

March 9, 2011

**VIA EMAIL**

Mr. Pat Shier  
 Director  
 State of Alaska  
 Department of Administration  
 Division of Retirement and Benefits  
 333 Willoughby Avenue  
 6<sup>th</sup> Floor State Office Building  
 Juneau, AK 99811-0208

**Re: Experience Analysis for Public Employees’ Retirement System and Teachers’ Retirement System Defined Contribution Retirement Plans**

Dear Pat:

As requested, we have performed an actuarial experience analysis for the Public Employees’ Retirement System (PERS) and the Teachers’ Retirement System (TRS) Defined Contribution Retirement (DCR) Plans. The study was performed as of the most recent actuarial valuation date of June 30, 2009. We understand that the Alaska Retirement Management Board has the authority to approve these assumptions. Where appropriate, our recommendations are based on recommendations from the PERS and TRS Defined Benefit Plans experience analysis as of June 30, 2009. The attached exhibits show the impact on the 2009 valuation results if the recommendations are adopted.

The assumptions changes that we have recommended for the PERS and TRS DCR Plans are noted below:

- **Healthy Mortality** – We recommend changing the PERS and TRS DCR mortality tables to the tables we adopt for their respective DB Plans based on the recent experience analysis. For pre-termination mortality, the experience analysis showed that, for PERS Others, the mortality in Alaska has been higher than the mortality assumption currently being used. For PERS Peace Officer / Firefighter and TRS, the mortality in Alaska has been lower than the mortality assumption currently being used. For post-termination mortality, the mortality experience for all members except PERS Others females was lower than expected. These changes build in some cushion for mortality improvements as well.

<b>Pre-termination Mortality</b>		
	<b>Current</b>	<b>Proposed</b>
<b>PERS Others</b>	42% of sex-distinct 1994 Group Annuity Mortality (GAM) Table, 1994 Base Year without margin	75% of the male and 55% of the female rates of the 1994 GAM Table, 1994 Base Year without margin projected to 2013 with Projection Scale AA
<b>PERS Peace Officer / Firefighter</b>	1994 GAM Table, 1994 Base Year without margin	80% of the male and 60% of the female rates of the 1994 GAM Table, 1994 Base Year without margin projected to 2013 with Projection Scale AA
<b>TRS</b>	55% of the male and 60% of the female rates of the 1994 GAM Table, 1994 Base Year without margin	45% of the male and 55% of the female rates of the 1994 GAM Table, 1994 Base Year without margin projected to 2013 with Projection Scale AA

**Post-termination Mortality**

	<b>Current</b>	<b>Proposed</b>
<b>PERS</b>	Sex-distinct 1994 GAM Table, 1994 Base Year without margin	1994 GAM Table, 1994 Base Year without margin projected to 2013 with Projection Scale AA, with a 1-year set-forward for females
<b>TRS</b>	Sex-distinct 1994 GAM Table, 1994 Base Year without margin, with a 3-year setback for males and a 1-year setback for females	1994 GAM Table, 1994 Base Year without margin projected to 2013 with Projection Scale AA, with a 4-year setback for males and a 3-year setback for females

- **Disabled Mortality** – Since there have been no disabled retirees, there is no experience to analyze for this assumption. We recommend updating this table to the more recent RP-2000 Disabled Retiree Mortality Table to be consistent with our recommendation for the DB Plans.

	<b>Current</b>	<b>Proposed</b>
<b>PERS</b>	1979 PBGC Disability Mortality Table for those receiving Social Security disability benefits	RP-2000 Disabled Retiree Mortality Table
<b>TRS</b>	1979 PBGC Disability Mortality Table for those receiving Social Security disability benefits	RP-2000 Disabled Retiree Mortality Table

- **Termination** – Based on the recent experience analysis, actual terminations exceeded expected terminations for nearly all groups. We typically recommend withdrawal rates with a margin of about 10% for conservatism. This should offset actuarial losses that is often experienced due to new entrants with prior service or rehires who repay refunded contributions to reinstate prior service credit. The table below summarizes the current and proposed rates.

	<b>Current</b>	<b>Proposed</b>
<b>PERS Others</b>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• 5-year select period</li> <li>• Sex-distinct age based ultimate rates</li> <li>• Ultimate rates are DB Plan's rates loaded by 10%</li> </ul>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• Increase first two select rates</li> <li>• Ultimate rates are sex-distinct and are the proposed DB Plan's rates loaded by 10%</li> </ul>
<b>PERS Peace Officer / Firefighter</b>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• 5-year select period</li> <li>• Sex-distinct age based ultimate rates</li> <li>• Ultimate rates are DB Plan's rates loaded by 10%</li> </ul>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• Increase first select rate</li> <li>• Ultimate rates are sex-distinct and are the proposed DB Plan's rates loaded by 10%</li> </ul>
<b>TRS</b>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• 5-year select period</li> <li>• Sex-distinct age based ultimate rates</li> <li>• Ultimate rates are DB Plan's rates loaded by 10%</li> </ul>	<ul style="list-style-type: none"> <li>• Unisex select rates</li> <li>• Increase most select rates</li> <li>• Ultimate rates are sex-distinct and are the proposed DB Plan's rates loaded by 10%</li> </ul>

- **Retirement** – Since there have been no retirees in the DCR Plans, there is no experience to analyze for this assumption. We recommend no change to the current retirement rates.
- **Disability** – Since there have been no disabled retirees in the past five years, there is no experience to analyze for this assumption. We recommend changing the PERS and TRS DCR disability rates to the rates we recommended for their respective DB Plans based on the recent experience analysis.
- **Married Assumption** – Generally, we assume a portion of members will be married at retirement regardless of their marital status at the valuation date. Based on the recent experience analysis for the PERS and TRS DB Plans, we recommend no change to the current assumption.

	PERS Others		PERS Peace Officer/ Firefighter		TRS	
	Male	Female	Male	Female	Male	Female
Current assumption	80%	70%	80%	70%	85%	75%
Proposed assumption	80%	70%	80%	70%	85%	75%

- **Spouse Age Difference** – The age difference between husbands and wives is used in conjunction with the marriage assumption to value death benefits, expected optional form of payment elections and postemployment healthcare benefits. We reviewed the actual age differences between husbands and wives for current retirees who have elected a joint and survivor benefit for the DB Plans. Based on the recent experience analysis for the PERS and TRS DB Plans, we recommend no change to the current assumption.

<b>Current age difference assumption</b>	3 years younger
<b>Proposed age difference assumption</b>	3 years younger

- **Part-Time Service Earned During the Year** – There are members who are employed part-time and participate in PERS and TRS. An assumption is made regarding the amount of service these members will earn during the year. We reviewed members of the DB Plans who were part-time to analyze this assumption. Based on the recent experience analysis for the PERS and TRS DB Plans, we recommend no change for PERS and an increase in the part-time service assumption for TRS.

	PERS Others	PERS Peace Officer/ Firefighter	TRS
Current assumption	.65	1.00	.55
Proposed assumption	.65	1.00	.60

- **Occupational vs. Nonoccupational Death and Disability** – The PERS and TRS DCR Plans have defined benefits for members who become disabled or die due to occupational causes. We reviewed the data for members who are currently receiving a disability benefit in the PERS and TRS DB Plans to analyze this assumption. Please note that we do not have data available to determine whether occupational or nonoccupational death benefits are paid. We currently have no disabled members in the PERS or TRS DCR Plans. Based on our review, we recommend no change for TRS and PERS Peace Officer/Firefighters and an increase in the assumption for PERS Others.

	PERS Others	PERS Peace Officer/ Firefighter	TRS
<b>Disability</b>			
Current assumption	50%	75%	15%
Proposed assumption	55%	75%	15%
<b>Death</b>			
Current assumption	50%	75%	15%
Proposed assumption	55%	75%	15%

- **Investment Return** - This assumption is the expected net return on the actuarial value of assets. The asset allocation for the DCR Plans is the same as the DB Plans. Therefore, we recommend using the same investment return rate for the DCR Plans as the Board decides to adopt for PERS and TRS DB Plans. The current 8.25% assumption is within the acceptable range and in our opinion continues to be a reasonable assumption to use. However, expected returns have decreased and there is no longer any margin for conservatism in the 8.25% assumption. We recommend a decrease to either 8.00% or 7.75% be considered. Analysis of all assumption changes in Exhibits 1 and 2 are performed using 8.25%. Exhibit 3 shows the impact on the employer contribution rate of using 7.75% or 8.00% for the investment return assumption.
- **Inflation** - Inflation is the critical core component of economic actuarial assumptions. It is a component of the investment return assumption as well as the salary and payroll growth assumption. The current inflation assumption is 3.50%. We recommend using an inflation assumption between 3.00% and 3.50% at this time and adopting the same inflation assumption as the Board adopts for the PERS and TRS DB Plans. Analysis of all economic assumptions in Exhibits 1 and 2 are performed considering this core inflation rate of 3.50%. Exhibit 3 shows the impact on the employer contribution rate of using 3.25% or 3.00% for the inflation assumption.
- **Salary** – We reviewed the salary increases for the PERS and TRS DB Plans over the past four years. We measured actual total pay increases for a four-year period and compared them to the total assumptions. In general, actual increases were more than expected. We recommend keeping the salary scale for the PERS and TRS DCR Plans consistent with the PERS and TRS DB Plans.

	Average Salary Increase with Inflation	
	Current Expected	New Expected
<b>PERS Others</b>		
First 5 years	6.6%	7.1%
After 5 years	4.5%	4.8%
<b>PERS Peace Officer / Firefighter</b>		
	5.1%	5.2%
<b>TRS</b>		
	4.9%	5.4%

- **Expected Payroll Growth** – As part of determining the actuarial contribution rate, the unfunded accrued liability is amortized over a 25-year period as a level percent of pay. Since pay is expected to increase, an assumption is made for the rate at which total payroll increases. Currently, a net interest rate of 4.09% is used for both PERS and TRS DCR Plans to amortize the unfunded liability. The net interest is the ratio of the valuation interest rate of 8.25% and the expected total payroll growth. The use of a 4.09% net interest rate assumes a total payroll growth of 4.00% and uses a compound interest approach. We recommend no change to the payroll growth assumption for the PERS and TRS DCR Plans.
- **Healthcare Costs and Trends** – We will update the healthcare assumptions to be consistent with the PERS and TRS DB Plans.
- **Healthcare Participation** – The participation assumption is used to estimate how many members elect to participate in the program. Eligible retired members may have coverage under another employer or their spouse, or they may simply elect to waive coverage for a period of time. Members must retire directly from the plan to be eligible for retiree medical coverage. No retiree medical benefits are provided until normal retirement eligibility which is the earlier of a) 30 years of service for TRS and Others members and 25 years of service for Peace/Officer Firefighter members or b) Medicare eligible and 10 years of service. The member's premium is 100% until they are Medicare eligible. The Medicare-eligible premium is based on the member's years of service. We recommend the following healthcare participation assumptions if the member is Medicare eligible.

<b>Years of Service</b>	<b>Current</b>	<b>Proposed</b>
<b>10-14</b>	100%	75%
<b>15-19</b>	100%	80%
<b>20-24</b>	100%	85%
<b>25-29</b>	100%	95%
<b>30+</b>	100%	100%

The participation rates were estimated based on our current understanding of the proposed plan designs, State HRA contribution rates, and estimated HRA balances at retirement. We also estimated time to exhaust the HRA and retiree elections of other Medicare options. These assumptions are subject to change upon final decisions regarding future DCR plan design and HRA contributions.

Mr. Pat Shier  
March 9, 2011  
Page 6

**RESULTS**

We have calculated the employer contribution rate and funded ratio assuming the new assumptions and methods are changed effective June 30, 2009 to illustrate the impact of the changes to the employer contribution rate. The data, plan provisions, other methods and other assumptions are the same as those used in the most recent actuarial valuation dated June 30, 2009. These results are contained in the attachments.

If you have any questions regarding this letter, please call.

Sincerely,



David H. Sliskinsky, ASA  
Principal and Consulting Actuary

/mlp

Enclosures

c: Ms. Teresa Kesey, State of Alaska  
Ms. Melissa Bissett, Buck Consultants  
Ms. Michelle DeLange, Buck Consultants  
Mr. Chris Hulla, Buck Consultants

## State of Alaska PERS DCR Plan Impact of Proposed Changes

	Description of Change	Occupational Death & Disability		Healthcare		Total	
		Employer Contribution Rate	Funded Ratio	Employer Contribution Rate	Funded Ratio	Employer Contribution Rate	Funded Ratio
<b>Before Changes</b>		0.20%	778.7%	0.51%	139.9%	0.71%	199.6%
<b>Pre-termination Mortality</b>	Decreased rates for P/F. Increased most rates for Others.	0.01%	(5.8)%	0.00%	0.8%	0.01%	0.9%
<b>Post-termination Mortality</b>	Decreased most rates.	0.00%	0.0%	0.02%	(4.2)%	0.02%	(5.5)%
<b>Disabled Mortality</b>	Decreased most rates.	0.01%	(38.0)%	0.00%	(0.2)%	0.01%	(1.2)%
<b>Termination Rates</b>	Increased some select rates. Decreased all ultimate rates for P/F and some ultimate rates for Others.	0.01%	(49.7)%	0.01%	(5.6)%	0.02%	(8.5)%
<b>Disability Rates</b>	No change for P/F. Decreased rates for Others.	(0.01)%	10.6%	(0.01)%	(0.2)%	(0.02)%	0.0%
<b>Occupational Assumption</b>	No change for P/F. Increased from 50% to 55% for Others.	0.01%	(12.1)%	0.01%	(0.4)%	0.02%	(0.8)%
<b>Salary Scale</b>	Increased most rates.	0.00%	(3.0)%	0.00%	0.0%	0.00%	(0.1)%
<b>Healthcare Participation</b>	Decreased rates for less than 30 years and based rates on years of service.	<u>0.00%</u>	<u>0.0%</u>	<u>(0.12)%</u>	<u>27.4%</u>	<u>(0.12)%</u>	<u>34.3%</u>
<b>Total Changes</b>		0.03%	(98.0)%	(0.09)%	17.6%	(0.6)%	19.1%
<b>After Changes</b>		0.23%	680.7%	0.42%	157.5%%	0.65%	218.7%

The healthcare participation assumption significantly decreases the employer contribution rate. The new assumptions and methods in total increase the funding ratio and decrease the employer contribution rate.

Please note that these results exclude any salary increases and demographic changes experienced since June 30, 2009.

Please note that these results use an 8.25% investment return and 3.50% inflation assumption.

This is an attachment to the letter dated March 9, 2011.

**State of Alaska  
TRS DCR Plan  
Impact of Proposed Changes**

	Description of Change	Occupational Death & Disability		Healthcare		Total	
		Employer Contribution Rate	Funded Ratio	Employer Contribution Rate	Funded Ratio	Employer Contribution Rate	Funded Ratio
<b>Before Changes</b>		0.00%	7,650.0%	0.58%	162.7%	0.58%	234.5%
<b>Pre-termination Mortality</b>	Decreased rates.	0.00%	1,275.0%	0.01%	(1.6)%	0.01%	(2.0)%
<b>Post-termination Mortality</b>	Decreased rates.	0.00%	0.0%	0.06%	(11.8)%	0.06%	(16.9)%
<b>Disabled Mortality</b>	Decreased most rates.	0.00%	811.4%	0.00%	(0.1)%	0.00%	0.0%
<b>Termination Rates</b>	Increased most select rates. Decreased ultimate rates for males. No change in ultimate rates for females.	0.00%	0.0%	(0.02)%	0.5%	(0.02)%	0.7%
<b>Disability Rates</b>	Decreased rates.	0.00%	973.6%	0.00%	(0.9)%	0.00%	(1.1)%
<b>Part Time Service</b>	Increased from 0.55 to 0.60 years.	0.00%	0.0%	0.01%	0.0%	0.01%	0.0%
<b>Salary Scale</b>	Increased most rates.	0.00%	0.0%	(0.01)%	0.0%	(0.01)%	0.0%
<b>Healthcare Participation</b>	Decreased rates for less than 30 years and based rates on years of service.	<u>0.00%</u>	<u>0.0%</u>	<u>(0.12)%</u>	<u>26.7%</u>	<u>(0.12)%</u>	<u>38.2%</u>
<b>Total Changes</b>		0.00%	3,060.0%	(0.07)%	12.8%	(0.07)%	18.9%
<b>After Changes</b>		0.00%	10,710.0%	0.51%	175.5%	0.51%	253.4%

The healthcare participation assumption significantly decreases the employer contribution rate. The new assumptions and methods in total increase the funding ratio and decrease the employer contribution rate.

Please note that these results exclude any salary increases and demographic changes experienced since June 30, 2009.

Please note that these results use an 8.25% investment return and 3.50% inflation assumption.

This is an attachment to the letter dated March 9, 2011.



## State of Alaska Impact of Proposed Changes

The impact of changing the investment return and inflation on the employer contribution rate is shown below:

### PERS Employer Contribution Rate

As of June 30, 2009

	Current Demographic Assumptions	Proposed Demographic Assumptions	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Investment Return	8.25%	8.25%	8.00%	8.00%	7.75%	7.75%
Real Rate of Return	4.75%	4.75%	4.50%	4.75%	4.75%	4.25%
Inflation	3.50%	3.50%	3.50%	3.25%	3.00%	3.50%
<b>PERS – Occupational D &amp; D</b>	0.20%	0.23%	0.24%	0.24%	0.24%	0.25%
<b>PERS – Healthcare</b>	0.51%	0.42%	0.45%	0.46%	0.48%	0.48%
<b>PERS – Total</b>	0.71%	0.65%	0.69%	0.70%	0.72%	0.73%

### TRS Employer Contribution Rate

As of June 30, 2009

	Current Demographic Assumptions	Proposed Demographic Assumptions	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Investment Return	8.25%	8.25%	8.00%	8.00%	7.75%	7.75%
Real Rate of Return	4.75%	4.75%	4.50%	4.75%	4.75%	4.25%
Inflation	3.50%	3.50%	3.50%	3.25%	3.00%	3.50%
<b>TRS – Occupational D&amp;D</b>	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>TRS – Healthcare</b>	0.58%	0.51%	0.55%	0.55%	0.59%	0.60%
<b>TRS – Total</b>	0.58%	0.51%	0.55%	0.55%	0.59%	0.60%

This is an attachment to the letter dated March 9, 2011.