TO: Members of the Legislative Commission on Pensions and Retirement

FROM: Lawrence A. Martin, Executive Director

RE: Summary of Proposed Revisions to the Commission's Standards for Actuarial Work Proposed by Milliman

DATE: August 9, 2010

Introduction

At the July 8, 2010, meeting, Milliman, the consulting actuarial firm retained by the Legislative Commission on Pensions and Retirement, presented its recommendations for changes in the Standards for Actuarial Work promulgated by the Commission since 1985 based on its assigned project to review the actuarial standards. The executive directors of the Minnesota State Retirement System (MSRS), the Public Employees Retirement Association (PERA), and the Teachers Retirement Association (TRA) testified on the proposed actuarial standards revisions, indicating potential discomfort with some proposed changes and requesting a delay in Commission action until their consulting actuary, Mercer, had a chance to review the proposals. The fund directors suggested that the Mercer review and reaction could be conducted over the period of approximately one week.

On August 5, 2010, Milliman, Mercer, and the fund directors had a telephone conference on the proposed actuarial standards revisions, with James Verlautz, on behalf of Mercer, circulating changes in the proposal representing to be the consensus of the conference call at the conclusion. On August 6, 2010, Milliman produced a revised proposal on the Standards for Actuarial Work (attached).

Summary of the Proposed Actuarial Standards Revisions

A. Original Milliman Proposals. At the July 8, 2010, Commission meeting, Milliman proposed the following revisions to the Standards for Actuarial Work:

1. Actuarial Valuations
   - Present key actuarial results using both actuarial and market value
   - Expand the reporting of actuarial gains/losses by source
     - Add retirement and termination
     - Additional analysis if "other" category is more that 0.50% of actuarial liability
   - Clarify "mid year" decrement timing is 6 months after the valuation date (January 1)
     - Establish mid year timing as the preferred approach
     - Permit Commission to make exceptions
   - Require preparation of valuation model annually

2. Experience Studies
   - Provide that analysis of the investment return assumption should be prospective in nature

- Clarify that actuary may use professional judgment as well as actual experience in setting assumptions
- Require that actual and expected rates be presented graphically as well as in numerical format
- Add a formal experience study for PERA Police and Fire and MSRS Correctional groups
- Require smaller funds to formally review their actuarial assumptions after reports for TRA, MSRS and PERA are published
- Provide cost impact of each change in assumption

3. <u>Actuarial Cost Estimates for Proposed Legislation</u>
   - Expand the reporting of information to include more detailed actuarial information
   - Provide alternative cost analysis using an investment return assumption 1.5% lower than the valuation assumption

4. <u>Other Standards Changes</u>
   - Delete Section VII regarding potential local police and paid relief associations
   - Delete Sections A, B, C, D of Section VIII (data section) to reflect the retained actuary for each fund is performing the actuarial work and not the Commission's actuary
   - Remove investment return assumptions from statute and treat it the same as other assumptions
   - Part of experience study
   - Change in assumption subject to approval by the Commission

B. <u>Changes in Actuarial Standards Revisions Contained in the August 5, 2010, Mercer Draft</u>

1. <u>Actuarial Valuations</u>
   - Actuarial assumptions
     – Elimination of requirement that any new non-statutory actuarial assumption be set or revised only with Commission approval (Standard II.A.(4))
     – Elimination of provision that economic actuarial assumptions may be reviewed as having a base component and a plan-specific component (Standard II.B.(3))
     – Allowance for age or years of service rather than only age and years of service as basis for setting turnover and retirement assumptions (Standards II.C.(2)(a)(i) and (ii))
     – Allowance for age or type of disability rather than only age and type of disability as basis for setting disablement assumption (Standard II.C.(2)(b)(i))
     – Elimination of most specific requirements on demographic assumption setting, addition of provision deferring to the Actuarial Standards of Practice set by the Actuarial Standards Board if there is a conflict with the Standards, and elimination of requirement that demographic assumptions established by reference to an adjusted standard table must relate reasonably to actuarial experience (Standard II.C.(3))
     – Elimination of general rule for middle of the year assumption occurrence with specific Commission-granted exceptions in favor of any reasonable assumption occurrence pattern approach (Standard II.C.(4))
     – Addition of funding ratio-dependent post-retirement adjustment rule (Standard II. D. (6))
     – Shift to market value based on any generally accepted accounting principle rather than published price at market close for the day preceding the valuation date (Standard II.E.(2))

- Actuarial cost methods
  - Addition of specific amortization contribution determination procedures for the Elective State Officers and Legislators retirement plans (Standards III.C.(2) and (3))
  - Addition of exception in amortization contribution determination for PERA-General and the MERF Division of PERA (Standard III.C.(5))
  - Elimination of requirement for a breakdown of the actuarial present value of credited projected benefits and projected benefits and funding ratios for those present values (Standards IV.B.(3), (4), and (6)(a)(ii), and VI.B.(2)(c))
  - Change in trigger for additional unfunded actuarial accrued liability source analysis for gains or losses from 0.5% of accrued liability to one percent of accrued liability (Standard IV.B.(7))
- Valuation models
  - Elimination of new requirement for valuation models in favor of new requirement for valuation projections (Replacement Standard IV.D/New Standard V)

2. <u>Experience Studies</u>
   - Changes the annual compensation rate computation for MSRS-administered plans (Standard V.B.(3))
   - Eliminates the requirement for sufficient statistics that allow a pension professional to assess report conclusions in favor of required compliance with the applicable Actuarial Standard of Practice (Standard V.D.(2))
   - Modifies the proposed graphical format presentation requirement by making it dependent on the actuary's judgment (Standard V.D.(3))
   - Limits the proposed requirement for actuarial cost impact estimates to assumption changes adopted by a fund and presented to the Commission (Standard V.D.(8))

3. <u>Actuarial Cost Estimates for Proposed Legislation</u>
   - Limits actuarial cost estimates to legislative proposals submitted by a retirement plan rather than all legislative proposals (Standards VI.A. and C.)
   - Augments the procedure for determining the dollar amount cost change of a proposed contribution rate change (Standard VI.B.(3))
   - Eliminates the procedure to be used for delayed proposed contribution rate changes (Standard VI.B.(3))

4. <u>Other Standards Changes</u>
   - Data Retention
     - Eliminates all specified past-data data retention requirements in favor of the data retention policies in the consulting actuary's contract with the pension plan (Standard VIII)

<u>Revised Milliman Actuarial Standards Recommendations (August 6, 2010)</u>

Based on discussions between the retirement fund directors, Mercer, and Milliman, Milliman has accepted 14 of the 22 Mercer differences indicated above.

Of the remaining eight differences, the following sets forth a comparison of the two different versions of the Standards recommendation with any applicable commentary by Mercer of Milliman:

1. Setting Demographic Assumptions *(Standard II.C.3)*

Mercer	Milliman
(3) No change in a demographic assumption may be made unless that change has been established by a formal study of experience of the plan or if insufficient data exists for a formal study, upon the recommendation of the Actuary of the Fund.	(3) No change in a demographic assumption may be made unless that change has been established by a formal study of experience of the plan or if insufficient data exists for a formal study, upon the recommendation of the Actuary of the Fund.
(i) Demographic assumptions must be set in accordance with Actuarial Standard of Practice #35 – Demographic Assumptions (ASOP 35). If ~~there are differences~~ASOP 35 conflicts with these standards, ~~Actuarial Standard of Practice~~ #ASOP35 will govern.	(i) Demographic assumptions are expected be set in accordance with Actuarial Standard of Practice #35 – Demographic Assumptions (ASOP 35). In the event of a conflict between~~If there are differences~~ASOP 35 ~~with~~ these standards, ~~Actuarial Standard of Practice~~ the Actuary for the Fund and the Commission's Actuary shall review the situation and reach agreement on the appropriate approach#~~ASOP35 will govern~~. If future expectations differ from actual past experience, the Actuary shall provide written justification of their recommendation.
~~(ii) Primary demographic assumptions are expected to be set in close accordance with actual experience. However, the Actuary may make a different recommendation if, in their professional judgment, the recommended assumption is more reasonable or appropriate. An explanation supporting the Actuary's recommendation must be included in the experience study report. Assumptions, other than the primary demographic assumptions, should follow the patterns of actual experience but may deviate more from that experience than may the primary assumptions. Assumptions should reference the experience period on which they are based and the extent to which they deviate from actual experience. Assumptions are expected to be set to reflect long term experience and, therefore, should not be changed based on experience which may be distorted by temporary conditions such as an early retirement program or unusual economic conditions during the study period.~~	~~(ii) Primary demographic assumptions are expected to be set in close accordance with actual experience. However, the Actuary may make a different recommendation if, in their professional judgment, the recommended assumption is more reasonable or appropriate. An explanation supporting the Actuary's recommendation must be included in the experience study report. Assumptions, other than the primary demographic assumptions, should follow the patterns of actual experience but may deviate more from that experience than may the primary assumptions. Assumptions should reference the experience period on which they are based and the extent to which they deviate from actual experience. Assumptions are expected to be set to reflect long term experience and, therefore, should not be changed based on experience which may be distorted by temporary conditions such as an early retirement program or unusual economic conditions during the study period.~~
(ii) Demographic assumptions may be established by reference to a standard actuarial table so long as the Actuary can establish that such table, with appropriate age adjustments or projections, relates reasonably to actual experience or expected experience ~~in the future~~.	(ii) Demographic assumptions may be established by reference to a standard actuarial table so long as the Actuary can establish that such table, with appropriate age adjustments or projections, relates reasonably to actual experience or expected experience ~~in the future~~.

Mercer	Milliman
~~( ) Certain decrements are as much a function of years of service as of age. As trends are observed from the experience studies, these assumptions may be established on a basis that takes into account years of service under the plan, as well as, or instead of, years of age.~~	~~(iviiiii)~~ ~~Certain decrements are as much a function of years of service as of age. As trends are observed from the experience studies, these assumptions may be established on a basis that takes into account years of service under the plan, as well as, or instead of, years of age.~~
(iiii) Rates of Retirement - Based on trends observed from the experience studies, actuarial valuations must be completed using rates of retirement for various ages and, when appropriate, periods of service.	( ) Rates of Retirement - Based on trends observed from the experience studies, actuarial valuations must be completed using rates of retirement for various ages and, when appropriate, periods of service.

2. Assumption Occurrence *(Standard II.C.(4))*

Mercer	Milliman
(4) The preferred timing for the assumed occurrence of demographic assumptions is the middle of the valuation year (i.e. – six months after the valuation date), but the Actuary may use a different approach if ~~appropriate~~reasonable. In such cases, the Actuary must disclose the assumed timing for the occurrence of demographic assumptions and a statement ~~regarding~~indicating the ~~appropriate~~reasonableness of the assumption. ~~Commission reserves the right to make exceptions where appropriate.~~ For example, it may be more appropriate to assume retirements in teacher plans will occur at the end of the school year. Therefore, it is more appropriate for the timing of retirements for the teacher plans (Teachers Retirement Fund, the St. Paul Teachers Retirement Fund and the Duluth Teachers Retirement Fund) to be the valuation date nearest or next following the attainment of the retirement age or service requirement.	(4) The preferred timing for the assumed occurrence of demographic assumptions is the middle of the valuation year (i.e. – six months after the valuation date), but for actuarial valuations in 2010, end of valuation year timing is an acceptable alternative. After the 2010 valuations, end of year timing may be acceptable, but such determination shall be made after the Commission's Actuary has had adequate time to perform their analysis to determine the impact of end of year versus middle of year decrement timing. ~~the Actuary may use a different approach if appropriatereasonable. In such cases, t~~The Actuary must disclose the assumed timing for the occurrence of demographic assumptions and a statement the of the assumption. ~~Commission reserves the right to make exceptions where appropriate.~~ For example, it may be more appropriate to assume retirements in teacher plans will occur at the end of the school year. Therefore, it is more appropriate for the timing of retirements for the teacher plans (Teachers Retirement Fund, the St. Paul Teachers Retirement Fund and the Duluth Teachers Retirement Fund) to be the valuation date nearest or next following the attainment of the retirement age or service requirement.
Per Milliman, should be included for now but about which they want to give a little more thought.	*We are uncomfortable at this time with the language proposed by Mercer on this topic. We have addressed potential timing concerns for the valuation by permitting end of the year decrement timing for the 2010 valuation while reserving the right to make a final decision on its materiality after we perform further study later this year.*

3. Funding Ratio-Dependent Post-Retirement Adjustment Rule *(New Standard)*

Mercer

(6) Post Retirement Adjustments Dependent on Funding Ratio – When the rate for post retirement adjustments ~~are paid at a lower rate until~~depends on the fund's ~~reaches a certain~~level of funding ~~level~~, the liability ~~will be based on~~is calculated using ~~an adjusted~~a post retirement interest rate assumption that is equal to the difference between the pre retirement interest rate assumption and the~~e current~~ post retirement adjustment rate in effect the day preceding the valuation date (as provided in Minnesota Statute 356.415 Subdivision 3).

On page 8, I re-inserted the comment that paragraph 5 is not sufficiently clear for us to understand how to comply with it. We understand that there are no discretionary adjustments at this time, and as such, given the time pressure, we certainly have no problem leaving the paragraph as is, but wanted to be on record with our concerns in case it ever did come into play.

Milliman

~~(6) Post Retirement Adjustments Dependent on Funding Ratio – When the rate for post retirement adjustments are paid at a lower rate untildepends on the fund's reaches a certainlevel of funding level, the liability will be based onis calculated using an adjusteda post retirement interest rate assumption that is equal to the difference between the pre retirement interest rate assumption and thee current post retirement adjustment rate in effect the day preceding the valuation date (as provided in Minnesota Statute 356.415 Subdivision 3).~~

We deleted this paragraph as we were not comfortable with it at this point in time. We need some time to study the language in the statutes before making a decision on this.

4. Actuarial Balance Sheet *(Standard IV.A.)*

Mercer

A. ~~The Actuarial Valuation Report for each system must contain the actuarial balance sheet described in Minnesota Statutes, Section 356.215, Subdivision 4f. The MERF division of the Public Employees Retirement Association (PERA) must report the information separately from the PERA General Employees valuation results. The following is to clarify certain of the concepts included:~~

~~(1) Current Assets" is the Actuarial Value of Assets developed under II.E. of these Standards.~~

~~(2) Expected Future Assets" must be based upon the statutory contribution rates and must be developed as follows:~~

~~(a) Contribution Rates - The Statutory Contribution Rate (expressed as a percentage of compensation) for the plan must be split as follows:~~

~~(i) Normal Cost Rate - The Normal Cost Rate developed in the current valuation of the plan.~~

~~(ii) Supplemental Contribution Rate - The total Statutory Contribution Rate less the Normal Cost Rate, and less the Expense Rate.~~

Milliman

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(1) Current Assets" is the Actuarial Value of Assets developed under II.E. of these Standards.

(2) Expected Future Assets" must be based upon the statutory contribution rates and must be developed as follows:

(a) Contribution Rates - The Statutory Contribution Rate (expressed as a percentage of compensation) for the plan must be split as follows:

(i) Normal Cost Rate - The Normal Cost Rate developed in the current valuation of the plan.

(ii) Supplemental Contribution Rate - The total Statutory Contribution Rate less the Normal Cost Rate, and less the Expense Rate.

Mercer	Milliman
~~(b) Present Value of Expected Future Statutory Supplemental Contributions - The Supplemental Contribution Rate multiplied by the Present Value of Future Payrolls over the Amortization Period. The Present Value of Future Payrolls must be calculated in accordance with III.C.(2)(d). For MERF, Present Value of Supplemental Contributions is the balancing item needed so that Expected Future Assets equals Expected Benefit Obligations.~~	(b) Present Value of Expected Future Statutory Supplemental Contributions - The Supplemental Contribution Rate multiplied by the Present Value of Future Payrolls over the Amortization Period. The Present Value of Future Payrolls must be calculated in accordance with III.C.(2)(d). For MERF, Present Value of Supplemental Contributions is the balancing item needed so that Expected Future Assets equals Expected Benefit Obligations.
~~(c) Present Value of Future Normal Costs - The Normal Cost Rate multiplied by the APV of Future Compensation.~~	(c) Present Value of Future Normal Costs - The Normal Cost Rate multiplied by the APV of Future Compensation.
~~(d) Special Rules for Plans Where Normal Cost Rate Exceeds Statutory Contribution Rate - The amount of Expected Future Assets show as Present Value of Future Normal Costs must be equal to the Statutory Contribution Rate, net of the Expense Rate, multiplied by the Present Value of Compensation. The Present Value of Supplemental Contributions will be zero.~~	(d) Special Rules for Plans Where Normal Cost Rate Exceeds Statutory Contribution Rate - The amount of Expected Future Assets show as Present Value of Future Normal Costs must be equal to the Statutory Contribution Rate, net of the Expense Rate, multiplied by the Present Value of Compensation. The Present Value of Supplemental Contributions will be zero.
~~(3) Current Benefit Obligations is the APV of Credited Projected Benefits.~~	(3) ~~Current Benefit Obligations is the~~ APV of Credited Projected Benefits.
~~(4) Benefit Obligation for Deferred Annuitants Benefits must include increases due to augmentation projected to the earliest age at which such benefits can commence without reduction for early commencement.~~	(4) The APV of Projected Benefits ~~Obligation~~ for Deferred Annuitants Benefits must include increases due to augmentation projected to the earliest age at which such benefits can commence without reduction for early commencement.
Per Milliman, the removal of the extra balance sheet requirement on page 17 should be included for now but about which they want to give a little more thought.	*We have reinserted most of the language in Section IV.A regarding the actuarial balance sheet. We removed the reference to the state statutes and defined the information we would like to be included in this section.*

5. Actuarial Present Value Of Credited Projected Benefits and Projected Benefits *(Standards IV.B.(3), (4), and (6)(a)(ii))*

Mercer	Milliman
~~B. Additional~~ Actuarial Disclosure - Each actuarial valuation report ~~(except for the Relief Association Accounts whose report is described in Section VII)~~ must include:	B. Additional Actuarial Disclosure - Each actuarial valuation report ~~(except for the Relief Association Accounts whose report is described in Section VII)~~ must include:
(1) The Normal Cost Rates of the plan for each benefit type (death, disability, termination of employment and retirement ~~also called decrements~~) and the total Normal Cost Rate.	(1) The Normal Cost Rates of the plan for each benefit type (death, disability, termination of employment and retirement ~~also called decrements~~) and the total Normal Cost Rate.

Mercer

(2) Development of the UAAL for the system as follows:

(a) APV of Projected Benefits by type.

(b) APV of their associated Normal Costs by type.

(c) AAL by ~~decrement~~ benefit type ((a) - (b)) and in total

(d) Actuarial Value of Assets.

(e) UAAL ((c) - (d)).

(f) Present Value of Future Payrolls over the Amortization Period.

(g) Additional Annual Contribution Rate to Amortize the UAAL ((e)/(f)).

(3) ~~A breakdown of APV of Credited Projected Benefits and the APV of Projected Benefits by benefit type.~~

~~(4)~~ Development of ~~several~~ Funding Ratio~~s~~:

(a) ~~Accrued Benefit Funding Ratio - The ratio of Actuarial Value of Assets to APV of Credited Projected Benefit. This ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the progress of funding of the plan.~~

~~(b) A~~Actuarial Liability Funding Ratio - The ratio of the Actuarial Value of Assets to the AAL (see III.A.(2)~~, page 10~~). This is ~~also~~ a measure of funding status and funding progress. It is based upon the traditional measure of benefit obligations.

~~(c) Projected Benefit Funding Ratio - The ratio of the following items from the actuarial balance sheet:~~

~~(i) Total Current and Expected Future Assets to~~

~~(ii) Total Current and Expected Future Benefit Obligations (Actuarial Present Value of Future Benefits).~~

~~This is a measure of adequacy or deficiency in the contribution level. A ratio of 100% or more means that contribution levels are adequate to cover the benefits provided in the plan based on current assumptions and amortization period. A ratio under 100% indicates a deficiency in the contribution level's ability to amortize the UAAL by the end of the amortization period.~~

Milliman

(2) Development of the UAAL for the system as follows:

(a) APV of Projected Benefits by type.

(b) APV of their associated Normal Costs by type.

(c) AAL by ~~decrement~~ benefit type ((a) - (b)) and in total

(d) Actuarial Value of Assets.

(e) UAAL ((c) - (d)).

(f) Present Value of Future Payrolls over the Amortization Period.

(g) Additional Annual Contribution Rate to Amortize the UAAL ((e)/(f)).

(3) A breakdown of APV of ~~Credited Projected Benefits and the APV of~~ Projected Benefits by benefit type.

~~(4)~~ Development of ~~several~~ Funding Ratios:

(a) ~~Accrued Benefit Funding Ratio - The ratio of Actuarial Value of Assets to APV of Credited Projected Benefit. This ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the progress of funding of the plan~~.

~~(b) A~~Actuarial Liability Funding Ratio - The ratio of the Actuarial Value of Assets to the AAL (see III.A.(2)~~, page 10~~). This is ~~also~~ a measure of funding status and funding progress. It is based upon the traditional measure of benefit obligations.

(c) Projected Benefit Funding Ratio - The ratio of the following items from the actuarial balance sheet:

(i) Total Current and Expected Future Assets to

(ii) Total Current and Expected Future Benefit Obligations (Actuarial Present Value of Future Benefits).

This is a measure of adequacy or deficiency in the contribution level. A ratio of 100% or more means that contribution levels are adequate to cover the benefits provided in the plan based on current assumptions and amortization period. A ratio under 100% indicates a deficiency in the contribution level's ability to amortize the UAAL by the end of the amortization period.

Mercer

(4~~5~~) In order to provide additional information regarding the funded status of the plans on a market value basis, the key valuation results, including the UAAL, Actuarial Liability Funding Ratio, and actuarial contribution rate, must be included in the valuation report using the market value of assets as well ~~than~~ the actuarial value of assets.

(5~~6~~) If there have been changes in the provisions of the plan or in actuarial assumptions for this valuation, the existence of those changes must be noted, and if the changes are deemed by the Actuary to be material, the report must contain:

(a) The following items based upon the provisions of the plan and the actuarial assumptions in place in the prior actuarial valuation:

(i) Total Contribution Rate split into Normal Cost Rate, UAAL contribution rate and expense rate.

(ii) Actuarial Liability Funding Ratio~~s~~

~~Accrued Benefit Funding Ratio~~

~~Actuarial Liability Funding Ratio~~

~~Projected Benefit Funding Ratio~~

(iii) UAAL

(b) The items shown in (a) based upon the new provisions of the plan and the actuarial assumptions used in the prior actuarial valuation. If there have been no changes in the provisions of the plan this step may be omitted.

(c) The items shown in (a) based upon the current provisions of the plan and the current set of actuarial assumptions. If there has been no change in the actuarial assumptions, this step may be omitted.

(6~~7~~) A breakdown of actuarial gains and losses based upon the provisions of the plan in place and the actuarial assumptions used in the prior actuarial valuation. The gains and losses must be broken down by source. Gains or losses must be shown separately for at least the following:

(a) Salary increases

(b) Investment return

Milliman

(4~~5~~) In order to provide additional information regarding the funded status of the plans on a market value basis, the key valuation results, including the UAAL, Actuarial Liability Funding Ratio, and actuarial contribution rate, must be included in the valuation report using the market value of assets as well ~~than~~ the actuarial value of assets.

(5~~6~~) If there have been changes in the provisions of the plan or in actuarial assumptions for this valuation, the existence of those changes must be noted, and if the changes are deemed by the Actuary to be material, the report must contain:

(a) The following items based upon the provisions of the plan and the actuarial assumptions in place in the prior actuarial valuation:

(i) Total Contribution Rate split into Normal Cost Rate, UAAL contribution rate and expense rate.

(ii) ~~Actuarial Liability~~ Funding Ratios~~s~~

~~Accrued Benefit Funding Ratio~~

Actuarial Liability Funding Ratio

Projected Benefit Funding Ratio

(iii) UAAL

(b) The items shown in (a) based upon the new provisions of the plan and the actuarial assumptions used in the prior actuarial valuation. If there have been no changes in the provisions of the plan this step may be omitted.

(c) The items shown in (a) based upon the current provisions of the plan and the current set of actuarial assumptions. If there has been no change in the actuarial assumptions, this step may be omitted.

(6~~7~~) A breakdown of actuarial gains and losses based upon the provisions of the plan in place and the actuarial assumptions used in the prior actuarial valuation. The gains and losses must be broken down by source. Gains or losses must be shown separately for at least the following:

(a) Salary increases

(b) Investment return

Mercer

(c) Mortality

~~(d) Retirement~~

~~(e) Termination of Employment~~

(d~~f~~) Other items

(e~~g~~) Total

If item (d~~f~~) accounts for a significant amount of the total gain or loss, an additional analysis must be performed to explain the major causes. Item (d~~f~~) accounts for a significant amount of the total gain or loss if item (d~~f~~) is greater than ~~20.5%~~1% of the Actuarial Accrued Liability on the valuation date. The results of the additional analysis must be presented as part of the actuarial valuation commentary.

Milliman

(c) Mortality

~~(d) Retirement~~

~~(e) Termination of Employment~~

(d~~f~~) Other items

(e~~g~~) Total

If item (d~~f~~) accounts for a significant amount of the total gain or loss, an additional analysis must be performed to explain the major causes. Item (d~~f~~) accounts for a significant amount of the total gain or loss if item (d~~f~~) is greater than ~~20.5%~~1% of the Actuarial Accrued Liability on the valuation date. The results of the additional analysis must be presented as part of the actuarial valuation commentary.

6. Valuation Models/ *(Replacement Standard IV.D./New Standard V.)*

Mercer

~~D. Valuation~~

~~The valuation results provide information about the plan's funding on a single date, the valuation date, assuming all assumptions are met in future years. In order to provide a longer term perspective on the financial health of the plan and the potential variability of future valuation results, a valuation shall be prepared by the Actuary for each Plan unless this requirement is waived by the Commission. At a minimum the model projections shall show the fixed statutory contribution rate and the actuarial contribution rate, UAAL, Actuarial Liability Funded Ratio, and cash flows (expected benefit payments and total contributions) for each year projected over the next 30 years. . At a minimum, the projections provided to the Commission shall include (1) a baseline projection assuming all actuarial assumptions are met in future years including the assumed rate of return, (2) an alternative projection assuming all actuarial assumptions are met in future years other than the assumed rate of return, which shall be assumed to be equal to the 25th rate of return as shown in the most recent experience 1.5%, (3) a second alternative projection assuming all actuarial assumptions are met in the future other than the assumed rate of return, which shall be assumed to be equal to the 75th rate of return as shown in the most recent experience 1.5%. Other scenarios may be provided to the~~

Milliman

~~D. Valuation~~

~~The valuation results provide information about the plan's funding on a single date, the valuation date, assuming all assumptions are met in future years. In order to provide a longer term perspective on the financial health of the plan and the potential variability of future valuation results, a valuation shall be prepared by the Actuary for each Plan unless this requirement is waived by the Commission. At a minimum the model projections shall show the fixed statutory contribution rate and the actuarial contribution rate, UAAL, Actuarial Liability Funded Ratio, and cash flows (expected benefit payments and total contributions) for each year projected over the next 30 years. . At a minimum, the projections provided to the Commission shall include (1) a baseline projection assuming all actuarial assumptions are met in future years including the assumed rate of return, (2) an alternative projection assuming all actuarial assumptions are met in future years other than the assumed rate of return, which shall be assumed to be equal to the 25th rate of return as shown in the most recent experience 1.5%, (3) a second alternative projection assuming all actuarial assumptions are met in the future other than the assumed rate of return, which shall be assumed to be equal to the 75th rate of return as shown in the most recent experience 1.5%. Other scenarios may be provided to the~~

Mercer

~~Commission at the Fund's discretion or the Commission's request. The projections shall assume the number of active members in the Plan remains level during the 30 year projection period (stationary population), payroll increases at the applicable payroll increase assumption, and a constant normal cost percentage equal to the percentage developed in the most recent actuarial valuation unless – not deemed to be a reasonable assumptions by the Actuary. In that case, the projections shall be completed using the assumptions that deemed to be the most reasonable by the Actuary and such assumptions shall be disclosed with the results of the projections. The projection models shall also permit the analysis of the impact of changing the amortization period and/or the statutory contribution rate.~~

V. Valuation Projections

The valuation results provide information about the plan's funding on a single date, the valuation date, assuming all assumptions are met in future years. In order to provide a longer term perspective on the financial health of the plan and the potential variability of future valuation results, projections shall be prepared every four years by the Actuary for each Plan except for the Legislators Plan and the Elective State Officers Plan, unless this requirement is waived by the Commission.

The projections will be prepared on the same cycle as the quadrennial experience studies that are required for the Teachers Retirement Association Fund, the Public Employees Retirement Fund, and the General Employees Retirement Fund. The projections must be provided to the retirement funds and the LCPR executive director not more than one year after the end of the four-year period which the experience study covers.

At a minimum the projections shall show the fixed statutory contribution rate and the actuarial contribution rate, UAAL, Actuarial Liability Funded Ratio, and cash flows (expected benefit payments and total contributions) for each year projected over the next 30 years. At a minimum, the projections provided to the Commission shall include (1) a

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~~Commission at the Fund's discretion or the Commission's request. The projections shall assume the number of active members in the Plan remains level during the 30 year projection period (stationary population), payroll increases at the applicable payroll increase assumption, and a constant normal cost percentage equal to the percentage developed in the most recent actuarial valuation unless – not deemed to be a reasonable assumptions by the Actuary. In that case, the projections shall be completed using the assumptions that deemed to be the most reasonable by the Actuary and such assumptions shall be disclosed with the results of the projections. The projection models shall also permit the analysis of the impact of changing the amortization period and/or the statutory contribution rate.~~

V. Valuation Projections

The valuation results provide information about the plan's funding on a single date, the valuation date, assuming all assumptions are met in future years. In order to provide a longer term perspective on the financial health of the plan and the potential variability of future valuation results, projections shall be prepared every two~~four~~ years by the Actuary for each Plan except for the Legislators Plan and the Elective State Officers Plan, unless this requirement is waived by the Commission.

The projections for MSRS-General, PERA-General and TRA will first be prepared in conjunction with the July 1, 2011 actuarial valuation. Projections for all other plans must first be prepared based on a valuation date not later than July 1, ~~the same cycle as the quadrennial experience studies that are required for the Teachers Retirement Association Fund, the Public Employees Retirement Fund, and the General Employees Retirement Fund~~. The projections must be provided to ~~the retirement funds and~~ the LCPR executive director and the Commission's Actuary not later than the January 31 following the valuation date used for the projection ~~than one year after the end of the four-year period which the experience study covers~~.

At a minimum the projections shall show the fixed statutory contribution rate and the actuarial contribution rate, UAAL, Actuarial Liability Funded Ratio, and cash flows (expected benefit payments and total contributions) for each year projected over the next 30 years. At a minimum, the projections provided to the Commission shall include (1) a

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baseline projection assuming all actuarial assumptions are met in future years including the assumed rate of return, (2) an alternative projection assuming all actuarial assumptions are met in future years other than the assumed rate of return, which shall be assumed to be equal to the assumed rate of return minus 1.5%, (3) a second alternative projection assuming all actuarial assumptions are met in the future other than the assumed rate of return, which shall be assumed to be equal to assumed rate of return plus 1.5%.

The projections shall assume the number of active members in the Plan remains level during the 30 year projection period (stationary population), payroll increases at the applicable payroll increase assumption, and a constant normal cost percentage equal to the percentage developed in the most recent actuarial valuation unless these are not deemed to be reasonable assumptions by the Actuary. In that case, the projections shall be completed using the assumptions that are deemed to be the most reasonable by the Actuary and such assumptions shall be disclosed with the results of the projections. The projection models shall also permit the analysis by the Actuary of the impact of changing the amortization period and/or the statutory contribution rate.

Per Milliman, the decision as to frequency of the projections on page should be included for now but about which they want to give a little more thought.

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baseline projection assuming all actuarial assumptions are met in future years including the assumed rate of return, (2) an alternative projection assuming all actuarial assumptions are met in future years other than the assumed rate of return, which shall be assumed to be equal to the assumed rate of return minus 1.5%, (3) a second alternative projection assuming all actuarial assumptions are met in the future other than the assumed rate of return, which shall be assumed to be equal to assumed rate of return plus 1.5%.

The projections shall assume the number of active members in the Plan remains level during the 30 year projection period (stationary population), payroll increases at the applicable payroll increase assumption, and a constant normal cost percentage equal to the percentage developed in the most recent actuarial valuation unless these are not deemed to be reasonable assumptions by the Actuary. In that case, the projections shall be completed using the assumptions that are deemed to be the most reasonable by the Actuary and such assumptions shall be disclosed with the results of the projections. The projection models shall also permit the analysis by the Actuary of the impact of changing the amortization period and/or the statutory contribution rate.

We are suggesting valuation models be prepared for the three large Funds (MSRS-General, PERA-General, and TRA) in conjunction with the 2011 valuation. The other plans would be done in conjunction with the 2012 valuation unless they wish to use the 2011 valuation (the thought was that there may be economies of scale if all plans within MSRS or PERA were done at the same time). Subsequently, models would be updated every two years unless this requirement is waived by the Commission.

7. Sufficient Experience Study Report *(Standard V.D.(2))*

Mercer

(2) The report must ~~include sufficient statistics (such as ratios of actual to expected experience) so that a pension professional, whether an actuary or not, could assess the viability of the conclusions of the Actuary.~~comply with Actuarial Standard of Practice #41—Actuarial Communications.

Per Milliman, the use of ASOP 41 requirements for the experience study report rather than a delineation of required items, should be included for now but about which they want to give a little more thought.

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(2) The report must comply with Actuarial Standard of Practice #41—Actuarial Communications. Furthermore, ~~report~~ is expected include sufficient statistics (such as ratios of actual to expected experience) so that a pension professional, whether an actuary or not, could assess the viability of the conclusions of the Actuary. ~~comply with Actuarial Standard of Practice #41—Actuarial Communications.~~

8. Actuarial Cost Estimates for Proposed *(Standards VI.A. and C.)*

Mercer

VI~~I~~. Cost Estimates of Legislative Proposals

A. A statement of fiscal impact must be completed for each legislative proposal submitted by the plan for introduction as a bill which would affect the amounts of or the eligibility for benefits in a retirement plan.

C. Supplementary Information

Recognizing that the true cost of any benefit enhancement is dependent on the actual experience in future years while the cost shown in the fiscal impact statement is dependent on the assumptions used in the calculation, it is prudent to consider the potential cost of any benefit enhancement if less favorable experience occurs than assumed. The assumption with the greatest impact on the cost is generally the assumed rate of return. In order to quantify the downside risk related to the proposed benefit change, the ~~Commission may request that the~~ fiscal impact statement for any legislative proposal submitted by the plan for introduction as a bill shall include the cost using an assumed rate of return 1.5% less than the investment return assumption used in the valuation. For example, if the valuation assumption is 8.5% the cost of the benefit change shall also be shown assuming a long term rate of return of 7.0% (liabilities shall be determined before and after the change using a 7.0% discount rate).

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VI~~I~~. Cost Estimates of Legislative Proposals

A. A statement of fiscal impact must be completed for each legislative proposal submitted by any entity to be ~~the plan for~~ as a bill which would affect the cost of providing ~~amounts of or the eligibility for~~ benefits in a retirement plan.

C. Supplementary Information

Recognizing that the true cost of any benefit enhancement is dependent on the actual experience in future years while the cost shown in the fiscal impact statement is dependent on the assumptions used in the calculation, it is prudent to consider the potential cost of any benefit enhancement if less favorable experience occurs than assumed. The assumption with the greatest impact on the cost is generally the assumed rate of return. In order to quantify the downside risk related to the proposed benefit change, the ~~Commission may request that the~~ fiscal impact statement for any legislative proposal submitted for introduction as a bill shall include the cost using an assumed rate of return 1.5% less than the investment return assumption used in the valuation. For example, if the valuation assumption is 8.5% the cost of the benefit change shall also be shown assuming a long term rate of return of 7.0% (liabilities shall be determined before and after the change using a 7.0% discount rate).

We modified the language proposed by Mercer/Funds to include any proposal submitted for introduction as a bill (not just those submitted by the Plan). Our feeling was that even if other entities submitted a proposal for a bill there should be a cost estimate. Perhaps this rarely, if ever happens, but we felt the Commission should ensure any bill has a complete cost estimate prepared.