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September 18, 2013

VIA E-MAIL

Paul Cleary
Executive Director
Oregon PERS

Re: Request Number: 2013-007
Analysis of Senate Bill 857

Dear Paul:

Per the request noted above, we have estimated the system-wide average effects of the PERS benefits modifications contained in Senate Bill 857 engrossed (SB 857) as provided to us by PERS via email on September 16, 2013.

We understand SB 857 to have the following effects on PERS benefits:

- Beginning in 2014, future COLA adjustments would be 1.25% on the first $60,000 of annual benefit and 0.15% on any amounts above that threshold. A comparison of this schedule to the graded schedule introduced in Senate Bill 822 (SB 822) is shown in the table below. As was the case for SB 822, the COLA proposed by SB 857 would be applied on a marginal rate basis. For example, the COLA for a member with a $70,000 annual benefit would be calculated as 1.25% on the first $60,000 and 0.15% on the next $10,000, for a total increase of $765. The $60,000 threshold in SB 857 is not indexed for future increases in inflation.

Annual Benefit Amount	SB 822 COLA	SB 857 COLA
First $20,000	2.00%	1.25%
$20,000 to $40,000	1.50%	1.25%
$40,000 to $60,000	1.00%	1.25%
$60,000 or more	0.25%	0.15%

- The actuarial equivalence factor tables used to calculate benefits under the Money Match formula for retirements after September 1, 2013 will be based on annuitization interest rates linked to rates published by the Pension Benefit Guaranty Corporation (PBGC) for certain specified members identified by SB 857. The following members would be exempt from the new equivalence basis:
  - Active members on the effective date of the bill
  - Inactive members who:
    - Performed some service between January 1, 2004 and the effective date of the bill, and,
    - Satisfy a credited service threshold. For Police and Fire members, the threshold would be 20 or more years of membership; for all others it would be 24 years of membership.

The COLA increase provided in 2013 would continue to be limited to 1.5%, consistent with SB 822 which was signed into law in May. SB 857 does not modify 2013 COLA increases from the levels provided by SB 822.

The analysis estimates the impact on actuarial liability and uncollared base pension contribution rates calculated in the December 31, 2011 actuarial valuation of the changes and implementation dates described herein. Except as otherwise described in this letter, our analysis has used the same assumptions as the December 31, 2011 actuarial valuation.

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

SUMMARY OF LIABILITY RESULTS

The table below has a summary of the valuation results for the most recent rate-setting actuarial valuation, the estimated impact of SB 822 on those results (as presented in our letter dated March 28, 2013), and the estimated additional effects of SB 857 on those results. The effects of SB 857 are shown separately for the COLA change and the change to the annuitization rate for certain inactive members. The changes proposed by SB 857 lower the actuarial liability and uncollared base pension employer contribution rates via a reduction of benefits projected to be paid in the future.

In the table below, "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" includes the value attributable to anticipated 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.

	12/31/2011 Total Liability ($B)	12/31/2011 Accrued Liability ($B)	2013-2015 Uncollared Base Pension Employer Contribution Rates (% of Payroll)		
			Normal Cost	UAL	Total
12/31/2011 valuation results	$69.2	$61.2	8.2%	15.5%	23.7%
Effect of SB 822 benefit changes*	(3.2)	(2.6)	(0.3%)	(2.2%)	(2.5%)
Additional effect of SB 857 COLA changes	(2.1)	(1.9)	(0.3%)	(1.7%)	(2.0%)
Additional effect of SB 857 inactive annuitization (rough estimate)**	(0.4)	(0.4)	N/A	(0.3%)	(0.3%)

**see letter dated March 28, 2013*
***reflects estimated impact on inactive members not eligible to retire (discussion below)*

Compared to the effects of the already-enacted SB 822 benefit changes, the incremental impact of the COLA changes in SB 857 is to reduce 12/31/2011 Accrued Liability by an additional $1.9 billion and the <u>uncollared</u> 2013-2015 base pension contribution rate by 2.0% of payroll. In addition, a rough estimate of the effect of the annuitization provision is 0.3% of payroll on the uncollared 2013-2015 rate. There are several reasons the inactive annuitization impact is characterized as “rough”, with those reasons discussed later in this letter.

As you know, SB 822 directed the PERS Board to immediately and fully reflect the value of the long-term rate reduction for SB 822’s benefit changes (estimated at 2.5% of payroll) in employer contribution rates charged for the 2013-2015 biennium. This lowered the previously scheduled 2013-2015 contribution rates for all employers by 2.5% of payroll. In addition, as a short-term cost deferral action SB 822 also included a budget note directing the PERS Board to defer up to another 1.9% of payroll in contribution rate increases otherwise scheduled to take effect on July 2013 for the 2013-2015 biennium. We have already provided PERS with schedules of employer rates effective July 1, 2013 reflecting these reductions.

Based on discussions with PERS, our understanding is that the estimated 2.0% contribution rate reduction from the benefit changes associated with SB 857 would be grouped with the 2.5% contribution rate reduction from SB 822’s benefit changes. This would be estimated as a combined 4.5% of payroll reduction for benefit changes.

In implementing the SB 822 budget note, the PERS Board did not allow the rate deferral to reduce an employer’s contribution rate below its 2011-2013 level. This limited the impact of the budget note deferrals to less than 1.9% of payroll for some employers under SB 822. This “contribution rate floor” implementation of the budget note would limit the impact to even more employers, particularly state & local government rate pool (SLGRP) employers, under the combination of SB 822 and SB 857.

The up to 1.9% of payroll 2013-2015 rate reduction for the budget note, which provides near-term “savings” but is most accurately characterized as a deferral of calculated rate increases, would be applied for each employer after application of the benefit-related rate reductions of SB 822 and SB 857. At an “average employer” level, this approach would cause the budget note decrease to be quite different for the two largest employer rate pools. Employers in the school district rate pool, originally scheduled for a July 2013 base rate increase of over 7% of payroll, would receive both a 4.5% of payroll reduction for COLA and tax gross-up related benefit changes and a 1.9% of payroll reduction for the budget note. In contrast, state & local government rate pool (SLGRP) employers had an originally scheduled July 2013 base rate increase of 4.5% of payroll. After applying the 4.5% of payroll reduction for COLA and tax gross-up related benefit changes, no additional reduction would be allowed under the budget note’s deferral provisions. Any additional reduction would lower the employer’s 2013-2015 rate below its 2011-2013 contribution rate and therefore would not occur due to Board’s implementation policy of the budget note provisions of SB 822. As you are aware, the comparison to the 2011-2013 rate is done at an employer level, so the effects of the budget note can even vary between employers that are within the same rate pool.

Analysis of Benefit Modifications

The decrease in both Total Liability and Accrued Liability shown is caused by reducing projected benefit payments for current and future retirees. The separate components of the SB 857 benefit modification differ in the groups they affect and the magnitude of the impact. Key aspects of the two changes are discussed individually below.

COLA Changes

The COLA changes reduce liabilities by reducing projected future benefit payments for current and future retirees. In 2014 and beyond, members will receive lower COLAs under the SB 857 than under the graded schedule created by SB 822. While SB 822 left the COLA level unchanged at 2% for members with benefits below the lowest threshold level ($20,000), SB 857 lowers the COLA from the first dollar of benefit. The marginal COLA rates under SB 857 are lower than those under the SB 822 schedule for benefits under $40,000 and over $60,000. The marginal rates are higher for benefits between $40,000 and $60,000. This works out to produce a lower total annual COLA at all benefit levels.

The COLA threshold is not indexed to increase with inflation in future years. The legislative decision regarding indexation of the COLA schedule in SB 857 significantly affects cost estimates given the long-term nature of the program and the effects of inflation over time.

Annuitize Inactive Money at PBGC Interest Rates

SB 857 changes the annuitization basis used for Money Match calculations for certain inactive members. The current practice is to perform the annuitization using the assumed investment rate of return. This has been 8% for many years, but will be 7.75% beginning with actuarial equivalence factors first effective on January 1, 2014. The alternative proposed by SB 857 is to base the annuitization interest rate for certain members on the current immediate and deferred annuity rates published by the PBGC.

The PBGC rates are published quarterly, and are structured on a “select and ultimate” basis. The rates published for the last quarter of 2013 are 3.00% for the first 20 years and 3.31% thereafter. If SB 857 is adopted, PERS will need to answer a number of questions via rulemaking regarding how to administer this new basis. Questions include determining which quarterly period should determine the rate, how long rates should be in effect (e.g. a quarter, a year, a biennium), and how to implement the select and ultimate structure.

In addition, because the PBGC rate basis tracks market interest rates and is updated quarterly, it introduces a level of volatility into the annuitization basis that PERS has not previously seen. While the current rates are at 3.00% and 3.31%, as noted above, these levels vary significantly over time. In the fourth quarter of 2011 they were 4.09% for the first 20 years and 4.30% thereafter. To further illustrate the inherent volatility, in December 2008 (the PBGC published the rates monthly at that time) the rates were 7.92% for the first 20 years and 6.99% thereafter.

It is difficult to accurately estimate in advance the overall liability reduction that may result from the inactive annuitization provisions of SB 857. The most recent valuation results available are based on member census data as of December 31, 2011. A large portion of the inactive members were already retirement eligible as of that census measurement date. While we can individually estimate the liability reduction that would come from using the lower annuitization rate for each of these members, whether or not such a reduction is realized depends on whether the member chooses to retire prior to the effective date of the change. Inactive members with significant Money Match benefits will have a strong financial incentive to retire prior to the effective date of the change, if they have not already done so subsequent to our December 31, 2011 census measurement date.

Furthermore, the share of the liability reduction associated with the change in annuitization rate is concentrated on a relatively small fraction of the inactive membership. The inactive members with the largest account balances produce the largest liability reductions from the change. Because of this, the behavior of a relatively small group of people will be highly impactful on the overall liability reduction created by this component of SB 857.

For purposes of the estimated liability and contribution rate reduction shown above, we used a 4% annuitization rate as a proxy for the PBGC rate. **Also, we have included only the liability reduction calculated for members who were inactive as of December 31, 2011 and who, based on the valuation data reported to us by PERS, are not eligible to retire on or before August 1, 2013 due to a failure to meet minimum age and/or service requirements**. This group would have far less ability to avoid SB 857’s proposed annuitization provisions compared to inactive members who have attained retirement eligibility. Unfortunately, the census information did not include definitive data regarding if those members had performed some service since January 2004, which is a key eligibility provision under SB 857. As such, the estimated liability reduction may include members who will be exempt from the provisions if they also meet the service threshold. Finally, the liability reduction for any particular member will depend on the PBGC rates in effect at their specific date of retirement; this could be greater or less than the effect modeled using 4% annuitization.

The estimated effect in this letter of lowering the annuitization rate from 8% to 4% for certain inactive Money Match calculations builds on the analysis we performed for Actuarial Service Request 2013-001, described in our February 1, 2013 letter. The descriptions, assumptions, and methodologies described in that letter continue to apply and are incorporated herein by reference. That analysis considered the impact of changing the annuitization rate to 4% for all Tier 1/Tier 2 member retirements subsequent to December 31, 2011. The analysis was illustrative but hypothetical in the sense that it modeled a retroactive implementation of a provision modifying the annuitization interest rate. In contrast, our understanding is SB 857 would only apply for retirements of affected members after September 1, 2013.

In the tables above, no liability or rate reduction estimate has been provided for members inactive as of December 31, 2011 who, based on the valuation data, are eligible to retire on or before August 1, 2013. Any reductions associated with that group will depend on the retirement filing behavior of members between the census measurement date of December 31, 2011 and the effective date of the SB 857 changes. To the extent that individual inactive members have elected to retire prior to SB 857 becoming effective, no SB 857 liability reductions other than the COLA provisions will be realized for those members. Liability and contribution rate reductions will be realized to the extent that eligible members do not retire by the bill's effective date. A precise estimate of the actual liability impact cannot be undertaken until after the inactive member data, including information to identify exempted inactive members, has been collected subsequent to the effective date of the bill, if enacted.

In the analysis table above, we have assumed that the annual long-term investment return assumption would remain constant at 8.0%, and that interest crediting on Tier 1 member accounts would remain 8.0% per year.

For a given account balance, using a lower annuitization rate provides a smaller initial monthly benefit, all else equal. Mathematically, the conversion from account balance to monthly annuity is accomplished by assuming the member lives to his or her life expectancy while receiving level monthly payments and that the unused portion of the account balance increases with the annuitization rate due to investment returns. Please note the emphasis on the word "level" in the prior sentence, as the annuitization calculation for Money Match retirees has historically been performed without regard to future cost of living allowance (COLA) increases. This means that account balances are annuitized to provide a lifetime annuity without COLA, and then employer contribution rates are calculated in a way to provide 100% employer funding of the COLA increase on the calculated annuity benefits.

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, 2011 system-wide actuarial valuation report. That information, including a discussion of the inherent limitations of use of actuarial valuation results, is herein incorporated to this letter by reference.

Other than as described in the letter, our analysis does not include any assumed change in participant behavior such as retirement patterns due to the proposed changes in policy, or to bargaining agreements or employer pay practices as a result of these changes. Such potential impacts merit consideration. 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 the proposed legislation.

The analysis shown here was conducted using the actuarial cost allocation method and long-term average annual investment return assumption approved by the PERS Board for calculation of 2013 – 2015 employer contribution rates. As you know, at its July 2013 meeting the PERS Board made changes both the cost method and the investment return assumption. Those changes will affect December 31, 2012 valuation results and, ultimately, 2015 – 2017 employer rate calculations that are based on December 31, 2013 valuation results. While our December 31, 2012 valuation results are not yet finalized, we believe based on preliminary analysis that the combined impact of the COLA and tax gross-up related changes of SB 822 and SB 857 would be at or modestly above $5.0 billion on a UAL basis. This is compared to a $4.5 billion UAL impact on the December 31, 2011 valuation basis.

This estimated increase in UAL savings has two primary drivers. The first is the effect of the "time value of money". Both SB 822 and SB 857 affect projected benefit payments in future years over a long time horizon. The first year where benefits are impacted is 2013. The impact of those changes, stated in present day dollars, is greater at year-end 2012 than at year-end 2011 since the actual impacts are one year closer to occurring. The other major driver is due to the change in the investment return assumption. The lowering of this assumption affects the discounting calculation used to assess liabilities. A lower discount rate increases reported liabilities, but also increases the estimated financial impact of any given change in projected benefits all else equal.

In calculating the illustrative changes in uncollared employer base contribution rates, we assumed all changes in Accrued Liability were amortized over a 20-year period as a level percent of payroll using current valuation assumptions. This is the method currently used in the valuation when establishing new Tier 1/Tier 2 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. This analysis depends 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 observed recent experience of PERS and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated future experience affecting PERS.

Future actuarial measurements may differ significantly from the current measurements presented in this analysis 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, applicable law, or administrative rules. Due to the limited 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, 2011 valuation at its July 2011 public meeting.

Actuarial computations presented in this estimate are for purposes of providing a high-level analysis of the proposed legislation to PERS. 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.

Milliman’s work is prepared solely for the use of Oregon PERS. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman’s work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product.

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

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this analysis is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. I am a member 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 analysis or need any additional information, please let us know.

Sincerely,

Matt Larrabee, FSA, EA
Principal and Consulting Actuary

MRL:sdp
encl.

cc: Steve Rodeman, Debra Hembree, Marjorie Taylor, Scott Preppernau