1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940
Fax +1 206 623 3485

milliman.com

April 17, 2008

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

Re: Equivalent Cost Money Purchase Benefit

At your request, we have provided this DRAFT letter prior to completion of our work. Because this is a draft letter, Milliman does not make any representation or warranty regarding the contents of the letter. Milliman advises any reader not to take any action in reliance on anything contained in the draft letter. All parts of this letter are subject to revision or correction prior to the release of the final letter, and such changes or corrections may be material.

Dear Dave:

The purpose of this letter is to provide preliminary information on a “money purchase” plan design which would be approximately equivalent in cost to the current plan if adopted for future hires only. Plan details are listed in the “Provisions” section of this letter. The primary purpose of this letter is to focus on preliminary benefit comparisons to the current plan. This is not intended as a cost estimate for legislation. The current eligibility provisions have been used. Further refinements to the eligibility provisions may be desirable.

Background

A money purchase plan provides the member a monthly annuity based on the value of the employee’s accumulated contributions with interest. Usually the employer provides some match to this amount.

Many retirement systems, including the Montana Teachers’ Retirement System, once employed this type of plan design but moved away from it. This was part of a movement away from plan designs focusing on accumulated contributions to plan designs based on replacing a defined percent of pre-retirement income. Some plans such as Montana PERS, Wisconsin and Colorado still use this type of formula to define a minimum benefit. Others such as the Texas County and District Retirement System and the Texas Municipal Retirement System still use this plan design exclusively to determine benefits.

Cost

Using the participant data and assumptions from the July 1, 2007 actuarial valuation we found the plan design described in the “Provisions” section of this letter to have the same normal cost rate as the current Montana TRS plan, 10.40% of pay. This implies that if such a plan were adopted for future hires only, the cost impact of the change would be small, and could be either positive or negative. However, if current members were given a choice to switch to a new plan costs may increase, since when given a choice members tend to pick the most valuable benefit for their individual situation.

Provisions

The member contribution rate and eligibility provisions used in this study are identical to the current plan.

Member Contribution Rate:	7.15%
Annual Interest on Member Contributions:	7.0% Target (set each year by the Board)
Retirement Eligibility:	25 Years of Service or Age 50 and 5 years of service
Retirement Benefit:	• At retirement, the employer matches 100% of accumulated member contributions with interest • Contributions with match are converted to an annuity using the current actuarial equivalency • COLA = 1.5% on Jan. 1 if benefits have been received for at least 36 months
Withdrawal Benefit:	Vested Employees choose between • Return of member contributions with interest • Deferred Retirement Benefit as defined above, but without the employer match. Non Vested Employees receive return of member contributions with interest
Death Benefit Eligibility:	5 Years of Service
Death Benefit	• Spouse benefit = Retirement Benefit as defined above based on spouse age • Not married = Return of member contributions with interest
Disability Eligibility:	5 Years of Service
Disability Benefit	Retirement benefit as defined above

Benefit Comparisons

The following tables provide examples of how benefits might change for new hires if they became members of the money purchase plan in this letter instead of the current TRS plan. In general the money purchase plan favors members who retire with longer periods of service and the current plan favors members who retire when they are first eligible for unreduced benefits at 25 years of service. These examples all assume the member earned $45,000 in the year he or she was 55 and salary increases before and after that year followed the actuarial valuation assumptions. Replacement ratios represent the percent of the average earnings from the three years preceding retirement that is replaced by retirement income.

Sample Comparison for Member Hired at Age 22

	Annual Benefit		Income Replacement Ratio	
Age	Current Plan	Money Purchase	Current Plan	Money Purchase
47	$12,100	$9,400	42%	33%
50	$15,400	$13,000	47%	39%
55	$22,700	$21,700	55%	53%
57	$26,300	$26,600	58%	59%
60	$32,500	$36,000	63%	70%
65	$45,900	$60,100	72%	94%
70	$63,800	$101,300	80%	127%

The first table represents a member hired at 22. Members hired at 22 reach 25 years of service at age 47. The 42% of income the current plan replaces at age 47 is considerably more than the 33% replaced by the money purchase plan. However, the benefit provided by the money purchase plan increases more rapidly than the current plan due to the 7% interest credits, additional contributions, and the shorter lifetime over which retirement benefits will be paid. The increase in money purchase benefits therefore directly reflects the factors that influence funding of benefits.

By age 57 the money purchase plan has passed the current plan. In this example, the money purchase plan pays larger benefits at most ages over 55. 55 is the most common minimum early retirement age in the December 2007 Wisconsin Legislative Council study of 85 major public plans. The Wisconsin study includes at least one statewide plan from each state.

When the member is allowed to directly recognize the financial benefits of working longer the result is dramatic. By age 65 the member's benefit replaces 94% of income. This is 2.18% of income for each year of service.

Although a comparison is not shown for members who terminate service before they are eligible for a retirement benefit, these members generally do better under the money purchase plan even without a match to their employee contributions. This is partially due to receiving 7% interest credits instead of the current 5% interest credits.

	Sample Comparison for Member Hired at Age 30			
	Annual Benefit		Income Replacement Ratio	
Age	Current Plan	Money Purchase	Current Plan	Money Purchase
50	$7,700	$8,200	23%	25%
55	$17,200	$14,600	42%	35%
60	$25,700	$25,300	50%	49%
65	$37,400	$43,500	58%	68%
70	$53,200	$75,100	67%	94%

The second table shows the impact of hire age on the comparison. A member hired at age 30 reaches 25 years of service at age 55. The benefit provided by the current plan therefore compares most favorably at age 55 where it replaces 42% of income compared to 35% replaced by the money purchase plan. However by age 60 the money purchase plan has almost caught up, and by age 65 the money purchase plan replaces 68% of income compared to 58% replaced by the current plan.

Advantages and Comments

There are endless plan designs that can be used to provide retirement benefits. The needs of the members and the taxpayers should be considered in making an appropriate choice. Some of the advantages associated with this particular design are:

- Long tenure is rewarded.
- Members have the opportunity to accumulate much larger benefits by working longer.
- Therefore, teachers and administrators are encouraged to work longer. Before retirement eligibility they are encouraged to keep working to get the 100% match. After retirement eligibility they are encouraged to keep working due to the rapid increases in benefits. The examples in this letter show benefits that increase about 11% per year.
- Assets are shared in proportion to each member's accumulations. In every retirement plan benefits rely on contributions plus interest. Money purchase benefits are based on contributions plus interest. Members share directly in the financial benefits the System experiences when they work longer.
- Gains and losses due to members retiring earlier or later than expected are minimized. This depends partially on crediting interest on employee contributions at a rate close to the actuarial assumption such as the 7% used in this letter. Gains and losses due to salary increases larger or smaller than expected are also minimized.

- Phased retirement, changing work patterns and return to work can all be accommodated. If plan provisions allow, part or all of a member's account can be changed to an annuity before the member entirely stops working with minimal impact on the System.
- Salary spiking is not an issue. Benefits earned for past years of service are not increased by large additional amounts of salary near retirement.
- Benefits for terminating members are generally larger due to the 7% interest credits. This increases portability.
- Benefits based on accounts tend to have positive perceptions. Members appreciate a benefit based on the value of their employee contributions with interest and a 100% employer match. The design helps members understand how retirement benefits are funded.

Data, Methods and Assumptions

Except where noted, we have developed this analysis based on the data, methods, assumptions and plan provisions contained in the actuarial valuation of the System performed as of July 1, 2007. We assumed the plan changes in these proposals will not impact the actuarial assumptions.

For purposes of this letter, we assumed that this is the only statutory amendment being considered. If other provisions are enacted, the actuarial cost impact associated with this amendment may be different.

This letter assumes current members will not be given the chance to change to the new plan.

The comparison examples in this letter assume the member earns $45,000 in the year he or she is 55 and salary increases before and after that year follow the actuarial valuation assumptions.

Certification

These cost estimates are subject to the uncertainties of a regular actuarial valuation; the costs are inexact because they are based on assumptions that are themselves necessarily inexact, even though we consider them reasonable. Thus, the emerging costs may vary from those presented in this letter to the extent actual experience differs from that projected by the actuarial assumptions.

We have not explored any legal issues with respect to the proposed plan changes. We are not attorneys and cannot give legal advice on such issues. We suggest that you review this proposal with counsel.

Milliman's work product was prepared exclusively for TRS for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning TRS operations, and uses TRS data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this analysis is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board (ASB) and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries.

I, Mark C. Olleman, am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Any distribution of this letter must be in its entirety unless prior written consent is obtained from Milliman.

If you have any questions, please call.

Sincerely,

Mark C Olleman

Mark C. Olleman, FSA, EA, MAAA
Consulting Actuary

MCO/trs

cc: Mr. Craig Glyde