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March 5, 2012

Mr. David L. Senn
Executive Director
Teachers' Retirement System
State of Montana
1500 Sixth Avenue
Helena, MT 59620-0139

Subject: Cost Studies Requested per February 17, 2012 Email

Dear Dave:

As requested we have determined the impact of the proposed changes outlined in your email date February 17, 2012.

Background

Your email requested the estimated cost impact of the following 4 plan changes effective July 1, 2013:

- (1) Increase the averaging period for determining final average compensation from three years to five years
- (2) Change the unreduced retirement eligibility date to the earlier of 30 years of service or age 60 with 5 years of service
- (3) Increase the member contribution rate from 7.15% to 8.15% of compensation with the permanent addition of a \$23 million annual contribution from the State on top of the current employer contribution rate of 9.96% of compensation
- (4) The combined impact of the changes outlined in (1), (2), & (3) above
- (5) For new entrants only, a member with at least 30 years of creditable service will receive a retirement allowance equal to 2% of the member's average final compensation multiplied by the sum of the number of years of creditable service. Otherwise, the multiplier used to calculate the retirement allowance will be equal to 1.67%

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Data, Methods and Assumptions

The data, methods and assumptions used to determine the impact of the changes above are the same as those used in the July 1, 2011 valuation. For item (5) above, we have changed the rates of retirement to reflect the assumption that members close to eligibility for the 2.0% formula are more likely to wait until they are eligible for the 2.0% formula to retire. Specifically, we have assumed that in the five years preceding eligibility for the 2.0% formula, members will only retire at 90%, 80%, 60%, 40% and 20% of the current valuation assumptions respectively. In addition, we have assumed more members will retire in the 1st and 2nd years after they are eligible for the 2.0% formula. As a result, we have increased the rates of retirement assumed in the valuation by 185% if the first year and 140% in the second year and beyond.

In addition we have included all unrecognized asset losses as of the valuation date including the (3.77%) rate of return for the six month period ending January 1, 2012.

Costs

A detailed cost exhibit is included with this letter. Item 5 on the previous page impacts new entrants only. Changes which affect only future active members will impact the normal cost rate of the employer. If such a change is enacted concurrent with the changes proposed on the previous page, the future normal cost of the amended plan, 1.06%, would begin to increase as the ratio of new members (with a higher normal cost) to all active members grows. Ultimately, when the active membership is composed entirely of members hired after the effective date for the new tier with the 2.0% multiplier, the employer's normal cost rate would be expected to be the rate provided in our results, or 1.79%. In other words, the reduction in the employer's normal cost from 2.59% to 1.06% will be lost over time as TRS membership becomes dominated by new tier members.

We have assumed in our analysis that future employees are demographically identical to the current active membership.

Impact of change for future active members only using item 4 as a basis (hired after the effective date).

	Expected Employer Normal Cost Rate for Future Employees	Expected Ultimate Change in Employer Normal Cost Rate
Amended Plan	1.06%	
Second Tier Benefit Structure	1.79%	0.73%



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Certification

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

Sincerely,

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

TBG:jnw



Teachers' Retirement System

State of Montana

Cost Exhibit

All Dollar Values are in Millions

All calculations are based on the July 1, 2011 member and asset data

	(1) July 1, 2011 Valuation	(2) Five Year Final Average Salary	(3) Unreduced Retirement at Age 60 w/5 Yrs of Svc or 30 Years of Svc	(4) 8.15% Employee Contribution Rate Including Additional State Contribution*	(2), (3), & (4) combined*
Present Value of Future Benefits	\$5,252.1	\$5,171.3	\$5,184.6	\$5,265.2	\$5,120.0
Present Value of Future Normal Cost	(593.5)	(575.0)	(576.5)	(605.7)	(571.2)
Actuarial Accrued Liability	\$4,658.6	\$4,596.3	\$4,608.1	\$4,659.5	\$4,548.8
Actuarial Value of Assets	2,866.5	2,866.5	2,866.5	2,866.5	2,866.5
Unfunded Actuarial Accrued Liability	\$1,792.1	\$1,729.8	\$1,741.6	\$1,793.0	\$1,682.3
Total Normal Cost Rate	9.64%	9.38%	9.28%	9.82%	9.21%
Employee Contribution Rate	(7.15)%	(7.15)%	(7.15)%	(8.15)%	(8.15)%
Employer Normal Rate	2.49%	2.23%	2.13%	1.67%	1.06%
Employer Statutory Contribution Rate					
Normal Rate	2.49%	2.23%	2.13%	1.67%	1.06%
UAAL Amortization Rate	7.47%	7.73%	7.83%	8.29%	8.90%
Total Rate	9.96%	9.96%	9.96%	9.96%	9.96%
Amortization Period (Years)	71	57	56	43	33

* Requires additional recurring \$23 million per year in State funding