contribution rate, which this concept lowers, is the theoretical rate which would need to be contributed starting at the valuation date to amortize the unfunded liability over the specified amortization period if future experience follows assumptions. Employers actually contribute the collared base pension contribution rate reflecting the effect of the rate collar, which spreads large needed rate increases over several biennia. The system-average uncollared base pension contribution rate in the December 31, 2015 actuarial valuation is more than 8% of payroll greater than the collared base pension contribution rate for the 2017-2019 biennium<sup>1</sup>.

The consultants who worked on this assignment are pension actuaries. We have not explored any legal issues with respect to these change concepts. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

### SUMMARY OF LIABILITY RESULTS

The table below summarizes key December 31, 2015 valuation results for pension benefits prior to reflecting any legislative concept, along with the reductions in pension multipliers described above.

"Accrued Liability" refers to the net present value of projected future benefits allocated to service already completed as of the valuation date in accordance with the current actuarial cost allocation method, while "Total Liability" also includes the value allocated to projected future service for current active members. The contribution rate shown is a blended rate reflecting the weighted averages of Tier 1, Tier 2 & OPSRP payroll as of the valuation date. The base contribution rate is shown on an uncollared basis. Contribution rates shown in the table are rounded to the nearest 0.05% of payroll.

The change in system-wide December 31, 2015 valuation results is shown below.

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<sup>1</sup> Slide 23, July 2016 PERS Board Presentation

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	12/31/2015 Total Liability (\$B)	12/31/2015 Accrued Liability (\$B)	2017-2019 Uncollared Base Pension Employer Contribution Rates (% of Payroll)		
			Normal Cost	UAL	Total
12/31/2015 Pension Valuation Results	\$83.8	\$76.2	11.79%	17.29%	29.08%
Reduce multipliers to 1.0%/1.2%	(\$2.8)	(\$1.8)	(1.20%)	(1.35%)	(2.55%)
Reduce multipliers to 0.25%/0.30%	(\$6.5)	(\$4.0)	(2.85%)	(3.00%)	(5.85%)

### ILLUSTRATION OF BENEFIT CHANGES

Consider an OPSRP general service member who retires with a Final Average Salary of \$60,000 and performed 10 years of service prior to 2018 and 20 years after January 1, 2018.

Under the current plan provisions, the member's annual benefit at retirement would be:

$$\$60,000 \times 1.5\% \times 30 = \$27,000$$

Under the first proposal, the member's annual retirement benefit would be:

$$\$60,000 \times 1.5\% \times 10 + \$60,000 \times 1.0\% \times 20 = \$21,000$$

Under the second proposal, the member's annual retirement benefit would be:

$$\$60,000 \times 1.5\% \times 10 + \$60,000 \times 0.25\% \times 20 = \$12,000$$

The example above illustrates the benefit amount for a member with service both before and after January 1, 2018. Related to the analysis described in this letter, it is also worthwhile to consider the change in the benefit that would be provided to a member who worked a full career under the proposed changes. The table below illustrates the percent of Final Average Salary for an OPSRP member at normal retirement under current plan provisions and under both proposals analyzed:

	Benefit as Percent of Final Average Salary		
	Current Multiplier	Multiplier: 1.0%/1.2%	Multiplier: 0.25%/0.3%
OPSRP General Service with 30 years of service	45%	30%	7.5%
OPSRP Police & Fire with 25 years of service	45%	30%	7.5%

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## LONG-TERM EFFECT ON COST OF BENEFITS

The “Summary of Liability Results” table above shows immediate reductions in the 2017-19 uncollared base pension contribution rates as calculated in the December 31, 2015 actuarial valuation. Those immediate reductions in the uncollared rate reflect the system’s membership as of the actuarial valuation date. As shown by the table, the immediate rate reduction reflects a decrease in both the normal cost rate and the UAL (amortization) rate. The changes to the 2017-19 normal cost rate reflect a blend of the impact that each proposal would have on different groups of members (Tier 1, Tier 2, and OPSRP). Each group of members – and each individual member – would be affected to varying degrees based on the proportion of their PERS-covered employment that occurs after the proposed January 1, 2018 effective date.

For example, the proposal to reduce the multiplier to 1.0% for General Service and 1.2% for Police & Fire is estimated to lower the system-average 2017-19 normal cost (calculated as of a 12/31/2015 actuarial valuation date) from 11.79% to 10.59% based on the change of -1.20% shown in the table. However, there is wide variation from that system-wide average effect for individual members. Members who are near the end of their career, or whose benefits are projected to be determined under the Money Match calculation, will have little or no change to their normal cost rate. In contrast, recent OPSRP hires and younger Tier 2 members would have a much larger reduction in normal cost rate, because a larger proportion of their projected PERS-covered employment would be performed under the new lower multipliers.

Another way to illustrate the effect of the proposals is to consider the change in the expected normal cost rate for future members hired after the effective date. This is an indication of where the system-average normal cost would trend to in the long term, once effectively all active members are covered under the new provisions for their entire working careers. Currently, the system-average OPSRP normal cost rate (8.56% of pay, as shown in the December 31, 2015 actuarial valuation) is an estimate of the long-term system normal cost rate once effectively all active members are in the OPSRP tier. Over time the current system-average normal cost of 11.79% would be expected to gradually trend down to the OPSRP normal cost rate of 8.56% once all active members are covered under OPSRP, assuming all experience follows assumption and there are no future changes to assumptions or plan provisions.

The proposed reductions to the pension multipliers would lower the expected long-term normal cost rate of the system. The table below refers to this rate as the “year 30 normal cost rate” – because by 30 years after a plan change effectively all of the active membership would be subject to the new multipliers for the entirety of their working careers. The table below estimates the year 30 normal cost rate under current provisions and under the proposals analyzed.

	12/31/2015 System-Avg Normal Cost	Post-change System-Avg Normal Cost	Year 30 Normal Cost	Year 30 Normal Cost Change
No change to provisions	11.79%	11.79%	8.56%	N/A
Reduce multipliers to 1.0%/1.2%	11.79%	10.59%	5.80%	(2.76%)
Reduce multipliers to 0.25%/0.30%	11.79%	8.94%	1.70%	(6.86%)

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## **DATA, METHODS, ASSUMPTIONS AND PROVISIONS**

Other than the exceptions and additions discussed in this letter, the data, methods, assumptions, and plan provisions used to calculate employer contribution rates are the same as those used in the December 31, 2015 System-wide Actuarial Valuation Report, published on September 27, 2016. That information, including a discussion of the inherent limitations of use of actuarial valuation results, is herein incorporated to this letter by reference.

Our valuation assumptions portion of the analysis does not include any assumed change in participant behavior such as patterns in retirement and other termination of employment due to the proposed changes in policy, or modification to bargaining agreements or employer pay practices as a result of any legislative benefit changes. The potential impact of such participant behavior modification merit consideration, but are beyond the scope of this analysis. Actual experience will vary from assumption, and sometimes the variance from assumption will be significant. The variance will affect the long-term financial impact of any proposed legislation.

In calculating the illustrative changes in uncollared employer base employer contribution rates shown above, we assumed all changes in Actuarial Accrued Liability were amortized over a closed 20-year period as a level percent of projected payroll using current valuation assumptions. This is the method currently used in the valuation when establishing new Tier 1/Tier 2 UAL amortization bases. If a different amortization method were used, the overall impact on employer rates could be significantly different than shown in this letter.

## **ACTUARIAL BASIS AND QUALIFICATIONS**

In preparing this letter and the valuation report on which it is based, we relied, without audit, on information (some oral and some in writing) supplied by Oregon PERS. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. These estimates 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.

Future actuarial measurements may differ significantly from the current measurements presented in this estimate due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, additional cost or contribution requirements based on the plan's funded status, or a change in the cost allocation method); and changes in plan provisions or applicable law. Due to the limited

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Mr. Steve Rodeman  
October 28, 2016  
Page 6

scope of this estimate, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the valuation assumptions and adopted the assumptions used in the December 31, 2015 valuation in September 2015.

Actuarial computations presented in this estimate are for purposes of providing a high-level analysis of the requested change concepts to the System. As such, they cannot be relied upon for financial reporting or other purposes, and calculations for purposes other than this use may be significantly different from the estimates contained in this letter. Accordingly, additional determinations may be needed for other purposes.

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The consultants who worked on this assignment are pension actuaries. We have not explored any legal issues with respect to the change concepts. 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.

If you have any questions about our response or need any additional information, please let us know.

Sincerely,



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



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

MRL:sdp

cc: Debra Hembree, Marjorie Taylor

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